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Robert C. Hampshire
Deputy Assistant Secretary for Research and Technology
U.S. Department of Transportation
1200 New Jersey Avenue SE
West Building, Room W12-140
Washington, DC 20590

Submitted via [regulations.gov](https://www.regulations.gov)

Re: Docket No. DOT-OST-2023-0045-0001

Dear Deputy Assistant Secretary Hampshire,

Thank you for the opportunity to provide input on the Department of Transportation's (DOT) update to its Public Access Plan. We are writing on behalf of [SPARC](http://www.sparcopen.org), a non-profit advocacy organization that supports systems for research and education that are open by default and equitable by design. Our [membership](#) includes over 200 academic and research libraries across the U.S., with institutions ranging from large research intensive universities to community colleges. We believe that sharing knowledge is a human right, and that everyone should be able to access, contribute to, and benefit from the knowledge that shapes our world. Our members are committed to supporting equitable systems of research and education, and we appreciate the opportunity to provide input on DOT's plan to implement the landmark 2022 OSTP Memorandum on [Ensuring Free, Immediate, and Equitable Access to Federally Funded Research](#).

The Department's commitment to "ensure the free and immediate availability, reliable preservation, and continuous access to DOT-funded research results, without embargo" through its Public Access Plan creates a strong foundation to fully leverage the research funded by DOT each year. We applaud the Department's goal of enhancing the usefulness of scientific research results to promote further innovation, increase American economic competitiveness, and advance the safety, reliability, sustainability, and equity of the national transportation system. Our responses below offer recommendations to ensure that DOT's updated Public Access Plan can accomplish these goals and align with the requirements of the OSTP Memorandum.

Question 1: How best to improve access to textual research outputs?

We encourage the Department to expand its current policy of requiring deposit of textual research outputs in the DOT repository to also allow deposit in other agency-designated repositories as a means for compliance. We recommend DOT carefully consider governance and community alignment when evaluating the suitability of additional repositories as compliance options and use the U.S. Repository Network's [Desirable Characteristics of Digital Publication Repositories](#) as a resource in this process. DOT-funded researchers should also be provided with clear guidance on how to submit these outputs to DOT's repository or any DOT-designated repository—making the submission process as convenient as possible by offering researchers compliance options that can be integrated into their current workflow processes.

In addition, DOT can enhance the utility of these important outputs by ensuring that they can be both easily accessed and fully reused. To this end, we recommend DOT ensure that textual research outputs generated from DOT-funded grants are in standardized, machine-readable formats and made available under an open license, such as the [CC BY license](#) or its functional equivalent.

Enhancing access to research outputs beyond traditional publications and underlying datasets increases public awareness of the Department's work, improves its transparency and accountability, and broadens the range of people who can benefit from DOT-funded research—including students, early career researchers, and local practitioners. The accessibility of DOT grey literature is particularly important given the direct impact it has on Americans' lives. Immediate availability of this information will enable broader engagement on key transportation questions and accelerate progress toward promoting safety, improving mobility, improving infrastructure, and preserving the environment.

Question 2: How best to improve accessibility of textual research outputs?

As discussed in Answer #1, placing a [CC BY license](#) or its functional equivalent on a research output provides an important foundation for better ensuring that all DOT textual research outputs can be equitably accessed and fully reused. The reuse rights granted by such a license removes restrictions on adaptations to better enable the use of computer screen readers and other assistive technologies. DOT should continue to follow guidance on digital accessibility outlined in Section 508 of the [Rehabilitation Act \(29 U.S.C. 794d\)](#), as well as the [Web Content Accessibility Guidelines \(WCAG 2.1\)](#) produced by the World Wide Web Consortium. Additionally, all DOT textual research outputs should be made available in standardized and machine readable formats so that they can be more readily converted to a variety of other formats for use by assistive devices.

Question 3: How best to improve access to scholarly publications from DOT funded research?

To make peer-reviewed publications freely, immediately, and equitably available, we recommend that the Department require the deposit of authors' accepted manuscripts into the Department's current repository or into any other DOT-designated repository. This is both the most equitable and affordable option for the researcher and the Department. As described in Answer #1, we recommend DOT carefully consider governance and community alignment when evaluating the suitability of additional repositories as compliance options and use the U.S. Repository Network's [Desirable Characteristics of Digital Publication Repositories](#) as a resource in this process.

We encourage the Department to consider collaborations with repositories at academic and research libraries. In particular, the [U.S. Repositories Network](#) (USRN) mentioned above is working to promote a strategic vision for U.S. repositories built on collaboration, discoverability, interoperability, and preservation. It is organized around the belief that repositories are a critical component of our national research infrastructure, and by offering rapid and open access to research, they can play a crucial role in collective efforts to transform research communications—leading to a more open, inclusive, and equitable system.

We also recommend the Department encourage funded researchers to explore the growing number of communications options that provide free, immediate access to research outputs that do not rely on unnecessary and unsustainable author-side charges for investigators to deposit their work. DOT should actively encourage the use of channels that do not present financial barriers, including non-APC supported open access journals, preprint servers, and other emerging community-driven options.

To ensure the broadest and most equitable reach of its funded scholarly publications, we urge the DOT to use caution when considering allowable paths to compliance that require author-side fees, particularly Article Processing Charges (APCs), that present financial barriers to authors. APCs are [rising rapidly in price](#), driving an overall increase in the cost of research communication that presents a growing risk of tradeoffs in diverting funds away from the research process itself. APCs create prohibitive barriers to publication that negatively impact many researchers, especially in instances where publishing in particular APC-based journals is viewed as important for career advancement. This results in fewer opportunities for individual researchers to share their results with the scientific community and the public. This is extremely troubling from an equity perspective, as [studies](#) have documented that APC costs disproportionately affect younger researchers, female researchers, and those at less well-funded institutions.

Open licensing and machine readability enable the broadest access and reuse and are critical to achieving full scientific utility and equitable reach of research outputs. To ensure that the full value of the Department's investment in research can be realized, DOT's Public Access Plan should ensure that peer-reviewed scholarly publications are made freely and immediately available in standardized and machine readable formats that fully enable text and data mining, machine learning and other computational uses.

As described in Answers #1 and #2, placing a [CC BY license](#) or its functional equivalent on a publication is the best way to ensure that publications can be freely accessed and fully reused. To enable the use of an open license, DOT should ensure that authors explicitly retain the rights needed to authorize open licenses, regardless of whether authors deposit an author accepted manuscript or a final published article in a DOT-designated repository. DOT should also ensure that it obtains sufficient rights to provide the public with the full benefits of the research that it funds. In particular, as the OSTP Memorandum directs, the public should be able to access final peer-reviewed accepted manuscripts freely, without embargo or delay, and under terms that make them fully reusable. The Department should seek to achieve this result in a manner that minimizes complexity and burden in compliance by grantee institutions and individual researchers.

DOT's efforts to improve equity in access to research outputs naturally align with the critical work of the National Science & Technology Committee's (NSTC) Subcommittee on Equitable Data. SPARC strongly supports the White House Equitable Data Working Group's [recommendation](#) that federal agencies and departments deliberately build capacity for robust equity assessment for policymaking and program implementation, which will be helpful in minimizing disparate impacts in implementation. We recommend DOT coordinate the implementation of its Public Access Plan with the NSTC Subcommittee, the Department's broader Equity Action Plan, and broader White House recommendations.

Finally, DOT should look for opportunities to better align its award practices with assessment approaches that advance equity, such as recognizing preprints and avoiding journal-based metrics. It would also be useful for DOT to engage with ongoing efforts designed to address this important area, including [The NASEM Roundtable on Aligning Incentives for Open Science](#) and the [Higher Education Leadership Initiative for Open Scholarship](#) (HELIOS).

Question 4: How best to improve access to datasets?

We applaud the Department's leadership in requiring the data underlying research conclusions to be made publicly available. We support DOT's decision to amend its data sharing policy to require that datasets underlying scholarly publications only be shared via a DOT repository or a DOT-approved repository (e.g., institutional, third party, etc.). The use of trusted, public repositories will maximize discovery, encourage collaborative development, improve version control, and ensure long-term preservation.

DOT-funded research should adhere to the [FAIR Data Principles](#) to ensure full reuse. To enable the FAIR principles, data repositories approved by DOT should align with the characteristics outlined in the National Science & Technology Council's (NSTC) "[Desirable Characteristics of Data Repositories for Federally Funded Research](#)." This guidance was widely welcomed by the research community, and we encourage the Department to use its characteristics to certify and/or establish DOT-approved data repositories. We recommend DOT provide clear guidelines

on data repositories to reduce confusion and lessen the burden on researchers, especially for those that have historically self-distributed their data.

The variations in the type and size of datasets requires a networked repository approach to achieve efficiencies and facilitate preservation and sharing. We recommend DOT work closely with repositories in the community to establish mechanisms for coordination and interoperability. As noted in the FAIR principles, consistent metadata standards across networks are critical to ensuring that data is easily discoverable no matter where it is deposited.

The Department should also ensure that it is adhering to equitable community standards such as the [CARE Principles for Indigenous Data Governance](#). Ideally, the FAIR and CARE Principles should work in tandem with each other to facilitate Indigenous control in data governance and reuse. As part of its Public Access Plan, the Department should develop data sharing guidance for grantees that aligns with the FAIR and CARE Principles.

Question 5: How to implement evolving ethical frameworks to DOT-funded research?

The CARE Principles are an important starting point to ensure DOT is fully engaged in evolving ethical frameworks related to research sharing and communication. The Ethical Principle (the “E” in CARE) requires that the wellbeing of Indigenous people be central in data ecosystems to minimize harm, maximize benefits, promote justice, and allow for future use. This principle can be expanded to be inclusive of other marginalized groups impacted by or involved in data collection and sharing activities related to DOT-funded research.

To implement the Ethical Principle from CARE and other frameworks, we recommend DOT leverage the [Guidance for Federal Departments and Agencies on Indigenous Knowledge](#) issued by the Office of Science and Technology Policy and the Council on Environmental Quality and its associated [implementation memorandum](#). We see the portions of the guidance on co-management and co-stewardship structures and co-production of knowledge as being particularly helpful in DOT’s efforts to implement ethical frameworks.

Question 6: How to best improve access to other types of research outputs?

We applaud DOT’s interest in improving access to other types of research outputs. DOT can strengthen its data sharing policy by requiring code and software associated with research data to also be shared openly. This would provide users with the necessary tools to analyze the data, increasing its value to the community and aligning with the FAIR Principles to ensure data is findable, accessible, interoperable, and reusable. The Department should also require researchers to make the software and code available under open licenses that allows for free access, modification, and reuse. We recommend the Department consult the [Open Source Initiative](#) which has a number of “approved licenses” that meet these terms.

Question 7: How to implement persistent identifiers (PIDs) for people; research documents and outputs; and, research entities?

Ensuring that the results of DOT-funded research along with metadata containing information about who conducted the research, where it was done, and with what resources is an important component of DOT's Public Access Plan. We encourage DOT (and other federal agencies) to identify and adopt de facto community standards where they exist. For example, to identify research entities, we recommend that DOT leverage the [Research Organization Registry](#) (ROR), a registry of more than 100,000 organizations, and require ROR IDs for grantees. We also recommend DOT adopt digital object identifiers (DOIs) for publications, data sets, and data management plans, and ORCID IDs for researchers—each of which is a nonproprietary community standard for its identifier type.

Because the OSTP Memo requires all federal agencies to use digital identifiers, DOT should coordinate its efforts with other participants in interagency working groups, including the National Science and Technology Council's (NSTC) Subcommittee on Open Science, to identify best practices and potential standards. DOT also should consider collaboration with standards bodies, such as the National Information Standards Organization (NISO), to develop a framework and standards as part of a national PIDs strategy to facilitate smooth implementation.

Given the growing centrality of PIDs in research infrastructure, it is essential that DOT and other federal agencies only adopt nonproprietary identifier types that enable the broadest possible use and allow anyone to leverage this information in new and innovative ways.

Question 8: How to improve research project lifecycle management?

The adoption of open science practices can significantly improve public access to information about DOT's research projects. For example, encouragement by DOT that funded researchers preregister research projects (including the research question, study design, and data analysis plan), post preprints, and consider publishing in journals with an open peer review process will increase transparency and the opportunity for engagement in the full lifecycle of a research project—not just the final results. In addition to boosting reproducibility, these practices can also provide the public greater insight into and confidence in the research process.

SPARC appreciates the opportunity to provide comments, and we applaud the Department for its efforts to ensure equitable, free, immediate access to taxpayer funded research. We look forward to working with the Department to fully accomplish the goals outlined in the OSTP Memorandum and to leverage the full value and utility of DOT-funded research.

Sincerely,



Katie Steen-James
Manager of Public Policy & Advocacy



Heather Joseph
Executive Director