

May 10, 2023

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Docket No. DOT-OST-2023-0045

Request for Information - Increasing Public Access to the Results of USDOT-Funded Transportation Research

The American Society of Civil Engineers (ASCE) is pleased to offer the following comments on the U.S. Department of Transportation (DOT) request for public comment on issues or topics the DOT should consider as it updates the DOT Public Access Plan in response to new White House Office of Science and Technology Policy (OSTP) guidance. The proposed rule was published in the Federal Register for comment on March 23, 2023, with the comment period closing on May 10, 2023.

Background

Founded in 1852, ASCE is the country's oldest civil engineering organization. Representing more than 150,000 civil engineers from private practice, government, industry, and academia, it is ASCE's objective to advance the science and profession of engineering to enhance the welfare of humanity. As such, among its many endeavors, ASCE is the world's largest publisher of civil engineering information—producing more than 55,000 pages of technical content each year. The ASCE Publications Division produces 35 peer-reviewed research journals (available both in print and online editions), conference proceedings, standards, manuals of practice, technical reports, and monographs under the ASCE Press imprint. ASCE's many other resources for practicing civil engineers include the 170,000-entry Civil Engineering Database, a complete publications catalog, a conference video collection, and the ASCE Library, providing online access to over 700,000 pages of journal articles and proceedings papers.

On August 25, 2022, the White House Office of Science and Technology Policy (OSTP) released a memorandum entitled "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research" which establishes new guidance for improving public access to scholarly publications and data resulting from Federally supported research. This OSTP memorandum calls on all Federal Departments and Agencies to prepare new or updated Public Access plans to ensure the Public's immediate access to the results of Federally funded research, which will further advance research transparency and advance U.S. economic competitiveness by raising awareness of new research discoveries and innovations.

ASCE Concerns

As stated in our letter of January 12, 2023 to Secretary Buttigieg, ASCE supports the principles of public access and endorses enhancing the dissemination of federally funded research to advance public health and safety and strengthen global quality of life. We acknowledge that the scientific and engineering

communities must adapt to changing scholarly norms and must develop new dissemination models that address open and equitable access. However, this must be done in a way that preserves the scholarly value of the peer-reviewed version of record, which is fixed at its time of presentation without any possibility of historical rewriting – meaning that the original work cannot be altered by the author or anyone else. ASCE also believes that learned societies, acting in accordance with their educational mission, should be able to recover their costs of investing in managing the peer review process, editing, publishing, disseminating, and maintaining an ever-growing archive in perpetuity.

As written, the memorandum implies that agencies may opt to require deposit of the accepted manuscript of their research paper (version that arises from peer review, but which has not yet been put through publishing process such as copyediting, XML markup, and so forth) or the version of record (final version published through publisher distribution channels) or may allow flexibility to the authors on this point. For society publishers that are heavily reliant on subscription revenues, a requirement to deposit the final version of record would more rapidly erode subscription value and force a swift shift to a fully Open Access (OA) business model reliant on article processing charge (APC) revenue from all authors. Such a hurried shift presents a couple of challenges:

- First, non-profit societies are largely not in a position to offset significant lost revenue with new business models as quickly as subscription revenue will likely decline, which will result in fewer programs and services to advance the various scientific and engineering professions they represent.
- Second, publishers will either need to provide APC waivers to authors without funding to cover the cost of publication in a fully OA business model (further inflating the APC rate for those who do have ability to pay, which will either require larger grant funding from the federal government or will result in less money available for research itself), or unfunded authors will be precluded from scholarly publication due to the barrier to pay, which presents equity challenges.

Each of these scenarios' present negative consequences on scientific and engineering professions and the research enterprise and could unintentionally penalize unfunded authors. ASCE strongly recommends that implementation of this OSTP memorandum focuses on author accepted manuscript and not version of record, therefore allowing flexibility to the author to protect researcher choice.

The memorandum leaves it to the agencies to determine whether publications will need to be deposited with broad re-use rights under licenses such as CC-BY or similar. Requiring liberal re-use rights under which third parties can re-use, redistribute, and create derivative works from scholarly publications for any purpose (including commercial) presents significant damage to publishers, particularly society and non-profit publishers. In such a scenario, large commercial technology-focused entities and competitive commercial publishers may legitimately use the deposited scholarly publications to create their own comprehensive research databases supported by advertising revenues, to the detriment and extreme danger of society publisher business models. Further, such actions—particularly creation of derivative works—could present imminent danger to public health and safety, whether due to inadvertent misinterpretation or nefarious intent. In its policy statement on Publication of Publicly Funded Researchⁱ, ASCE “deems it essential to preserve the scholarly value of the peer-reviewed version of record, which is fixed at its time of presentation without any possibility of historical rewriting—that the original work cannot be altered by the author or anyone else.”

ASCE believes that any public access mandates must “protect against the potential abuse or misuse of scientific and technical information.” ASCE strongly recommends that implementation of this OSTP memorandum does not include any attachment of re-use rights and allows for use restrictions to prevent endangerment of public health and safety.

Additional areas of concern for ASCE include:

- Expectations on publishers to aid their authors in depositing their underlying data.
- Potential requirements for enhancements in deposited publications to allow for equitable access (e.g., machine readability, broad accessibility for assistive devices, etc.), which would further drive up the cost of publication and therefore APCs.
- The leeway for agencies to apply public access requirements for content beyond scholarly publications in journals, to expand to outputs such as peer-reviewed conference proceedings and book chapters resulting from federal funding.

ASCE Response to DOT Questions

Question 3.

i. How peer-reviewed scholarly publications should be made publicly accessible;

Publishers have led and responded to the interest in open science by investing heavily in open science over the last 25 years, broadening and expanding the public's ability to understand and access the work of scientists and scholars. ASCE and other publishers continue to invest in new models and approaches to providing access, including experimentation with a variety of business models to support quality, sustainability, and equity. These experiences have demonstrated that there is not one best route to providing access. A mixed ecosystem is likely to persist for some time, even as publishers, institutions, and funders move to support open science.

Flexibility is needed to promote diversity in publication, ensure author choice, avoid unintended consequences, and support access to publishing in ways that work for researchers. Different publishers may offer distinct approaches to provide access, each of which may be appropriate to the communities they serve, and each of which should be allowed as a method for researchers to ensure access to any article they author that reports on DOT-funded research. A diversity of publication outlets, enabled by flexible approaches to implementation of the DOT policy, supports diversity in research. ASCE advises that the DOT policy allows maximum flexibility for authors in sharing either their author accepted manuscript (via a repository) or version of record (via gold OA publication).

Regardless of the route to publication and public access, reliable funding needs to be made available to the researcher and their research institution, together with appropriate and enduring support and guidance on the use of funds and the options for providing access. To ensure equity for all researchers, such funding and guidance needs to be provided alongside other guidance for researchers, and in a manner that ensures author choice for whatever journals they choose to advance their research and impact. This funding also needs to be provided on an equal basis so that researchers who choose to publish in journals that are supported by APCs are not disadvantaged in the resources available for their research, student support, and other critical needs. All researchers must have options to meet their funder obligations, regardless of the journal they choose or the agreements their institution has with individual journals.

Encouragement and education of researchers is also key, as they will ultimately be responsible for ensuring that the articles that they write are available to the public. Experience with funder requirements and compliance around the world indicates that researchers are often confused about grant requirements, including on how and when to provide access to publications, and a significant percentage of researchers erroneously believe that it is an inappropriate use of grant funds to pay for publication.ⁱⁱ

- ii. How to maximize equitable reach of public access to peer-reviewed scholarly publications, including by providing free online access to peer-reviewed scholarly publications in formats that allow for machine-readability and enabling broad accessibility through assistive devices; and,**

Publishers invest significantly to ensure that articles are accessible in various human and machine-readable formats and are available to those with diverse needs. Many publishers have invested in technology and infrastructure to build towards, meet, or exceed Section 508 accessibility and have created a diverse ecosystem of accessible resources available to diverse audiences with or without assistive technologies. ASCE is committed to ensuring digital accessibility to the widest possible audience and its publications are hosted on an industry gold standard platform by which we endeavor to conform to WCAG 2.a Level A compliance with the W3C Web Accessibility Initiative (<https://ascelibrary.org/accessibility>). As described above, publishers must be able to recoup the expenses incurred for providing such formats and for evolving with current best practices and standards.

- iii. The circumstances or prerequisites needed to make the publications freely and publicly available by default, including any use and re-use rights, and which restrictions, including attribution, may apply.**

When an author chooses to make their publication available via gold OA, ASCE publishes the version of record under a CC-BY license. This allows third parties to re-use, redistribute, and create derivative works from the article for any purpose (including commercial). The authors retain copyright to their articles in these situations, and therefore ASCE does not monitor reuse to ensure appropriate attribution, etc., is provided. In instances where authors decide that this sort of reuse is appropriate for their research, ASCE supports and provides publication venues via both hybrid journals and a newly launched fully Gold OA journal, *ASCE OPEN: Multidisciplinary Journal of Civil Engineering*.

As described above, ASCE believes the avenue to public access should be left to the researchers' decision. Should an author choose to make the author accepted manuscript accessible rather than the version of record, ASCE strongly recommends that DOT's policy does not include any attachment of re-use rights and allows for use restrictions to prevent endangerment of public health and safety. Researchers themselves are best equipped to determine whether derivative works created from their article may present imminent danger to public health and safety, whether a result of inadvertent misinterpretation or nefarious intent.

Finally, in keeping with the previously referenced ASCE policy statement on publication of publicly funded research, ASCE as a publisher is keenly focused on preserving the scholarly value of the peer-reviewed version of record and protecting against the potential abuse or misuse of scientific and technical information. Equity in access requires that publications that are made available are accurate and trustworthy.

Question 7

Publishers, including ASCE, have committed to and invested significantly in ensuring the findability of articles and research data. Additional efforts to support the use and development of persistent identifiers (PIDs) throughout the research ecosystem would bear additional fruit, including identifiers for articles and research data as well for funding agencies, grant awards, facilities, and the like.

Where possible, DOT should leverage existing standards and systems, as supported by publishers, institutions, and other stakeholders. The primary existing PID and metadata structure, enabled through organizations including CrossRef and DataCite, should be adopted and adapted as necessary to minimize disruption, promote compliance, and prevent unnecessary duplication of effort and investment in the scholarly communications system.

Publishers already invest heavily in creating persistent identifiers and machine-readable metadata that promote greater visibility of research findings and data, and these help to promote trust, reliability, and transparency for the scientific system. Cross publisher and industry initiatives around PIDs include researcher (ORCID), institutional (Ringgold), and funder (Open Registry of Funders). PIDs are embedded in our content workflows as standards across the majority of the scholarly communication ecosystem. Embedding standards supports our infrastructure development to build better links between interrelated research outputs and improve visibility from funding through to publication. In general, PIDs used or recommended by DOT should be those used by the community, as those can be validated and maintained. Where DOT needs additional or bespoke PIDs, efforts need to be made to ensure they map well to other PIDs that are already well embedded in the ecosystem.

Specifically, DOT should support the use of community-adopted PIDs through the grant application process (e.g., ORCIDs for researchers, organization IDs for the institutions(s) affiliated with each researcher, and Funder IDs for the distinct funders of the grant). While organization IDs are not as well-established or robust as researcher IDs (with ORCID), there are several emerging options for organizations, and DOT should consider recommending one of the following PIDs to ensure harmonization and avoid unnecessary duplication in the scholarly record: Ringgold (a global organization identifier system); ISNI (ISO standard name identifier system); ROR (the Research Organization Registry); and CrossRef's Funder Registry; along with ORCID. DOT should also ensure there are metadata fields for all of these.

Conclusion

ASCE supports DOT's goals in expanding public access to federally funded research, but advises that careful consideration be given to key decisions that may have serious ramifications for the financial viability of society publishers and professional societies, the proportion of funding available for research vs. remuneration of APCs, the representation of non-funded authors both within the US and abroad in the research literature, the preservation of peer review, and the protection of public health and safety.

Thank you for your consideration of our view, if we can be of further service, please do not hesitate to contact Martin Hight, ASCE Senior Manager for Government Relations at mhight@asce.org or 202-789-7843.

¹ ASCE Policy statement 538—Publication of publicly funded research (<https://www.asce.org/advocacy/policy-statements/ps538---publication-of-publicly-funded-research#:~:text=The%20American%20Society%20of%20Civil,the%20global%20quality%20of%20life>)

ⁱⁱ E.g., nearly 1 in 6 in the 2016 *Pay It Forward Report* and 1 in 5 in the 2019 *Taylor & Francis Researcher Survey*