



Assessment Information

[CoreTrustSeal Requirements 2020–2025](#)

Repository:	Repository & Open Science Access Portal
Website:	https://rosap.ntl.bts.gov/
Certification period:	Feb. 27, 2025 - 27 February 2028
Requirements version:	CoreTrustSeal Requirements 2023-2025

This repository is owned by: **National Transportation Library (NTL)**

CORE TRUSTWORTHY DATA REPOSITORIES REQUIREMENTS

Background Information

Re3data Identifier

Please fill you Re3data identifier from the website: <https://www.re3data.org/>

Response:

<https://www.re3data.org/repository/r3d100013155>

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Repository type

Please select your repository type.

Response:

- Specialist repository

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Overview

Provide a short overview of key characteristics of the repository, reflecting the repository type selected. This should include information about the scope and size of data collections, data types and formats. Further contextual information may also be added.

Response:

<https://transportation.libguides.com/CTS/R0> [For Readability Purposes]

Library Background & Legislative Mandate

The National Transportation Library (NTL) is a digital library that provides national and international access to transportation information, coordinates information creation and dissemination, and provides reference services for DOT employees and public stakeholders. Established in 1998 by the Transportation Equity Act for the 21st Century (TEA-21; P.L. 105-178) (<https://doi.org/10.21949/1522467>), NTL's authorized role was expanded in 2012's Moving Ahead for Progress in the 21st Century (MAP-21; P.L. 112- 141) (<https://doi.org/10.21949/1522466>). In these legislative documents one key role for NTL is the creation of a repository to provide open access to federally funded transportation research, which has resulted in the creation of the the Repository & Open Science Access Portal (ROSA P). As a result, the staff of NTL and ROSA P are synonymous and are designed to support the continued development of ROSA P. NTL has no other library collection apart from the digital items located in ROSA P.

Specifically, MAP-21 mandates that NTL:

- acquire, preserve, and manage transportation information and information products and services for use by DOT, other Federal agencies, and the public;
- provide reference and research services;
- serve as a central digital repository for DOT research results and technical publications
- become a central clearinghouse for transportation data and information of the Federal Government;

Repository & Open Science Access Portal

- serve as coordinator and policy lead for transportation information access;
- coordinate among and cooperate with multiple external parties to develop the comprehensive set of transportation statistics on the performance and impacts of the national transportation system, including statistics on the eleven topics required in 49 U.S.C. § 6302(b)(3)(B)(vi); and,
- publicize, facilitate and promote access to information products and services.

NTL's primary products and services are the Repository & Open Science Access Portal (ROSA P; <https://rosap.ntl.bts.gov/>); Ask-a-Librarian virtual reference desk and knowledge base (<https://transportation.libanswers.com/>); and coordination of the National Transportation Knowledge Network (NTKN) (<https://transportation.libguides.com/ntkn>).

Since 2016, NTL has led the implementation of the Official DOT Public Access Plan (<https://doi.org/10.21949/1503647>) issued in response to the February 22, 2013, Office of Science and Technology Policy (OSTP) Memorandum for the Heads of Executive Departments and Agencies entitled "Increasing Access to the Results of Federally Funded Scientific Research" (<https://doi.org/10.21949/1528360>). NTL is updating its practices and workflows to reflect the August 25, 2022, OSTP memo "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research" (<https://doi.org/10.21949/1528361>).

Founded as an all-digital library, ROSA P's collections include full-text digital publications, datasets, and other resources. All items acquired by NTL are ingested and preserved in ROSA P. Collections in ROSA P are available without restriction to transportation researchers, statistical organizations, the media, and the general public. All research funded by the Department of Transportation is required to be submitted to NTL for long-term preservation.

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Designated Community

A clear definition of the Designated Community demonstrates that the applicant understands the scope, knowledge base, and methodologies—including preferred software/formats—of the group(s) of users at whom the curation and preservation measures are primarily targeted. The definition should be specific so that reviewers can assess whether that community is being served in the responses to other requirements.

Response:

<https://transportation.libguides.com/CTS/R0> [For Readability Purposes]

4. Designated Community

ROSA P is intended for all audiences, due to the requirement that all federally-funded research be open access without restriction since the funding in part comes from public tax dollars. However, our depositors are from the transportation community which includes academics, federal researcher, state researchers, related private companies, etc. These researchers can also cover a wide range of disciplines under transportation research such as, aeronautics, aerospace, shipping and freight, pavement and construction, transportation networks (i.e. airports, ports, rail, etc.), drones, public transport vehicles, private transport vehicles, driver behavior, autonomous vehicles, etc. For a more in depth understanding on the wide range of transportation research we recommend consulting the Transportation Research Thesaurus (TRT; trt.trb.org). It is the primary controlled vocabulary used across the research community.

The ROSA P collects data and documents from Federal, State, Local, and Academic transportation statistical offices, operating authorities, transportation research and development programs, transportation medical facilities, emergency care centers, highway enforcement agencies, etc., based in the United States, and usually funded in part or in whole by the U.S. Department of Transportation (USDOT) and/or its various Modal Offices (all offices, departments, and/or agencies that are found under USDOT). We will refer to this community broadly as the "transportation research community," represented by the National Transportation Knowledge Network (NTKN; <https://transportation.libguides.com/ntkn>), the National Transportation Library's outreach organization.

Our community of depositors may produce, re-use, or report data using any of the following tools:

- Survey tools and forms, either print or web-based;
- Statistical analysis programs such as SPSS or SAS;
- ArcGIS or QGIS or other geographic information systems tools;
- Satellite, aircraft, drone, or tertiary- or vehicle mounted cameras producing still and moving images;
- Radar and LiDAR;
- Vehicle-mounted sensors of all types;
- Traffic counters and other pavement-embedded sensors;
- Document or presentation production office software;
- Computer simulations and virtual reality environments;
- Artificial Intelligence tools;

Repository & Open Science Access Portal

- Metadata authoring tools, and,
- many others.

Typical file formats received by ROSA P include:

- .CSV .XLSX, .SAV;
- .TIFF, .PNG, JPEG, .WAV, .MP3, .MP4, .MPEG;
- .SHP, .DBF, .SHX, .GEOJSON, .GPX, .OSM, .QGZ;
- .JSON, .XML;
- .TXT, .PDF, .DOCX, .PPTX;
- .ZIP

As of July 2024, ROSA P contained 1894 records with the Resource Type = Dataset available to the transportation research community. ROSA P holds more than 65,000 records with Resource Types such as: Technical Report; Statistical Report; Manuscript; Presentation; Map; Image; Data Management Plan; and many others.

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Levels of Curation

Please fill you level(s) of curation.

Response:

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

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Levels of Curation - explanation

Please add the description for your Level(s) of Curation.

Response:

<https://transportation.libguides.com/CTS/R0> [For Readability Purposes]

5. Levels of Curation

ROSA P staff performs curation at the following levels for dataset submissions:

D. Deposit Compliance - Data content and supporting metadata deposited are checked for compliance with defined criteria, e.g. data formats, metadata elements, and compliance with legal and ethical norms. Digital objects that do not meet these criteria may be rejected or moved forward to initial curation. ROSA P staff does check submission to ensure data was submitted and complies with repository scope found in the collection development policy.

C. Initial Curation - The digital objects are curated by the repository to meet defined criteria, which may exceed those defined for Deposit Compliance. This initial curation for access and use may include, e.g., the correction or enhancement of metadata and/or data content, or the creation of dissemination formats. ROSA P staff's action include the creation of DCAT-US (<https://resources.data.gov/resources/dcat-us/>) metadata files, authoring of a robust public note (including software requirements and dependencies), and an evaluation of the dataset's FAIRness using NTL's adaptation of the DCN's CURATE(D) Steps (<https://doi.org/10.21949/1530073>) for ROSA P.

Repository & Open Science Access Portal

A. Active Preservation - In addition to D and/or C above, the repository takes long-term responsibility for ensuring that the data and metadata can be understood and rendered as required by the designated community for reuse. The preservation actions can be aimed at logical-technical, semantic, or quality aspects of the (meta)data, for example in response to the threat of technological obsolescence, to accommodate changing needs of the Designated Community, or in response to other considerations such as security or legal concerns. Logical-technical measures include updating hard- and software environments, archival and dissemination formats of digital objects and metadata. Semantic measures include updating the content of metadata elements and other semantic artefacts such as controlled vocabularies and ontologies if necessary. It may include responsibility for editing the structure and content of deposited data. ROSA P staff converts data to open formats if necessary, while still preserving the original file format. Additionally, staff will write documentation including READMEs, data dictionaries, and codebooks. In the special cases staff will use OCR software (ABBYY FineReader) to transform, extract, and clean data when taking data from PDF to tabular formats for preservation and reuse. Staff will always check data submission for Personally Identifiable Information (PII), deidentify if necessary, and mint a PID for the data if it does not already have one.

The curation levels were taken from "Curation and Preservation Levels: CoreTrustSeal Position Paper" (<https://doi.org/10.5281/zenodo.11476980>).

All items submitted to NTL (datasets, text-based, images, etc.) are assessed by NTL staff and checked for collection development scope, metadata, 508 compliance, and other criteria. No content is distributed as submitted. NTL systems are all staff-mediated and direct deposit into the repository is not allowed.

In summer 2023, NTL Data Services staff implemented the Data Curation Network's (DCN) "CURATE(D)" workflow (<https://datacurationnetwork.org/outputs/workflows/>) in order to more fully document curation actions. CURATE(D) is described in various Requirements below.

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Cooperation and outsourcing to third parties, partners and host organisations

Please describe any cooperation and outsourcing to third parties, partners and host organisations.

Response:

<https://transportation.libguides.com/CTS/R0> [For Readability Purposes]

6. Cooperation and outsourcing to third parties, partners and host organizations

ROSA P's backend is a custom, in-house built cataloging system, branded Workroom. Workroom has been in operation since 2000. Workroom uses Amazon Web Services (AWS) servers for storage and a preservation environment copy of ROSA P and USDOT servers hold additional copies of each digital item in ROSA P within a secure environment only accessible by staff. Within AWS ROSA P's backend uses a proven, robust, open-source PostgreSQL database via AWS Relational Database Service (RDS) as the persistent storage implementation. The relational database holds all application pertinent data, all of which are normalized into tables with powerful querying and indexing capabilities. AWS RDS offers daily, monthly, and point-in-time backups which is described further in Storage & Integrity (R14).

Beginning in 2017, NTL/ROSA P entered into a contractual relationship with the Centers for Disease Control and Prevention (CDC) Library for the CDC-developed repository software STACKS (<https://stacks.cdc.gov/>). The STACKS implementation is the frontend of ROSA P. CDC supplies the technical infrastructure needed for ROSA P to share datasets and textual outputs. The contract between NTL/ROSA P and CDC is renewed every five years.

Beginning in 2016, NTL/ROSA P joined the federal Digital Object Identifier (DOI) consortium through a contractual relationship with the United States Department of Energy (DOE) Office of Science and Technical Information (OSTI) (<https://www.osti.gov/>). OSTI provides persistent identifier services which allows NTL/ROSA P staff to mint DOIs for datasets created by US DOT offices. The contract between NTL/ROSA P and OSTI is renewed annually.

Beginning in 2022, NTL/ROSA P has been a part of the federal ORCID consortium through a contractual relationship with the United States Department of Energy (DOE) Office of Science and Technical Information (OSTI). The consortium provides NTL/ROSA P reduced-cost access to ORCID APIs and systems integration. The contract between NTL/ROSA P and OSTI is renewed annually.

It recently became possible to report ORCIDs in ROSA P.

NTL/ROSA P staff currently captures ORCIDs and is beginning the process of reporting ORCIDs through ROSA P.

NTL/ROSA P plans for software integration between Workroom and ORCID during 2025.

Reviews

Reviewer 1:

Repository & Open Science Access Portal

Comments:

Reviewer 2:

Comments:

Applicants renewing their CoreTrustSeal certification: summary of significant changes since last application.

Please fill this field when you are renewing your CoreTrustSeal Certification.

This field can be marked with not applicable (N.A.) if you are acquiring a CoreTrustSeal certificate for the first time.

Response:

N.A.

Reviews

Reviewer 1:

Comments:

Reviewer 2:

Comments:

Organisational Infrastructure

R1 Mission & Scope (R01)

R01. The repository has an explicit mission to provide access to and preserve digital objects.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R01> [For Readability purposes]

Mission Statement

The National Transportation Library (NTL) was established by law (49 USC §6304) to support the information management and decision-making needs of transportation officials at the Federal, State, and local levels, with a mandate to acquire, preserve, and manage transportation information and information products and services for use by the Department of Transportation, other Federal agencies, and the general public; provide reference and research assistance; serve as a central depository for research results and technical publications of the Department; provide a central clearinghouse for transportation data and information of the Federal Government; provide transportation information and information products and services to the Department, other Federal agencies; public and private organizations, and individuals, within the United States and internationally; and to coordinate efforts among, and cooperate with, transportation libraries, information providers, and technical assistance centers, in conjunction with private industry and other transportation library and information centers, with the goal of developing a comprehensive transportation information and knowledge network.

As the national resource for US Transportation Research, the National Transportation Library ensures equitable access of transportation research and data to all through robust curation practices and extensive preservation work. NTL accomplishes this mission through the Repository and Open Science Access Portal (ROSA P). All research funded by the Department of Transportation is required to be submitted to NTL for long-term preservation. We as an organization have become a leader in the field of transportation research, active contributors to new transportation research data management practices, and strong advocates for the future of open science. We connect people and organizations with transportation research, making us a go-to source for public and private sector individuals who seek the newest innovations in transportation.

Links:

- [49 USC §6304](#)

Reviews

Reviewer 1:

Compliance level:

Repository & Open Science Access Portal

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R2 Rights Management (R02)

R02. The repository maintains all applicable rights and monitors compliance.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R02> [For Readability purposes]

Rights Management Policy

With the publication of the USDOT Public Access Plan in 2015, the terms and conditions for all DOT funding agreements require: Immediate grant of a comprehensive non-exclusive, paid-up, royalty-free copyright license to the DOT and submission of any publications to ROSA P.

The copyright license must include "all rights under copyright," including, but not limited to:

- Right to copy;
- Right to distribute;
- Right to prepare derivative works;
- Right to display; and
- Right to perform in public.
- Consistent with emerging Committee on Financial Assistance Reform (COFAR) requirements, establish a framework for tracking the lifecycle of the DOT research portfolio at the project level through unique project identifiers.
- Use digital object identifiers (DOI) to individually identify each Publication and Digital Data Set, to allow for correlation between associated Publications and supporting Digital Data Sets.
- Require all researchers to obtain and report his or her unique ORCID (Open Researcher and Contributor ID) identification on submissions of research results to ROSA P and/or publishers.
- Require researchers to include the appropriate funding agreement number(s) on all submissions of research results to ROSA P and/or publishers.

To learn more about our rights management policies, please view them here (<https://doi.org/10.21949/1520564>).

Removal of Resources

Alteration or removal of resources, including publications and datasets, may be required if they contain data that is not publicly accessible. For example, material may be under copyright, may contain confidential information, or may compromise privacy or national security information. (See section 6 of the Selection Statement in the Collection Development and Maintenance Policy for further detail: <https://doi.org/10.21949/1530597>).

License Recommendations

ROSA P strongly encourages researchers to deposit data under the Creative Commons CC-BY Attribution or an equivalent license, to the extent possible. The CC-BY license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. In terms of range and the requirement to be open access researchers can license a work under any license as long as it is able to be copied, published, modified, and adapted by the public. Read more on our rights policy (<https://doi.org/10.21949/1520564>).

Public Domain and Rights at Deposit

If ROSA P has exercised rights over extramural Digital Data Sets, these will also be inventoried to the maximum extent practicable. To the extent required by statute or regulation, Publications and Digital Data Sets generated in the furtherance of research and development activities under the DOT's Small Business Innovation Research (SBIR) program are exempt from the requirements of this plan, notwithstanding the requirements of M-13-13.

Only those resources that are in the public domain and/or those for which explicit permission has been provided by the rights holder to ROSA P to make their materials available for free over the web will be added to ROSA P. All other resources will be maintained in a restricted archive and access will be provided under the terms agreed between the rights holder and ROSA P.

ROSA P makes an effort to monitor compliance and check requirements and licenses at deposit. To read more about our safeguards regarding cataloging, please read Deposit and Appraisal (R08) and Quality Assurance (R09).

Links:

Repository & Open Science Access Portal

- [NTL Collection Development Policy](#)
- [Policies](#)
- [Managing Rights](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R3 Continuity of Service (R03)

R03. The Repository has a plan to ensure ongoing access to and preservation of its data and metadata.

Compliance level:

In Progress: the repository is in the implementation phase - 0

Response:

<https://transportation.libguides.com/CTS/R03> [For Readability purposes]

Legal Duties

The legal duties of ROSA P are as follows:

- be headed by an individual who is highly qualified in library and information science;
- acquire, preserve, and manage transportation information and information products and services for use by the Department, other Federal agencies, and the general public;
- provide reference and research assistance for ROSA P;
- serve as a central depository for research results and technical publications of the DOT;
- provide a central clearinghouse for transportation data and information of the Federal Government;
- serve as coordinator and policy lead for transportation information access;
- provide transportation information and information products and services to DOT; other Federal agencies; public and private organizations; and individuals, within the United States and internationally;

Dissolution and Succession

The National Transportation Library's existence in the future is secured by the fact that dissolution will only occur by a repeal of this law, or a new law of dissolution passed by Congress. Additional laws that require and affect our existence and function include: Transportation Equity Act for the 21st Century (TEA-21), Moving Ahead for Progress in the 21st Century Act (MAP-21), White House Office of Science and Technology Policy Memo, and Foundations for Evidence-Based Policymaking Act of 2018, Title II: The Open, Public, Electronic, and Necessary Government Data Act (OPEN Government Data Act). Additionally, because NTL is a born digital entity and will continue to be solely virtual, changes in space do not affect the library and its primary function. There is no formal, written agreement between the National Transportation Library and a successor institution beyond the laws that enact our existence as an organization. There is little possibility of the dissolution or relocation of the National Transportation Library out of the Department of Transportation's control, but if such an instance occurs, the transition would be guided by law and procedures for maintaining public access to federally funded research. Specifically, ROSA P's existence and continuation is tied under MAP-21 "(A) maintain a repository for technical and safety data collected as a result of federally sponsored projects carried out under this chapter; and "(B) make, on request, that information (except for proprietary information and data) readily available to all users of the repository at an appropriate cost" So, similarly to NTL it would take act of US Congress dissolve ROSA P.

Links:

- [Foundations for Evidence-Based Policymaking Act of 2018, Title II: The Open, Public, Electronic, and Necessary Government Data Act \(OPEN Government Data Act\)](#)
- [Moving Ahead for Progress in the 21st Century Act \(MAP-21\)](#)

Repository & Open Science Access Portal

- [Transportation Equity Act for the 21st Century](#)

Reviews

Reviewer 1:

Compliance level:

In Progress: the repository is in the implementation phase - 0

Comments:

Reviewer 2:

Compliance level:

In Progress: the repository is in the implementation phase - 0

Comments:

R4 Legal & Ethical (R04)

R04. The repository ensures to the extent possible that data and metadata are created, curated, preserved, accessed and used in compliance with legal and ethical norms.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R05> [For Readability purposes]

Policy and Legal Requirements

As described in Continuity of Service (R03), ROSA P is held to several policy and legal requirements. The White House Office of Science and Technology Policy Memo requires:

- a strategy for leveraging existing archives, where appropriate, and fostering public-private partnerships with scientific journals relevant to the agency's research;
- a strategy for improving the public's ability to locate and access digital data resulting from federally funded scientific research;
- an approach for optimizing search, archival, and dissemination features that encourages innovation in accessibility and interoperability, while ensuring long-term stewardship of the results of federally funded research;
- a plan for notifying awardees and other federally funded scientific researchers of their obligations (e.g., through guidance, conditions of awards, and/or regulatory changes);
- an agency strategy for measuring and, as necessary, enforcing compliance with its plan;
- identification of resources within the existing agency budget to implement the plan;
- a timeline for implementation; and
- identification of any special circumstances that prevent the agency from meeting any of the objectives set out in this memorandum, in whole or in part.

ROSA P is also held to the USDOT Plan to Increase Public Access to the Results of Federally Funded Scientific Research Results (<https://doi.org/10.21949/1503646>). These standards ensure that ROSA P makes accessible deposited transportation research, but also enforces the use of Persistent Identifiers (PIDs). These identifiers, DOIs and ORCIDs, ensure that research is findable and traceable back to authors and institutions. These plans also require DCAT-US v1.1 metadata for all datasets.

Disclosure Risk and Ethics

ROSA P does not accept sensitive or identifiable data and information, only allowing anonymized data to be made public. The data services team staff is trained to check for identifiable data in datasets and contact the researcher if problems arise. More information on this workflow can be found in the Workflows (R11) section. ROSA P requires university and research offices to work through their internal review systems and Institutional Review Boards (IRBs) prior to submitting materials, rather than attempting to impose its own policy on research data ethics.

ROSA P advocates for Indigenous populations by encouraging the use and implementation of the CARE Principles (<https://www.gida-global.org/care>) when applicable.

No depositor information or submission emails to ROSA P are retained by ROSA P staff if they are not accepted for submission.

Links:

- [Increasing Access to the Results of Federally Funded Scientific Research](#)

Repository & Open Science Access Portal

- [CARE Principles](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R5 Governance & Resources (R05)

R05. The repository has adequate funding and sufficient numbers of staff managed through a clear system of governance to effectively carry out the mission.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R05> [For Readability purposes]

Funding Source

The digital repository ROSA P is hosted and maintained for the United States Department of Transportation by the Office of Science (OS), Centers for Disease Control and Prevention (CDC), Atlanta, Georgia, via a Federal Interagency Agreement (IAA). The current 5-year IAA agreement (the second such agreement signed between the two parties) has a period of performance of 2023-2028, and the agreement is fully funded by the United States Department of Transportation (DOT) for the duration in the amount of \$402,618.59. As described in our Mission Statement (R01) and Continuity of Service (R03), The National Transportation Library (NTL) was established by law (49 USC §6304) to support the information management and decision-making needs of transportation officials at the Federal, State, and local levels, with a mandate to acquire, preserve, and manage transportation information and information products and services for use by the Department of Transportation, other Federal agencies, and the general public.

The Memorandum of Understanding between the DOT and the CDC specifies that:

The purpose of the CDC Public Access Platform (CPAP) is to make publications and other multimedia products that come from work supported by federal funding freely available to the general public and scientific community. The system's goals are to:

- Create a stable, permanent archive (institutional repository) of publications and other materials resulting from federally-funded research
- Implement a robust search of this archive for managing research portfolios, monitoring productivity and setting research priorities
- Make published results of federally-funded research more accessible to the public, educators and scientists

The authority for the agreement is based on the following policy, standards, and guidance: Federal Information Security Modernization Act of 2014 (FISMA), Office of Management and Budget (OMB) Circular A-130, Managing Information as a Strategic Resource, NIST Special Publication 800-47, Security Guide for Interconnecting Information Technology Systems.

The National Transportation Library within the Bureau of Transportation Statistics at the United States Department of Transportation maintains the digital repository ROSA P and a staff of 17 full-time employees (10 Federal Employees and 7 contractors). The NTL and ROSA P staff is synonymous.

Links:

- [49 USC §6304](#)
- [NIST Special Publication 800-47, Security Guide for Interconnecting Information Technology Systems](#)
- [Office of Management and Budget \(OMB\) Circular A-130, Managing Information as a Strategic Resource](#)
- [Federal Information Security Modernization Act of 2014 \(FISMA\)](#)

Reviews

Reviewer 1:

Repository & Open Science Access Portal

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R6 Expertise & Guidance (R06)

R06. The repository adopts mechanisms to secure ongoing expertise, guidance and feedback-either in-house, or external.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R06> [For Readability purposes]

Training Materials

The National Transportation Library serves as a central clearinghouse for transportation data and information of the Federal Government. The repository ROSA P is directly funded by the United States Department of Transportation as the national and central resource for past, current, and future transportation research. In 1998, the National Transportation Library was founded through the Transportation Equity Act for the 21st Century (TEA-21) (<https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise/transportation-equity-act-21st-century>), and in 2012, the role of the library was expanded through Moving Ahead for Progress in the 21st Century (MAP-21) mandate (<https://www.transportation.gov/map21>). For more information on the legal laws and mandates that keep NTL in operation, please consult the section Legal and Ethical (R04).

NTL ensures that its training materials are preserved for current and future staff members within task specific LibGuide pages (<https://transportation.libguides.com/>), for reference. Many of these LibGuides are internal staff guides and not publicly viewable. These LibGuides were written, continuously updated, and reviewed by NTL staff to ensure that the proper steps and guidance are recorded for the wide variety of workflows that the staff performs. It serves as a refresher and resource for current staff but also ensures that knowledge is not lost during structural or staff changes.

Professional Development

NTL staff is active in various areas of professional development to ensure they stay up-to-date and at the forefront of innovation around repository and records management to best serve our community.

- NTL has actively participated in the Transportation Research Board (TRB; <https://www.nationalacademies.org/trb/transportation-research-board>) by attending the annual meeting, serving and participating on committees, and preparing workshops and presentations. As the leading organization for transportation research, staying up-to-date on TRB is an important aspect of NTL's work.
- The Data Services team at NTL has been active in the Data Curation Network (DCN; <https://datacurationnetwork.org/>) community, attending webinars, trainings, and sharing our own experiences by hosting presentations.
- The NTL Reference team is active in the Special Libraries Association (SLA)'s Transportation Community (<https://sla.org/page/Communities>), which the team was recognized for with the 2023 SLA Transportation Community Innovation Award.
- NTL team members serve as members of working groups under the National Science and Technology Council (NSTC)'s Subcommittee on Open Science (SOS). The groups that staff participate in are:
 - - SOS Persistent Identifiers Subgroup
 - - SOS Effective Data Management Subgroup
 - - SOS Publications Subgroup
- NTL has an active member who serves on the Office of the Assistant Secretary for Research and Technology (OST-R) Data Strategy. Currently, there are no finalized documents for public view, but the timeline is set for full implementation by May 2025.
- NTL is a member of the Federal Open Researcher and Contributor Identifier (ORCID) Consortium that is led by the Department of Energy (DOE)'s Office of Scientific and Technical Information (OSTI). This community allows NTL to learn from other federal agencies and their use of ORCID's tools and integrations.
- Two Data Services team members have been accepted to complete the University of Vienna's Data Stewardship Certification Course, one having completed it in June 2023, and one completed in June 2024.
- NTL recently requested eight additional entries be added to the Research Organization Registry (ROR), as we plan and implement ROR as another persistent identifier to link within our metadata (<https://ror.org/>). ROR is currently used in README documents created by NTL staff and is integrated with out DOI metadata. Staff additionally attends the monthly community meetings and other relevant webinars hosted by ROR.
- Coordination and Participation in the National Transportation Knowledge Network (NTKN) (<https://transportation.libguides.com/ntkn>). The Coordination

Repository & Open Science Access Portal

of the NTKN falls under our head reference librarian, but NTL staff members also lead two communities of practices (Cooperative Digitization and Data Curation) within the NTKN.

In-House Reference and Advisory Services

The repository provides the service Ask-a-Librarian, which is a virtual reference desk and knowledge base (<https://transportation.libanswers.com/>) that allows users to ask specific questions regarding the content within ROSA P. A team of three reference librarians receives these questions and can either consult or connect the user with the relevant expert within USDOT to ensure they receive a sufficient answer.

Links:

- [LibAnswers](#)
- [Moving Ahead for Progress in the 21st Century Act \(MAP-21\)](#)
- [Transportation Equity Act for the 21st Century](#)
- [National Transportation Knowledge Network \(NTKN\)](#)
- [Research Organization Registry \(ROR\)](#)
- [Special Libraries Association \(SLA\)'s Transportation Community](#)
- [Data Curation Network](#)
- [Transportation Research Board](#)
- [NTL LibGuides](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Digital Object Management

R7 Provenance and authenticity (R07)

R07. The repository guarantees the authenticity of the digital objects and provides provenance information.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R07> [For Readability purposes]

Submitting to ROSA P

The NTL staff is always looking for innovative developments in the field to enhance provenance and authenticity that will provide reliable clarity on a digital object from deposit, through curation and preservation, and to its access in ROSA P. NTL staff has fully implemented workflows and tools to ensure accuracy in our cataloging process.

When submitting to ROSA P, submitters send their request to NTL's Digital Submission Inbox. Full details on the submission process and resources can be found at <https://ntl.bts.gov/ntl/submitting-content>. NTL maintains all original submissions to the Digital Submission Inbox; no emails of accepted submission are ever deleted. While assessing for inclusion in the NTL repository we do a visual inspection of each document and different versions to compare properties. Version control is managed by complete date stamping following ISO 8601 standards: YYYYMMDD_HHMM.

Persistent Identifiers for Researchers

USDOT's Plan to Increase Public Access to the Results of Federally-Funded Scientific Research Results (<https://doi.org/10.21949/1503646>) requires researchers to have ORCIDIS so we can check and verify their identities before inclusion of their works in the repository.

Repository & Open Science Access Portal

CURATED Workflow

In an effort to make provenance and authenticity tracking more robust NTL staff has implemented Data Curation Network's CURATE(D) Steps (<https://datacurationnetwork.org/outputs/workflows/>). The CURATE(D) steps track a dataset from deposit to ingestion in ROSA P. The use of CURATE(D) for a dataset is documented throughout the process and results in a complete CURATE log so any changes to data, metadata, documentation, or other information are stored and preserved. In addition to each dataset having its own CURATE log, NTL tracks all data through a CURATED log. The CURATED log is a living document that will track all the datasets that either have been CURATED or are in the process. Curation actions and changes are reported to the public through the public note metadata field. For more information on the CURATED workflow, please see [Workflows \(R11\)](#).

Links:

- [Increasing Access to the Results of Federally Funded Scientific Research](#)
- [Data Curation Network's CURATE\(D\) Workflow](#)
- [Submitting Content to ROSA P](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R8 Deposit & Appraisal (R08)

R08. The repository accepts data and metadata based on defined criteria to ensure relevance and understandability for users.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R08> [For Readability purposes]

Selection or Rejection of Digital Objects (Collection Development Policies)

NTL hosts both textual research outputs, and research and statistical datasets in its repository.

Submitted textual outputs (technical reports, peer reviewed manuscripts, open access journal articles, etc.) are appraised against the NTL Collection Development Policy (<https://doi.org/10.21949/1530598>), and the U.S. DOT Public Access Plan (<https://doi.org/10.21949/1503647>). If deemed fit, the item is ingested and cataloged into Workroom by a team of professional catalogers, following well documented procedures (<https://transportation.libguides.com/workroom>), and using Dublin Core metadata.

Submitted datasets are appraised against the NTL Collection Development Policy and the U.S. DOT Public Access Plan. Those datasets deemed fit are then curated by trained data curation staff using a local variant of the Data Curation Network's (DCN) CURATE(D) workflow (<https://datacurationnetwork.org/outputs/workflows/>), as adopted by NTL in Summer 2023 (<https://doi.org/10.21949/1530073>).

When textual or dataset submissions do not meet the Collection Development Policy, submitters are contacted by email and told why these items are out of scope.

Metadata Assessment

Once an item has met the Collection Development Requirements, its metadata is manually assessed for completeness. NTL staff check the preferred source of information (the item or it's documentation) for elements of our documented list of Required Metadata (<https://doi.org/10.21949/1530065>).

Where metadata is incomplete, NTL staff request clarification from the submitter, or harvest metadata from a secondary source of information, such as a project web page or repository landing page for the submission.

By Federal guidance (<https://resources.data.gov/resources/dcat-us/>) and by the U.S. DOT Public Access Plan (<https://doi.org/10.21949/1503647>), all datasets should be accompanied by a DCAT-US Schema version 1.1. JSON metadata file to help ensure long-term preservation and discovery. NTL staff may supply the submitter with a DCAT-US template or may create the DCAT-US metadata during the Data Appraisal Steps, described below.

Repository & Open Science Access Portal

Data Appraisal and Deposit Steps

As noted, NTL has recently adopted the CURATE(D) workflow (<https://datacurationnetwork.org/outputs/workflows/>). During the check and understand steps, NTL staff check for preservation-friendly data formats and complete data documentation. Documentation must include data dictionaries, metadata files, data management plans, scripts, code books, etc. If data are not in preservation-friendly formats or documentation is missing, NTL staff request the submitter to transform files and augment documentation. Where proprietary formats must be used, NTL staff include a public note stating which software packages data re-users will need in order to access the dataset with free software options. In situations where submitters are not responsive, NTL staff may augment a submission by transforming files to preservation-friendly formats, writing essential metadata, and creating other documentation as needed to make datasets understandable and re-usable. All NTL curatorial actions are documented as part of the CURATE(D) process and recorded in the NTL CURATE(D) log, which is kept in a secured shared drive. Where appropriate, NTL curation interventions are made public via appropriate metadata fields, such as public note or the abstract.

Curation Level Prioritization

NTL staff aims to curate datasets following the Data Curation Centre "Curation Lifecycle Model" (<https://www.dcc.ac.uk/guidance/curation-lifecycle-model>) and implementing the Data Curation Network "CURATE(D)" workflow (<https://datacurationnetwork.org/outputs/workflows/>). However, given resource constraints, NTL has implemented the following curation levels, which may be applied to datasets for various reasons:

D. Deposit Compliance - Data content and supporting metadata deposited are checked for compliance with defined criteria, e.g. data formats, metadata elements, and compliance with legal and ethical norms. Digital objects that do not meet these criteria may be rejected or moved forwards to initial curation.

C. Initial Curation - The digital objects are curated by the repository to meet defined criteria, which may exceed those defined for Deposit Compliance. This initial curation for access and use may include, e.g., the correction or enhancement of metadata and/or data content, or the creation of dissemination formats.

A. Active Preservation - In addition to D and/or C above, the repository takes long-term responsibility for ensuring that the data and metadata can be understood and rendered as required by the designated community for reuse. The preservation actions can be aimed at logical-technical, semantic, or quality aspects of the (meta)data, for example in response to the threat of technological obsolescence, to accommodate changing needs of the Designated Community, or in response to other considerations such as security or legal concerns. Logical-technical measures include updating hard- and software environments, archival and dissemination formats of digital objects and metadata. Semantic measures include updating the content of metadata elements and other semantic artefacts such as controlled vocabularies and ontologies if necessary. It may include responsibility for editing the structure and content of deposited data.

NTL prioritizes datasets for curation levels by the following criteria:

D. Deposit Compliance:

- All submitted datasets;

C. Initial Curation:

- All submitted datasets where ROSA P will be the sole data repository to hold and share the data;

Enhanced Curation will apply to research datasets submitted by U.S. DOT-funded extramural researchers.

A. Active Preservation:

- All submitted datasets where:

- - The dataset was created by the Bureau of Transportation Statistics;

- - The DOT-mission critical dataset that was created directly by or for any DOT Modal Office;

- - Whether ROSA P will be the sole data repository or if the ROSA P local copy is serving as a disaster recovery backup.

Preferred Formats

NTL encourages submission of open, non-proprietary, preservation-friendly formats where possible. A list of preferred formats can be found in NTL's Collection Development Policy (<https://doi.org/10.21949/1530598>). NTL staff contact submitters for resubmission in preferred formats when needed.

When a format does not appear on the list, NTL staff ask for documentation as to why that particular format was chosen and what software dependencies exist, so these may be shared through the metadata record. If conversion by NTL staff is not possible, data curators in the public note describe the file, how to access it, and what software (preferably free and open source) can be used to open and view the file.

Transfer of Custody and Responsibility

As noted in the NTL Collection Development Policy (<https://doi.org/10.21949/1530598>): "Only those resources that are in the public domain and/or those for which explicit permission has been provided by the rights holder to NTL to make their materials available for free over the web will be added to ROSA P. All other resources will be maintained in a restricted archive and access will be provided under the terms agreed between the rights holder and NTL."

Upon submission, NTL takes full custody and responsibility for submitted items, their preservation, and/or their disposition.

Links:

- [NTL Metadata Policy](#)
- [Data Curation Centre "Curation Lifecycle Model"](#)
- [DCAT-US Schema v1.1 \(Project Open Data Metadata Schema\)](#)
- [NTL Workroom QuickGuide LibGuide](#)
- [Integrating the DCN CURATE\(D\) Steps into the National Transportation Library's \(NTL\) Workflow](#)
- [NTL Workroom LibGuide](#)

Repository & Open Science Access Portal

- [NTL Collection Development Policy](#)
- [Data Curation Network's CURATE\(D\) Workflow](#)
- [DOT Public Access Plan](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R9 Preservation plan (R09)

R09. The repository assumes responsibility for long-term preservation and manages this function in a planned and documented way.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R09> [For Readability purposes]

Preservation Plan

To meet its legislative mandate to make collections publicly available over the long-term, NTL performs curation activities, including preservation, migration, and transformations, to ensure permanent access to its records and research. As stewards of digital collections, NTL staff use current, widely accepted digital curation policies and practices where possible. NTL's goal is to preserve all digital information at the bit level, at a minimum. This means that the NTL will protect digital information from bit rot and media failure, ensuring future devices will be able to faithfully reproduce the sequence of bits encoded in a digital information object. To achieve this goal, NTL employs the following practices for preservation: descriptive metadata, persistent identifiers, the "3-2-1" backup rule, daily server backups, an extensive disaster recovery plan, and format migration. We evaluate all datasets for their scope and relevance to ROSA P. Then we evaluate each dataset's level of responsibility for preservation by using the Levels of Curation below:

D. Deposit Compliance:

- All submitted datasets;

C. Initial Curation:

- All submitted datasets where ROSA P will be the sole data repository to hold and share the data;

Enhanced Curation will apply to research datasets submitted by U.S. DOT-funded extramural researchers.

A. Active Preservation:

- All submitted datasets where:

-- The dataset was created by the Bureau of Transportation Statistics;

-- The DOT-mission critical dataset that was created directly by or for any DOT Modal Office;

-- Whether ROSA P will be the sole data repository or if the ROSA P local copy is serving as a disaster recovery backup.

Preservation Strategies

NTL uses an international standard structured metadata format for interoperability and exports in XML to enable compatibility with future search technology. NTL uses a combination of Dublin Core Metadata Initiative terms and locally created terms. To ensure a consistent approach between intramural and extramural digital research data with OMB Memorandum M-13-13, DOT will require that the metadata for scientific data will include, at a minimum, the common core metadata schema in use by the Federal government, DCAT-US Schema v1.1, (<https://resources.data.gov/resources/dcat-us/>). These files are currently created in the JavaScript Object Notation (JSON) format, allowing for the validation of these metadata files according to the DCAT-US Schema v1.1. This ensures that our data metadata files are not only machine readable but compliant with this federally mandated schema.

To protect digital information and data from loss, NTL employs the "3-2-1" backup rule. NTL maintains:

- Three (3) copies of the electronic files

Repository & Open Science Access Portal

- Stored on two (2) different kinds of storage media
- With at least one (1) copy stored in a different geographic and geologic region.

Currently, NTL maintains a copy of its repository content and metadata in the following locations:

- USDOT managed Microsoft Azure cloud environment
- CDC Public Access Platform (Amazon Web Services cloud environment)
- Removable media (external drive)

Backups on the USDOT-managed Microsoft Azure cloud environment are in the disaster recovery site, located in a different geographical area than USDOT headquarters. Backups on the CDC Public Access Platform are in the disaster recovery site on the US West Coast, a different geographic area than CDC headquarters. The disaster recovery site is updated daily. All daily backups of the staging server and weekly backups of the production servers are kept for 45 days.

Format Preferences

Per NTL's Collection Development and Maintenance Policy (<https://doi.org/10.21949/1530598>), format preferences for content submitted to NTL are non-proprietary and open electronic file formats as described by the Library of Congress in Sustainability of Digital Formats (<https://www.loc.gov/preservation/digital/formats/index.shtml>). Curatorial activities include migrating data from one format into another when earlier formats or devices become obsolete, and as NTL resources permit (Curation Level A. Active Preservation).

When content is migrated from one format to another, NTL:

- Records the event in metadata.
- Provides a description on the landing page.
- Keeps one (1) copy in the original format.
- Maintains access to all versions.

Typical file formats received by ROSA P include:

- .CSV, .XLSX, .SAV;
- .TIFF, .PNG, JPEG, .WAV, .MP3, .MP4, .MPEG;
- .SHP, .DBF, .SHX, .GEOJSON, .GPX, .OSM, .QGZ;
- .JSON, .XML;
- .TXT, .PDF, .DOCX, .PPTX;
- .ZIP

Regardless of whether an item in ROSA P is in proprietary or nonproprietary we provide open source software that users will be able to use to view the files for that record. This information is recorded as a second paragraph in the abstract metadata field for each dataset. This text is generated through our file format dictionary (<https://transportation.libguides.com/researchdatamanagement/fileformatdictionary>) which is updated regularly as needed. An example of this is provided below.

Example: (<https://doi.org/10.21949/1530621>)

"The .xlsx and .xls file types are Microsoft Excel files, which can be opened with Excel, and other free available spreadsheet software, such as OpenRefine. The .csv, Comma Separated Value, file is a simple format that is designed for a database table and supported by many applications. The .csv file is often used for moving tabular data between two different computer programs, due to its open format. The most common software used to open .csv files are Microsoft Excel and RecordEditor, (for more information on .csv files and software, please visit <https://www.file-extensions.org/csv-file-extension>). The file extension .md is among others related to texts and source codes in Markdown markup language. Markdown is a lightweight markup language, to write using an easy-to-read, easy-to-write plain text format, then convert it to structurally valid XHTML (or HTML) (for more information on .md files and software, please visit <https://www.file-extensions.org/md-file-extension>). File extension .json is associated to JavaScript Object Notation file format, a lightweight, text-based, language-independent data interchange format. JSON defines a small set of formatting rules for the portable representation of structured data. It is used by various applications as alternative option to XML file format. The data in a json file are stored in simple text file format and the content is viewable in any simple text editor (for more information on .json files and software, please visit <https://www.file-extensions.org/json-file-extension>)."

Withdrawal Policy

All items are held permanently by NTL. As a permanent archive of transportation information, no items are to be removed from the repository. Once deposited with NTL, an item is added to the collection and made publicly available. Public access to an item may be interdicted only if one of the following criteria is met:

- Item is wrong and causing harm.
- Item has been withdrawn from the scientific community due to methodological errors or willful misrepresentation.
- Item contains personally identifiable information, national security concerns, or other sensitive information not previously discovered by NTL staff.
- Contributor misrepresented authorship of, or rights over, an item.
- Item is subject to the Public Access temporary embargo.

All research funded by the Department of Transportation is required to be submitted to NTL for long-term preservation. Preservation of research is outlined in each project's Data Management Plan, which is required for all research. All elements of our preservation plan are outlined in our Digital Curation Policy (<https://doi.org/10.21949/1530599>).

Links:

- [NTL Collection Development Policy](#)

Repository & Open Science Access Portal

- [NTL Digital Curation Policy](#)
- [Library of Congress "Sustainability of Digital Formats"](#)
- [OMB Memorandum M-13-13](#)
- [DCAT-US Schema v1.1 \(Project Open Data Metadata Schema\)](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R10 Quality Assurance (R10)

R10. The repository addresses technical quality and standards compliance, and ensures that sufficient information is available for end users to make quality-related evaluations.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R10> [For Readability purposes]

Goal of Quality Assurance

The National Transportation Library highly values data and metadata integrity and quality. NTL's goal is to preserve all digital information submitted to the library through robust metadata, linking related objects to each other through metadata elements, the use of controlled vocabulary Transportation Research Thesaurus (<https://trt.trb.org/>) terms in every record, quality control during cataloging, working closely with metadata experts to keep up to date with new and required schemas, and examination and documentation for resolving issues with digital objects.

Linking Objects through Metadata

Metadata elements are based off Dublin Core Metadata Initiative terms (<https://www.dublincore.org/specifications/dublin-core/dcmi-terms/>) with additional locally created terms specific to our repository and needs. Our terms for metadata are extensive, with 56 available fields, most of which can be repeatable entries as needed. The fields we commonly use include: Title, Funding, Subject/TRT Terms, Report Number, Creators, Corporate Creators, Corporate Contributors, Corporate Publisher, Abstract, Public Note, Publication Date, Geographic Coverage, Resource Type, Right Statement, and Funding Number. These many fields allow catalogers to capture precise, descriptive details for each resource and enhance search functionality through filters. Ten metadata elements allow for linking objects: Report Number(s), Contract Number(s), Staff Notes, Is Version of, Is Part of, Contains, Is Format Of, Requires, References, and Preceding Entry. These elements, especially when used in combination, can share valuable information such as if an object is part of a series, is related to another object, shares a report number or contract number with another object, or has any relationship with any object in our collection. You can read more about our Metadata in the National Transportation Library Metadata Policy (<https://doi.org/10.21949/1530065>).

Controlled Fields and Standardization

Additionally, our cataloging system has many built-in features that support metadata quality control. Drop-down menus for each part of the publication date ensure data consistency. Free-text fields such as title and abstract incorporate spellcheck and grammar features. The NTL creates controlled headings for Series, Creators, Contributors, Publishers, and Geographic Location. Cataloging support documentation explains each metadata element and its expression down to the syntax, helping to standardize metadata in the repository. This documentation also includes templates for frequently used text, such as public notes that describe the curation level of a record, that can be copied and pasted into records when applicable.

When a record is cataloged, it's reviewed and approved by a senior cataloger to verify that all metadata elements are complete, properly formatted, and accurate. This process greatly decreases errors and their potential for reducing findability.

Documenting Procedures

For resolving issues with digital objects, as part of our CURATED Workflow for data (See Section Workflows R11), an important step is to reach out to the researcher if any questions or problems should arise. If the data is legacy data that has been transferred to NTL, the catalogers create public and internal

Repository & Open Science Access Portal

staff notes and documentation to explain the record and its provenance to the best of their knowledge. Public and internal note fields allow for the cataloger to record issues with the data or document, such as missing pages, incomplete context, issues with the file, or any other problem. This practice not only helps us remain transparent with our researchers on the state of the object they would like to view but ensures that a firm trail of documentation can be preserved.

Links:

- [NTL Metadata Policy](#)
- [Transportation Research Board's Transportation Research Thesaurus](#)
- [Dublin Core Metadata Initiative Terms](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R11 Workflows (R11)

R11. Digital object management takes place according to defined workflows from deposit to access.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R11> [For Readability purposes]

CURATED Workflow for Datasets

The ROSA P repository primarily archives data from both intermural research and extramural research under USDOT. NTL treats datasets as "class-1 research objects." This means that datasets have a value of their own, independently of the research report for which they were collected. As a result, we create separate cataloging records for published research and the data associated with them. However, the records should be linked in both Workroom and ROSA P. In an effort to ensure that all submitted datasets receive consistent and documented treatment NTL has implemented and now operates in accordance with the Data Curation Network's CURATE(D) Steps (<https://datacurationnetwork.org/outputs/workflows/>).

In addition to ensuring consistent and documented treatment for each dataset, the CURATE(D) steps ensure that each dataset has the proper documentation, supporting documents, and file formats to ensure a robust data package that is accessible and understandable for any user. There are seven steps in CURATE(D), one for each letter:

C: Check files/code and read documentation;

U: Understand the data;

R: Request missing information or changes;

A: Augment metadata for findability;

T: Transform file formats for reuse;

E: Evaluate for FAIRness ;

D: Document all curation activities throughout the process

The CURATE(D) steps were adapted and implemented with NTL's current work processes and systems in mind, a written public view workflow of NTL's use of the CURATE(D) steps can be found at <https://doi.org/10.21949/1530073>.

Upon completion of NTL's CURATE(D) Workflow each dataset will be cataloged and ready for ingest into the digital repository ROSA P.

Links:

Repository & Open Science Access Portal

- [Data Curation Network's CURATE\(D\) Workflow](#)
- [Integrating the DCN CURATE\(D\) Steps into the National Transportation Library's \(NTL\) Workflow](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R12 Discovery and Identification (R12)

R12. The repository enables users to discover the digital objects and refer to them in a persistent way through proper citation.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R12> [For Readability purposes]

Searching on ROSA P

The digital repository is indexed by Google, Google Scholar, OCLC WorldCat, Science.gov, Bing, and metadata is shared with the Transport Research International Documentation (TRID; <https://trid.trb.org/>) in order to achieve widespread findability of all digital items for interested users.

Within the digital repository ROSA P a user has a number of options when it comes to searching for potential items of interest. There are two main search functions in ROSA P, a simple search and an advanced search. For the simple search function (which can be found in the top right on every page within ROSA P) a user can search either all collections in ROSA P or by a specific collection by clicking the dropdown for "All" and changing it to the specific collection they would like to search. The advanced search, which is an option that is always shown under the simple search bar in the top right can be clicked on and take a user to the advanced search page. On this page a user can refine a search and set parameters for a number of metadata fields: all these words, this exact word or phrase, any of these words, language, publication date range, title, document type, collection, series, and author. Finally, when on the advanced search page users will see the custom query option, which allows them to build their own parameters for a search based on the available metadata, such as collections, title, abstract, personal creator, corporate creator, corporate publisher, publication date, DOI, contract number, publication/report number, subject/TRT terms, full text, and ROSA P record number. When a user has initiated a search and is looking at the results on the left sidebar, they will be able to further refine their search by the facets: publication date, resource type, people, entities, publisher, series, keywords, report number, and funding funder. Additionally, users can find information on how to utilize ROSA P's search features and search tips under "Help" on the repository's site (<https://rosap.ntl.bts.gov/help>).

Using Persistent Identifiers

In order to provide the public persistent identification and citation of digital repository records, NTL utilizes persistent identifiers, in this case, Digital Object Identifiers (DOIs). A DOI registry is provided by DataCite (<https://datacite.org/>). The Office of Scientific and Technical Information (OSTI) became a member and an allocation agency for DataCite in 2011. OSTI assigns Digital Object Identifiers (DOIs) to Department of Energy datasets and registers those DOIs with DataCite. The Interagency DOI Service, developed and operated by OSTI, provides this same service to other U.S. Federal Agencies desiring to make their data available for citation and discovery long into the future. NTL has used OSTI DOI services since 2016. Additionally, in 2022 NTL joined the US Government ORCID Consortium giving NTL access to the full features of a premium ORCID membership. Through this membership and learned experiences from the subsequent government community of practice on ORCID's NTL is moving towards full ORCID integration within ROSA P to further enhance each user's experience. By incorporating DOIs and ORCID iDs, NTL is continuing its mission to make data available to the public and help increase data sharing in the community. An overview of NTL's research process and public access workflow can be seen in the diagram at (<https://doi.org/10.21949/1503647>). The integration of DOIs and ORCID iDs into NTL's workflow can be seen in two major parts of the Plan to Increase Public Access to the Results of Federally-Funded Scientific Research Results (<https://doi.org/10.21949/1503646>), 7.2 Before Research Begins and 7.4.2 Data. These parts of the plan go into detail about the requirements that NTL has outlined to increase public access and data sharing, of which DOIs and ORCID iDs play an important part. The use of DOIs is also outlined in NTL's Digital Curation policy (<https://doi.org/10.21949/1530599>).

Repository & Open Science Access Portal

Creating Accurate Citations

Within the digital repository ROSA P, a user is able to generate a citation for a record in a number of formats: generic, APA, MLA, Chicago, and RIS, and users can learn more information on how to export a citation under "Help" on the repository's site (<https://rosap.ntl.bts.gov/help>). Additionally, NTL advocates that all USDOT-created data has a recommended citation within the documentation, to make it easier for a user to cite and for the agency to track how the data is being used. This citation is typically located in the DMP and README documents. In accordance with this initiative, NTL serves as a consistent resource for all citation creation questions from researchers and provides guidance on citation creation in the NTL Citation Guide LibGuide (<https://transportation.libguides.com/Citation>). This guide can serve as a resource both to users and researcher who want to create accurate citations, in the guide citations for publications, webpages, and data are covered.

Links:

- [Increasing Access to the Results of Federally Funded Scientific Research](#)
- [NTL Citations LibGuide](#)
- [DataCite](#)
- [ROSA P Help Page](#)
- [Transportation Research Board's Transport Research International Documentation \(TRID\)](#)
- [NTL Digital Curation Policy](#)
- [DOT Public Access Plan](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R13 Reuse (R13)

R13. The repository enables reuse of the digital objects over time, ensuring that appropriate information is available to support understanding and use.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R13> [For Readability purposes]

Reference Services

The NTL's Designated Community of users includes transportation researchers, the U.S. Department of Transportation, other Federal agencies, and the public. NTL has an active reference team that serves as a resource to our designated community of users to help identify their needs and connect them to the materials they are looking for. Under the reference team, NTL has developed some key resources that support the user, including an extensive searchable list of FAQs. If a user does not find the answer they are looking for, they can utilize the "Contact Us" section of the FAQ page to email a reference librarian, start a LibChat which will connect them with a reference librarian immediately during regular business hours, or they can call a reference librarian directly (<https://transportation.libanswers.com/>).

As leaders in the transportation information community, NTL staff engage regularly with our users through coordination of the National Transportation Knowledge Network (NTKN) and membership on the Transportation Research Thesaurus (TRT) Subcommittee. Engagement through the NTKN includes hosting communities of practice, meet-and-greets, and monthly webinars. NTL staff, as members of the TRT Subcommittee, participate in reviewing and approving controlled vocabulary terms submitted for inclusion in the TRT.

Data Formats

NTL encourages the use of open, non-proprietary, preservation-friendly formats where possible. A list of preferred formats can be found in NTL's

Repository & Open Science Access Portal

Collection Development Policy (<https://doi.org/10.21949/1530598>). NTL staff contact submitters for resubmission in preferred formats when needed. When a format does not appear on the list, NTL staff ask for documentation as to why that particular format was chosen, and what software dependencies exist, so these may be shared through the metadata record. This process ensures that a user has all the needed information to open, view, and use the files associated with a digital object.

Metadata and Controlled Vocabularies

NTL utilizes the Dublin Core Metadata Schema with the addition of locally created fields specific to our repository's needs. This combination helps ensure all relevant information for a record is captured and available to a user within the digital object's metadata. Dublin Core terms are suitable to our needs as a federal repository as the information is simple and easily adaptable. When used in combination with our locally created fields that are relevant to federal transportation research, our constituents gain a clear understanding of our records as well as federal processes that make us unique, such as ResearchHub ID (<https://researchhub.bts.gov/>), US Federal Grant Numbers (assigned when awarded and unique to that grant recipient), and Contracting Officer (the federal employee overseeing the grantee).

Users may conduct simple or advanced searches across the repository or specific, topic-focused collections. The public interface searches the Title, Funding, Subject/TRT Terms, Report Number, Creators, Corporate Creators, Corporate Publisher, Abstract, Note, and Publication Date metadata fields in addition to searching the document itself. Search results may be further narrowed down with facets by Publication Year, Geographic Coverage, Resource Type, People, Organizations, Publisher, Series, Keywords, Report Number, and Funding Number.

The NTL staff make use of the Transportation Research Thesaurus (TRT) (<https://trt.trb.org/>) for each record that goes into ROSA P. The TRT is a controlled vocabulary used for indexing and improving discoverability of research in the discipline. In addition to the NTL repository, the TRT is used by the Transportation Research Information Services (TRIS) Database (<https://trid.trb.org/>), state departments of transportation, research libraries, and university transportation centers. Additionally, staff are currently remediating controlled and uncontrolled terms for unintended harm, and NTL staff has created a list of inclusive, preferred, non-controlled terms to use in the case where controlled terms might be outdated or offensive. You can read more about our Metadata in the National Transportation Library Metadata Policy (<https://doi.org/10.21949/1530065>).

Creating Data Packages

NTL's standard for each dataset is the creation of a robust data package, in order to provide the user with the appropriate metadata and documentation to support understandability and reuse. Information on NTL's standards for data packages can be found in the NTL's Research Data Management LibGuide (<https://transportation.libguides.com/researchdatamanagement/datapackages>).

Additionally, the assurance of these robust data packages with thorough documentation exists in the implemented CURATE(D) workflow. The CURATE(D) workflow is designed to ensure the entire Submission Information Package (SIP) is evaluated and curated, providing a user with all required information for reuse and reproducibility. The use of CURATE(D) for a dataset is documented throughout the process and results in a complete CURATE log so any changes to data, metadata, documentation, or other information are stored and preserved for future knowledge and use. If anything needs to be conveyed to the user regarding a dataset's curation it will be presented in the public note field in ROSA P.

Links:

- [NTL Metadata Policy](#)
- [ResearchHub](#)
- [NTL Collection Development Policy](#)
- [LibAnswers](#)
- [Transportation Research Board's Transport Research International Documentation \(TRID\)](#)
- [Transportation Research Board's Transportation Research Thesaurus](#)
- [NTL Data Packages LibGuide](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Information Technology & Security

Repository & Open Science Access Portal

R14 Storage & Integrity (R14)

R14. The repository applies documented processes to ensure data and metadata storage and integrity.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R14> [For Readability purposes]

Storage Resiliency

Amazon Simple Storage Service (S3) is used to store large image files and backups. The AWS, Amazon Web Services, environment consists of three sub-environments, each acting as a separate archive:

- Production environment - where all public users can reach published content
- Disaster recovery environment - a slower but functional archive is ready in case of disaster.
- Staging environment - where all content can be managed by curators and stage content prior to production.

S3 is AWS managed and backed up regularly. Other Backups are taken using AWS backup. In using cloud storage, we are already mitigating risks associated with standard disk storage by backing up data regularly in case of failure.

The NTL system uses a proven, robust, open-source PostgreSQL database via Amazon Web Services Relational Database Service (RDS) as the persistent storage implementation. The relational database holds all application pertinent data, all of which are normalized into tables with powerful querying and indexing capabilities. AWS RDS offers daily, monthly, and point-in-time backups.

SWAT: A Customized Administration Console and Application Stack for Digital Object Management

All digital objects and their associated metadata are uploaded and managed via a customized administration console and application stack. This stack allows for the creation and curation of all digital objects and is internally called SWAT (Stacks Workflow and Administration Tool). SWAT only exists in the staging environment, and it allows curators to interface with the content and make changes without interfering with the production environment/content. In terms of data, the staging archive is always accurate. The production and disaster recovery archives are always overwritten by staging. This ensures that if there were ever a security incident in production, the staging data would win and overwrite any incorrect data. Staging is backed up daily and backups are kept in accordance with CDC and federal regulations.

To support the curation of content, SWAT allows the authenticated and authorized DOT curators to perform the following actions:

- Uploading and ingesting new content.
- Modification of metadata for existing content.
- Superseding and updating digital objects as needed for version control. Past versions can be kept intact, creating a "superseded by" functionality style version control or past versions can overwrite the current version in a "draft to final" update revision. Both version control styles are supported by SWAT.
- Removal of documents.
- Publication approval. Following a quality assurance check, the curator can approve the changes. Allowing the modifications that were requested to be replicated from staging to the production and disaster recovery archives.

Data Integrity and Audit

Checksum (hash) verification for data packages is implemented to verify data integrity and ensure that a file has not been lost or corrupted since its initial upload. When SWAT receives an object (new or updated) it will generate a SHA256 hash of the file as it was received and include the result as a metadata element of the digital object. This allows the curator to validate (or fixity check) the supplied content matches the received and processed content. Further, the SHA256 value is available as metadata to end-users. They can in turn validate their download matches with the supplied value. This allows both curators and end-users to fixity check any document at any time.

Additionally, NTL has implemented Digital Object Identifiers (DOIs) as part of DOT collaboration with the U.S. Department of Energy Office of Scientific and Technical Information (OSTI) Interagency DOI Services and DataCite managed in accordance with OSTI established practices. NTL has implemented a routine system-wide URL/Link validation to validate internal links in the resource.

SWAT will also keep a log of all requests, the identity of the user and timestamps of all requested actions. These logs are kept for administrative and security audits in accordance with CDC policy and federal regulations. There are also automated alerts generated by the system if a sequence of pre-identified events occurs. These alerts are sent to the operations team for investigation.

To protect digital information and data from loss, NTL employs the "3-2-1" backup rule. NTL maintains:

- Three (3) copies of the electronic files
- Stored on two (2) different kinds of storage media
- With at least one (1) copy stored in a different geographic and geologic region.

Currently, NTL maintains a copy of its repository content and metadata in the following locations:

- USDOT managed Microsoft Azure cloud environment
- CDC Public Access Platform (Amazon Web Services cloud environment)
- Removable media (external drive)

Backups on the USDOT-managed Microsoft Azure cloud environment are in the disaster recovery site, located in a different geographical area than

Repository & Open Science Access Portal

USDOT headquarters. Backups on the CDC Public Access Platform are in the disaster recovery site on the US West Coast, a different geographic area than CDC headquarters. The disaster recovery site is updated daily. All daily backups of the staging server and weekly backups of the production servers are kept for 45 days.

Data integrity is achieved by using manual validation processes throughout the lifecycle of the data in the NTL. Submissions of data and documents to the NTL are reviewed by catalogers.

Links:

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R15 Technical Infrastructure (R15)

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

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

<https://transportation.libguides.com/CTS/R15> [For Readability purposes]

Open-Source Dependencies

The DOT software infrastructure consists of a combination of open source and custom software developed and maintained by the CDC (Centers for Disease Control and Prevention). Multiple different open-source software stacks are integrated and combined with custom code to produce the final environment. The following open-source software is used:

- Apache Web Server
- Apache Tomcat
- Apache SOLR
- MySQL
- Fedora Commons
- Image Magic
- Samvera (Hyku)

Compliance and Support

The entire environment is developed and managed in accordance with FISMA, the Federal Information Security Modernization Act. In accordance with it, the system developed, tested, monitored and authorized by the CDC's Chief Information Security Officer (CISO) using the standards developed and maintained by NIST, the National Institute of Standards and Technology. The system is deployed at Amazon Web Services under their FedRAMP authorization package (<https://www.FedRAMP.gov/>). The NTL uses the Amazon Well-Architected Framework which is used internationally and is an industry standard for infrastructure design. The repository is built using open-source community developed software Samvera (Hyku). The system currently conforms to NIST 800-53 Rev 4 and will be transitioning to NIST 800-53 Rev 5 once the FedRAMP package for AWS is updated and audited. The environment and technical support are supplied by the CDC to DOT, the US Department of Transportation, using an Interagency Agency Agreement (IAA). All curation of content is done by DOT personnel identified and authorized under the IAA. All standards are implemented following the guidance from the AWS Whitepaper (1). The infrastructure is fully developed and deployed in AWS and the NTL contracted support staff constantly work on adjustments to infrastructure to enhance performance, security, robustness, and efficiency of the cloud environment.

The custom software is developed, tested and stored in a CDC Github hosted repository. All changes go through a planning, testing and approval process. The planning includes a regularly scheduled user group meeting where DOT personnel can request feature updates and discuss issues or

Repository & Open Science Access Portal

concerns. Testing includes vulnerability as well as quality assurance checking. The approval process is an official CDC change management process that includes documenting the changes as well as getting authorization.

In addition, CDC monitors the environment in compliance with the NIST standards. This includes patch management, continuous monitoring, malicious code scanning, access logging / auditing, automated alerting and availability testing. Security events are managed and processed by the CDC CyberSecurity Incident Response Team (CSIRT@cdc.gov).

Authority to Operate Documentation

Documentation for Authority to Operate (ATO) was developed per DOT guidance and approved templates and then approved by NTL system owner. ATO documents are stored in the DOT internal ATO Cybersecurity Asset Management (CSAM) which is not publicly available as per DOT policy. A complete set of NTL ATO documentation is listed below:

- FIPS 199 System Categorization
- Business Impact Analysis (BIA)
- Contingency Plan (CP)
- Contingency Plan Test (CPT)
- Configuration Management Plan (CMP)
- Privacy Threshold Analysis (PTA) / Privacy Impact Assessment (PIA)
- Incident Response Plan (IRP)
- Incident Response Plan Test (IRPT)
- Plan of Action and Milestones (POA&M)
- System Security Plan (SSP)
- System Inventory
- Security Assessment Plan (SAP)
- Security Assessment Report (SAR)

Software inventory, disaster recovery plan and business continuity, security controls, and incident response are described in the ATO documentation listed above. There are no significant deviations from the FISMA moderate policy per ATO recorded and no current incident reports submitted.

Scalability with Multi-Tier Software Infrastructure

The environment is a multi-tier software infrastructure. It has a load-balancer/web front-end, multiple back-end content and application servers and databases. The environment is designed to grow to meet access needs using a human backed scaling model. Each system can grow in resources (cpu/memory). Further, additional back-end servers can be added to the pool if additional servers are necessary. This helps the environment meet growth/usage needs. In addition, the primary site is geographically separated from the disaster recovery site (Primary = East Coast of the US, Backup = West Coast of the US). Disaster recovery testing is done yearly in accordance with CDC policies.

Links:

- [FedRAMP](#)

Reviews

Reviewer 1:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

R16 Security (R16)

R16. The repository protects the facility and its data, metadata, products, services, and users.

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Response:

Repository & Open Science Access Portal

<https://transportation.libguides.com/CTS/R16> [For Readability purposes]

Security Compliance

As discussed in Storage and Integrity (R14) and Technical Infrastructure (R15), the system is authorized as under the FISMA, Federal Information Security Modernization Act. It is deployed in the Amazon Web Services infrastructure, and it is considered to have a LOW security rating. Amazon is registered in the FedRAMP and this archive is under the Amazon US East-West authorization package. This is in-line with a public repository that allows people to anonymously access the digital content. The system conforms to the CDC and AWS best practices. However, the system includes some higher security controls for specific areas.

The DOT ISSO security analysts supporting a network of applications across DOT include NTL, provide a baseline of security assurances through centralized management of security tools for system activity monitoring, vulnerability scanning, and system hardening. Dedicated cloud architects of DOT, experienced with supporting government systems enhance the security posture of the system ensuring vulnerabilities are addressed in a timely manner, network traffic is monitored, availability is ensured, and integrity of system data.

Several security related processes are performed to ensure compliance including tenable Nessus vulnerability scanning reviewed by the team; Netsparker web application security and penetration testing executed regularly; Synack penetration tests performed by a third party and issues are resolved by the NTL contracted support staff according to issue resolution policy.

Levels of Security

The system has three environments (as discussed before in R14 and R15). These each serve a different security function and go beyond the basics required by FISMA. The most protected of the three is Staging. It is where all data is considered trusted. As such, it has the highest level of controls and has limited/restricted access. The other two, production and disaster recovery, are where the public will be able to access content anonymously and are geographically separated to support disaster preparedness. Because these environments are accessible to the public, they are at the most risk. To combat that risk, the content of production and the disaster recovery is read-only. It is only write enabled during a period where the content is overwritten by staging and uses a restricted access model to achieve the replication. This ensures that content has an improved security posture when considering unauthorized modification and even if it were to be modified (e.g. compromised through an exploit of some sort), the modification would be short lived since it would be overwritten. Content is replicated at a minimum of once each day.

Authentication and Authorization Procedures

The administration console for ROSA P is only running in the staging environment. Checks related to data upload process that prevents users from uploading compromised documents; access controls in place for cloud system components and network access including Multi Factor Authentication (MFA). This authentication includes Personal identify Verification Cards (PIV).

PIV cards are strong authentication tokens (two-factor) and are issued to military/federal employees and contractors after proper background and clearance checks are done. Since there are multiple government agencies involved in the support and maintenance of the archive, this authentication mechanism can operate with very little manual intervention improving both reliability and security. It supports agency managed on-boarding and automated exit processing. Both the backend and frontend of ROSA P are controlled and exclusively accessed through the use of these PIV cards. These cards ensure that only authorized users are able to access and modify and repository content. The PIV card must be inserted into the computer and the user's unique digit code must be inputted within the time limit or access will not be granted. PIV cards may be remotely shut down in the case of loss or theft. Any government worker who has a PIV card must keep the card on their persons at all times and must not leave their workstation without it. PIV card clearance and security measures protect both frontend and backend environments of the repository as well as any internal server access.

In addition to digital access controls, PIV cards are also used as security clearance for physical government buildings and locations. In the case of servers, the server rooms are secured with Logical Access Cards (LAC), a higher clearance security card specifically for administrative access to servers. ROSA P servers are located in a secure data center offsite in Northern Virginia. LAC and PIV cards not only provide digital authentication but physical authentication as well.

Applicable Policies and Standards

The CDC protects ROSA P data through the mutual contract in accordance with applicable policies and standards, including:

- The Federal Information Security Management Act (Title III of the E-Government Act, Public Law 107-347)
- Privacy Act and Trade Secrets Act (18 U.S. Code 1905)
- Unauthorized Access Act (18 U.S. Code 2701 and 2710)
- Health and Human Services (HHS) Cybersecurity Program

Links:

- [Health and Human Services \(HHS\) Cybersecurity Program](#)
- [Unauthorized Access Act \(18 U.S. Code 2701 and 2710\)](#)
- [18 U.S. Code § 1905 - Disclosure of confidential information generally](#)
- [The Federal Information Security Management Act \(Title III of the E-Government Act, Public Law 107-347\)](#)
- [Federal Information Security Modernization Act \(2002\)](#)

Reviews

Reviewer 1:

Compliance level:

Repository & Open Science Access Portal

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Reviewer 2:

Compliance level:

Implemented: the requirement has been fully implemented by the repository - 1

Comments:

Applicant feedback

R17 Applicant Feedback

We welcome feedback on the CoreTrustSeal Requirements and the Certification procedure.

Compliance level:

In Progress: the repository is in the implementation phase - 0

Response:

Having the option to submit as a PDF or Word Docx would be a great option. We have decided to submit this application as both the form textboxes and a compiled PDF as the current text box submission does not allow for the formatting we need. However, allowing applicants to submit a document with formatting such as bullet points and hyperlinks would make the application look better, more readable, and easier to proofread.

Links:

Reviews

Reviewer 1:

Compliance level:

In Progress: the repository is in the implementation phase - 0

Comments:

Reviewer Comment: While noting that some duplication remains (e.g. references to "3-2-1" backup" that belong under Storage & Integrity are also included under Preservation) all other comments have been addressed and I have Accepted each Requirement. Though evidence can be relevant in more than one place, and though it can be challenging to be sure what is expected where it is suggested that the applicant work to reduce the level of duplication when they renew their certification.

Reviewer 2:

Compliance level:

In Progress: the repository is in the implementation phase - 0

Comments: