

TRANSPORTATION RESEARCH RECORD

Journal of the Transportation Research Board

**Preparing Papers Accepted
for Publication in the
*Transportation Research Record***

(Updated February 15, 2017)

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ABOUT THIS GUIDE

To prepare and submit a paper that has been accepted for publication in the *Transportation Research Record: Journal of the Transportation Research Board*, you must follow the instructions in this guide. Note that the specifications presented in this guide differ from those you followed in submitting your paper for peer review.

The specifications in this guide apply to papers that entered the TRB peer review process on or before August 1, 2016, and were accepted for publication in TRB's 2017 journal series. Approximately 20% of the peer-reviewed papers were accepted for publication in two categories:

1. Papers accepted for publication without major revision. Authors received letters of acceptance in October 2016 and were instructed to resubmit their final papers by November 15, 2016.
2. Papers accepted for publication after revision and rereview. Authors receive letters of acceptance in February 2017 and are instructed to resubmit their final papers by March 15, 2017.

For publication in the journal, your paper must be reformatted and resubmitted via the TRB paper submission website <http://pressamp.trb.org/submissions> (your login name and password from your original submittal for peer review are required). Although the peer review process required the paper to be submitted as a line-numbered PDF with figures and tables embedded in the text, a different format is required for publication.

Papers submitted for publication must be

- In Microsoft Word,
- Without line numbering, and
- With the figures and tables on separate pages at the end of the file.

This guide provides the complete instructions and specifications for authors to follow in formatting papers in Microsoft Word.

This guide is updated periodically; authors should review all information in this guide before submitting papers that have been accepted for publication. This guide covers the organization and formatting of manuscripts for publication, as well as instructions for submission. Papers that do not follow the guidelines will be rejected for publication.

PLEASE NOTE FOR 2017

The hard deadlines for submitting final manuscripts of papers accepted for publication in the *Transportation Research Record* are as follows:

- **November 15, 2016**, for papers accepted for publication without revision. Authors received notice of acceptance in October 2016.
- **March 15, 2017**, for papers accepted for publication after revision and rereview. Authors receive notice of acceptance in February 2017.

Final drafts are not accepted after the deadlines. As noted above, final versions of all papers to be published must be resubmitted in a format that is different from that of papers submitted for peer review and presentation at the TRB Annual Meeting. This is not a change, but authors often overlook this final step, causing delays.

NEW: Starting with the 2017 series, TRB is publishing the *Transportation Research Record: Journal of the Transportation Research Board* online only. The journal will not be printed. Papers will be accessible only through TRR Online, <http://trrjournalonline.trb.org/>.

NEW: TRB has changed the format for citing TRR papers in reference lists—the publisher’s name and location should not appear in the citation, in conformance with standards for journals. See page 9 for details.

For information about the publication schedule, see [page 16](#).

GENERAL GUIDELINES

All papers must be submitted in English. Compliance with the manuscript formatting guidelines presented in the following sections will minimize delays for authors and staff. Papers that do not conform to these guidelines will be rejected for publication.

MANUSCRIPT SPECIFICATIONS

Clearances and Copyrighted Material

Authors must secure necessary clearances and written permissions for publication from any contracting or supervisory agencies involved in the research or from holders of copyrights on material used in the paper. Authors must have concurrence from coauthors or coworkers before submitting papers for publication by TRB, and all contributions to the work must be properly acknowledged.

If a paper accepted for publication contains previously copyrighted material, **authors must obtain written permission from the copyright holder(s). This permission must be provided to the TRB Publications Office at the time the paper is submitted for publication in TRB’s *Transportation Research Record* series.**

TRB holds the copyright to volumes of the *Transportation Research Record*. Material published in the *Transportation Research Record* may not be published elsewhere without prior notice to TRB. Permission requests from authors will receive prompt responses. Although TRB retains unrestricted rights to the material, at written request, TRB will grant permission to publish or post the abstract of a paper with a link to the TRB Publications Index, <http://pubsindex.trb.org/>.

To obtain copyright permissions for papers published or accepted for publication in the *Transportation Research Record*, contact Jennifer J. Weeks at jweeks@nas.edu or 202-334-2984. Please allow 10 business days for processing.

Length of Manuscripts

The length of each paper, including the abstract, text, references, figures, and tables, must not exceed 7,500 words. Each table, figure, or photograph counts as 250 words. For example, if two figures and three tables are submitted, the abstract, text, and references may total no more than 6,250 words.

Note that 7,500 words is the maximum length; authors are encouraged to keep papers to the minimum length possible and to limit the number of figures and tables, providing only essential information of interest to the reader.

The title page of the paper should clearly note the following:

- **The total number of words in the abstract, text, and references and**
- **The number of figures (including photographs) and tables.**

Overlong papers will be returned to the authors, who must reduce the length to conform to the word limit and resubmit.

Titles

The wording of titles should be clear and concise; avoid lengthy clusters of nouns. Acronyms—except those of a few major transportation organizations (see list, [page 13](#))—are not permitted in the titles of papers submitted for publication in the *Transportation Research Record*. If a title runs long, consider breaking portions out into a subtitle.

Length and Content of Abstracts

Each paper must have an abstract. The abstract must be no longer than 250 words, it must be self-contained, and it must not require reference to the paper to be understood. The abstract should present the primary objectives and scope of the study or the reasons for writing the paper; the techniques or approaches should be described only to the extent necessary for comprehension; and findings and conclusions should be presented concisely and informatively. The abstract should not contain unfamiliar terms that are not defined, undefined acronyms, reference citations, or displayed equations or lists.

Author Names and Affiliations

The name, affiliation, complete mailing address—an accurate and functional mail delivery location—telephone number, fax number, and e-mail address for each author must be listed on the title page. The list should be a single column. One corresponding author must be designated for papers with multiple authors. TRB will communicate only with the corresponding author, who is responsible for informing the coauthors of the paper's submission and disposition. An author should list his or her affiliation and address at the time of the research for the paper, including university department and school, as appropriate; if the affiliation has changed, the current affiliation and address also should be included. (Corresponding authors are responsible for notifying TRB of any change in address for themselves or coauthors by following the instructions in the submission confirmation letter.)

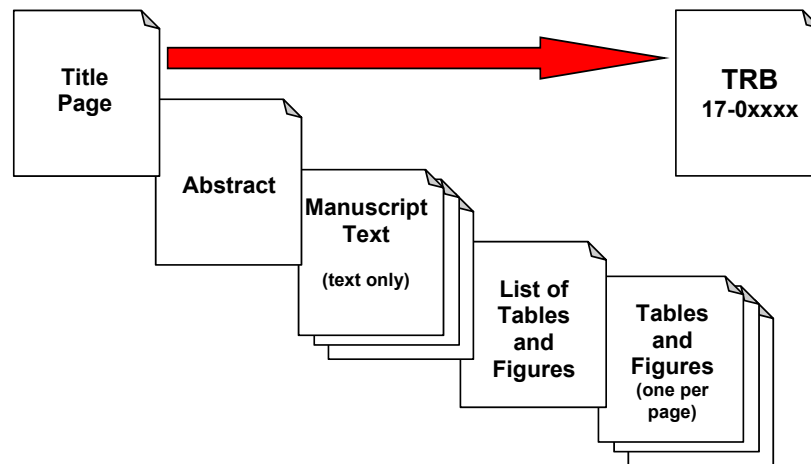


FIGURE 1 Anatomy of a TRB paper submitted for publication in the *Transportation Research Record*; file must be in Microsoft Word.

Style

To achieve uniformity and consistency in publications, the TRB editorial staff uses certain standard reference works for guidance. In matters of spelling, definition, and compounding of words, *Merriam-Webster's Collegiate Dictionary*, 11th edition, is generally followed. Published standards of scholarly organizations are accepted in questions involving usage of technical terms. Other matters of style and usage are based on documents widely accepted as authoritative (e.g., *Chicago Manual of Style*, 16th edition). Authors should avoid jargon, undefined acronyms, use of personal pronouns—particularly first-person singular and plural (I, we, you)—and sexist language in their papers.

Organization of Manuscript

For a sample paper showing model formatting, see <http://onlinepubs.trb.org/onlinepubs/dva/TRRPaperFormatModel.docx>. A paper accepted for publication in the *Transportation Research Record: Journal of the Transportation Research Board* must be submitted in a single electronic Microsoft Word file, with all figures and tables moved to the end of the document, each figure or table on a separate page. The manuscript file must be organized as follows (see [Figure 1](#)):

- Title page, including submission date, word count, and author names, affiliations, mailing addresses, phone numbers, fax numbers, and e-mails (please indicate the corresponding author);
- Abstract;
- Body of paper—text only;
- Acknowledgments (if any);
- References;
- List of table titles and figure captions on a separate page; and
- Tables with titles and figures with captions, each table or figure on a separate page.

Electronic File Formats

- Do not submit the manuscript as a PDF file.
- Remove any line numbering.
- The manuscript file—with tables and figures placed at the end of the file, each on a separate page—should be in Microsoft Word (6.0 up to 2011, with .doc or .docx extension).
 - Do not use the Word “Styles and Formatting” or “Track Changes” features in the file.
 - Tables should be in Word, one table with its title per page using hard page breaks; move all tables to the end of the file.
 - Figures (graphics of any kind) should be placed in the Word document as images, one figure with its caption per page using hard page breaks; move all figures to the end of the file.
 - Equations may be created and inserted as part of the text, or they may be submitted as embedded images within the text.

Manuscript Page Setup

- Margins: 25.4 mm (1 in.) top, 25.4 mm (1 in.) left; adjust settings for bottom and right margins so that the text area is not more than 165.1 mm by 228.6 mm (6.5 in. by 9 in.).
- Font (typeface): Times New Roman, 12 points; type in tables should be no smaller than 10 points.
- Page numbering: Insert page numbers at upper right of each page; insert surname(s) of author(s) at upper left of each page.
 - Text: Single-spaced.
 - Paragraphs: Indent first line 12.7 mm (0.5 in.); do not use an extra line space between paragraphs; do not indent first line after a subhead.
 - Subheads: All subheads should be flush with the left margin, with one line space above.

FIRST-LEVEL SUBHEAD

(all capitals, boldface, on separate line)

Second-Level Subhead

(initial capitals, boldface, on separate line)

Third-Level Subhead

(initial capitals, italic, on separate line)

Fourth-Level Subhead (initial capitals, boldface, on same line as text, with extra letter space between the subhead and text)

Fifth-Level Subhead (initial capitals, italic, on same line as text, with extra letter space between the subhead and text)

- Bulleted and numbered lists: Indent bullet or number 6.35 mm (0.25 in.); do not indent text runovers.

- Table titles and figure captions:

TABLE 5 Effects of All Factors

(Insert title above the table; “table” is all capitals; title is initial capitals; all type is boldface; extra space but no punctuation after table number; no punctuation at end of title.)

FIGURE 3 Example of results.

(Insert caption below the figure; “figure” is all capitals; caption is sentence case; all type is boldface; extra space but no punctuation after figure number; period at end of caption.)

References

Searching and Citing Transportation Research Record Papers

TRB provides a tool to assist authors in conducting a literature review and identifying references for papers—**TRR Online**. This tool is available to provide access to the extensive information on research published in past volumes of the *Transportation Research Record*. The TRID Database and the TRB Publications Index also offer search tools and links to papers posted on TRR Online.

Citing *Transportation Research Record* papers raises the impact factor of the journal, which enhances the prestige of the journal and of the papers published. TRB hopes that authors will use this tool in preparing papers to be considered for presentation at Annual Meetings and publication in the *Transportation Research Record*. In 2015, according to the Thomson Reuters Institute for Scientific Information (ISI), the *Transportation Research Record* recorded an ISI citation impact factor of 0.522.

The **TRR Online** search tool provides access to abstracts and references for all papers published in the *Transportation Research Record* since 1996. Each paper has links to other *Transportation Research Record* publications by the same author, other papers within that volume, and to publications in other journals and literature databases. Authors who are employees of a TRB sponsor or who subscribe to TRR Online or who have access to a library that subscribes to TRR Online will have access to the full text of the published papers. For more information about TRR Online, visit www.TRB.org/TRROnline.

Guidelines for References

1. The reference list should contain only references that are cited in the text, numbered in the order in which they are first cited. Bibliographic lists will not be published. Papers that do not conform to the numbered reference style will be returned to the authors for correction.
2. Denote a reference at the appropriate place in the text with an italicized Arabic numeral in parentheses, e.g., (2). Do not denote text references with superscripts.
3. Do not include in the reference list personal communications, telephone conversations, or similar material that would not be available to readers electronically or in printed form in a library or from the originating agency. Instead, cite the unpublished work in the text and enclose the author’s name along with the term “personal communication” in parentheses.
4. Do not repeat a reference in the list, and do not use *ibid.*, *idem*, *op. cit.*, or *loc. cit.* If a reference is cited more than once in the text, repeat the number first assigned to the reference.

5. Use the following content guidelines and samples in preparing reference lists:

- **Printed sources.** Be sure that references to printed sources are complete. Include names of corporate or personal authors or editors, or both; title of article, chapter, book, or report; publisher or issuing agency; volume and issue or report number; page numbers; location of publisher; and year of publication.

TRR Journal Papers

Note: Do not add “In” before the journal title; do not include the publisher or place of publication. If possible, please include the digital object identifier (DOI).

Dewan, S. A., and R. E. Smith. Creating Asset Management Reports from a Local Agency Pavement Management System. *Transportation Research Record: Journal of the Transportation Research Board*, No. 1853, 2003, pp. 13–20. <http://dx.doi.org/10.3141/1853-02>.

TRB Publications

Morcous, G., K. Wang, P. C. Taylor, and S. P. Shah. *NCHRP Report 819: Self-Consolidating Concrete for Cast-in-Place Bridge Components*. Transportation Research Board, Washington, D.C., 2016. <http://dx.doi.org/10.17226/23626>.

Book

Newland, D. E. *Random Vibrations: Spectral and Wavelet Analysis*. John Wiley & Sons, Inc., New York, 1998.

Chapter in a Book

Shunk, G. A. Urban Transportation Systems. In *Transportation Planning Handbook* (J. D. Edwards, Jr., ed.), Prentice Hall, Englewood Cliffs, N.J., 1992, pp. 88–122.

Periodical

Note: Do not include the publisher or place of publication in a periodical citation. If possible, please include the DOI.

Hurwitz, D. S., Jr., M. A. Knodler, and B. Nyquist. Evaluation of Driver Behavior in Type II Dilemma Zones at High-Speed Signalized Intersections. *Journal of Transportation Engineering*, Vol. 137, No. 4, 2010, pp. 277–286. [http://dx.doi.org/10.1061/\(ASCE\)TE.1943-5436.0000219](http://dx.doi.org/10.1061/(ASCE)TE.1943-5436.0000219).

Dawley, C. B., B. L. Hogenwiede, and K. O. Anderson. Mitigation of Instability Rutting of Asphalt Concrete Pavements in Lethbridge, Alberta, Canada. *Journal of Association of Asphalt Paving Technologists*, Vol. 59, 1990, pp. 481–508.

Sansalone, M., J. M. Lin, and W. B. Streett. Determining the Depths of Surface-Opening Cracks Using Impact-Generated Stress Waves and Time-of-Flight Techniques. *ACI Materials Journal*, Vol. 95, No. 2, 1998, pp. 168–177.

Government Report

Von Quintus, H. L., and A. L. Simpson. *Documentation of the Backcalculation of Layer Parameters for LTPP Test Sections*. FHWA-RD-01-113. FHWA, U.S. Department of Transportation, 2002.

• **CD-ROMs.** References to CD-ROMs should include the same information as references to printed sources and have “CD-ROM” after the title.

Solaimanian, M., J. Harvey, M. Tahmoressi, and V. Tandon. Test Methods to Predict Moisture Sensitivity of Hot-Mix Asphalt Pavements. In *Moisture Sensitivity of Asphalt Pavements*. CD-ROM. Transportation Research Board of the National Academies, Washington, D.C., 2004, pp. 77–110.

• **Websites and electronic sources.** References to websites should include corporate or personal authors, title of document, date of document (if available), web address (complete URL), and date accessed by the author.

State and Local Policy Program. *Value Pricing*. Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, Minneapolis. www.hhh.umn.edu/centers/slp/vp/vp_org. Accessed Feb. 5, 2008.

Guide to Developing Performance-Related Specifications. FHWA-RD-98-155, FHWA-RD-98-156, FHWA-RD-98-171, Vol. III, Appendix C. www.tfhr.gov/pavement/pccp/pavespec. Accessed March 5, 2003.

Nemmers, C. Transportation Asset Management. *Public Roads Magazine*, July 1997. www.tfhr.gov/pubrds/july97/tam.htm. Accessed Jan. 13, 2002.

• **Unpublished papers.** References to unpublished papers presented at meetings should include name(s) of author(s); title of paper; and title, sponsor(s), location, and dates or year of meeting.

Corbett, J. J. Toward Environmental Stewardship: Charting the Course for Marine Transportation. Presented at 83rd Annual Meeting of the Transportation Research Board, Washington, D.C., 2004.

• **Program manuals, tapes, or other documentation for models.** References to these items should cite the specific edition, the department responsible, and the year of release.

MINITAB User's Guide 2: Data Analysis and Quality Tools. Minitab, State College, Pa., 2000, pp. 27–52.

If a reference has no date, use “n.d.” Detailed reference style instructions are available on request from the Publications Office.

Metrication

Authors are encouraged to provide measurements in both SI (metric) and U.S. customary units. The measurement unit of the original research should be followed by the equivalent conversion in parentheses. Papers accepted for publication without unit conversions will be published with the measurement units as submitted. TRB will not supply specific conversions for the papers. Table 1 (page 12) supplies some frequently used unit conversion factors.

Note: When converting U.S. customary measures of weight (force) and mass into SI units, express weight (force) in newtons and mass in kilograms; express poundforce per square inch (psi or lbf/in. ²) of pressure or stress in kilopascals (kPa). For SI units, use prefixes instead of powers of 10.

For tables and figures, provide only the units of the original research and show the base unit conversion in a footnote; for example, NOTE: 1 mi = 1.61 km. Alternatively, in figures, equivalent units may be shown on the top and right axes of data plots.

Equations

All variables should be defined at first use, either in the text or in the where list for the equation.

1. Fractions in displayed equations should be stacked, in accordance with preferred mathematical practice.
2. If a displayed equation is numbered, use an Arabic numeral in parentheses, placed flush right.
3. Carefully distinguish the following:
 - All capital and lowercase letters;
 - Capital *O* (“oh”), lowercase *o* (“oh”), and 0 (zero);
 - Lowercase *l* (“el”) and number 1 (one);
 - Letter *X*, Greek chi (χ), and multiplication sign \times ;
 - Prime $'$, apostrophe $'$, and superscript one ¹; and
 - English and Greek letters such as
 - *B* and beta (β), upper- or lowercase *k* and kappa (κ),
 - *n* and eta (η), *v* and nu (ν),
 - *u* and upsilon (υ), *u* and mu (μ), and
 - Upper- or lowercase *p* and rho (ρ), and *w* and lowercase omega (ω).

Footnotes

Do not use footnotes to the text. Incorporate the information into the text or delete the notes.

TABLE 1 Measurement Conversions

When you know	Multiply by	To Find
Length		
inches (in.)	25.4	millimeters (mm)
feet (ft)	0.305	meters (m)
yards (yd)	0.914	meters (m)
miles (mi)	1.61	kilometers (km)
Area		
square inches (in. ²)	645.1	millimeters squared (mm ²)
square feet (ft ²)	0.093	meters squared (m ²)
square yards (yd ²)	0.836	meters squared (m ²)
acres	0.405	hectares (ha)
square miles (mi ²)	2.59	kilometers squared (km ²)
Volume		
fluid ounces (fluid oz)	29.57	milliliters (mL)
gallons (gal)	3.785	liters (L)
cubic feet (ft ³)	0.028	meters cubed (m ³)
cubic yards (yd ³)	0.765	meters cubed (m ³)
Mass		
ounces (oz)	28.35	grams (g)
pounds (lb)	0.454	kilograms (kg)
short tons (2,000 lb)(T)	0.907	megagrams (Mg)
Temperature (exact)		
Fahrenheit temperature (°F)	$(F - 32)/1.8$	Celsius temperature (°C)
Illumination		
footcandles (fc)	10.76	lux (lx)
footlamberts (fl)	3.426	candela/m ² (cd/m ²)
Force and Pressure or Stress		
poundforce (lbf)	4.45	newtons (N)
poundforce per square inch (psi)	6.89	kilopascals (kPa)

Abbreviations, Acronyms, and Symbols

Abbreviations, acronyms, and symbols must be fully defined at first use in both the abstract and the paper; the full term should be spelled out first, followed by the abbreviated term in parentheses. The following acronyms may be used without definition in the *Transportation Research Record*:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACRP	Airport Cooperative Research Program
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials (known by abbreviation only)
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Organization for Standardization
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SHRP	Strategic Highway Research Program
TCRP	Transit Cooperative Research Program
TRB	Transportation Research Board

Acknowledgments

Authors of papers that report results of research sponsored directly or indirectly by federal programs should indicate this sponsorship in an Acknowledgment section at the end of the text, above References. Contract, award, or project codes or numbers are not published in the *Transportation Research Record*.

Appendixes

Do not use appendixes. Include pertinent material in the paper itself or, where necessary, include a note that background material—such as derivation of formulas, specifications, or survey forms—is available from the author or in another report, which should be cited in the reference list.

Tables and Figures

For the *Transportation Research Record: Journal of the Transportation Research Board*, all tables and figures should be inserted at the end of the manuscript after the list of tables and figures. Use a separate page for each table or figure. Each table and figure must be cited by number sequentially in the text.

Authors should bear in mind that the original tables they submit will be reset and that the figures may be reduced for publication. Therefore, authors should ensure that the type in any table or figure submitted with their paper is **at least 10-point font** (typeface). Keep type sizes and fonts uniform and consistent.

Tables

Tables should supplement, not duplicate, the text.

1. Tables must conform to TRB style for tables as closely as possible.
 - All tabular material should be single-spaced in a font (typeface) no smaller than 10 points. Use the same font for all tables.
 - Place titles flush left to align with the left margin of the table; use boldface. The word “TABLE” should be in all-capital letters; use initial capitals for the remaining words in the title.
 - Do not submit a table in separate parts or sections that introduce new columns.
 - A table must be structured so that the data in each column pertain to the column heading.
 - New columns and column headings with new data rows may not be introduced farther down within the established format of a table.
 - New columns and column headings properly define a distinct table and should be presented separately with an appropriate title and table number.
 - Tables should not incorporate photographs, illustrations, or other material that cannot be typeset. Graphic materials should be presented as separate figures.
 - Give each column in the table a heading. Place abbreviated measurement terms in parentheses under the column heading. All headings should be aligned in flush left format.
 - Insert a rule that extends across the full width of the table under the column heads.
 - Insert a full-width rule at the end of the table (and above the footnotes, if any).
 - Use lowercase italic superscript letters for footnotes.
 - Do not leave empty cells in a table. Insert a placeholder that indicates why the cells contain no data. Define the meaning of the placeholder in a general note to the table: for example, “NA = not available; na = not applicable; — = missing data.”
 - When a dash (—) is used in a table, indicate its meaning in a footnote (for example, missing data, incomplete research, data not applicable or unavailable, or problem investigated but no results).
 - Check the accuracy of all totals included in tables before submitting the paper.
 - For use of measurements, see section on metrication.
 - Do not use dots, screens, or color for decorative purposes. If shading carries significance or if color ding of data is necessary, include an explanation in a table note or in the text.
 - Do not place a box or ruled frame around a finished table.

Figures

Use the following guidelines for figures:

1. Photographs should be high resolution (at least 300 dpi at a size of 4 in. × 5 in.).
2. Give each figure a caption. Place a figure caption single-spaced below each figure. If a figure contains several parts, label each part with a letter in parentheses—(a), (b), (c), etc.—use the same size type as that in the rest of the figure, and cite each labeled part in the caption.
3. Define in the caption all abbreviations, acronyms, and variables used in the figure.
4. Number figures consecutively in the order first cited in the text, using Arabic numerals. Reference must be made to each figure by number at the appropriate place in the text.

5. Avoid the use of dots or screens in figures and spreadsheet charts, especially in areas that include type.

- If dots or screens are used in text areas, they should be no more than 30% black.
 - If more than one dot or screen weight is used, there should be a difference of at least 20% between dot or screen values.
 - Legends identifying the significance of dotted, screened, or crosshatched elements must be included in the figure if not explained in the caption or text.
6. Do not place a box or ruled frame around a finished figure.
7. Figures should be clear and legible:
- The font (typeface) must be easily readable, not too small.
 - Use the same font for all figures.
 - Letters and symbols must be uniform and the same size throughout the figure (e.g., if wording on the ordinate and abscissa is in 10-point type, the symbols used to identify the data points also should be in 10-point type).
 - Line weights (except for lines indicating different data series in a graph) also must be uniform.
8. For use of measurements, see section on metrication.

Note: The electronic file of the final, published paper that is posted to TRR Online will retain the color versions of figures and photographs as originally submitted, whenever possible.

If a figure or photograph submitted is judged not to be of sufficient quality for publication, the author will be asked to (a) supply a revised electronic file, (b) provide the original figure or photograph, (c) pay a fee for the redrawing of the figure by the Publications Office, or (d) drop the figure or photograph from the paper.

MANUSCRIPT SUBMISSION

Authors are reminded that the best way to avoid last-minute complications is to submit their papers well before the deadline.

OTHER INFORMATION

Contacting TRB

Visit the TRB website to find the appropriate TRB staff representative:
www.TRB.org/AboutTRB/technicalactivitiesdivisionstaff.aspx.

Editorial Queries

Corresponding authors may receive queries from publications staff throughout the process: during the manuscript preparation (November through December and March through June), during editing (November through February and April through September), and during proof review (December through March and May through December). Please respond to these queries as promptly as possible, to ensure the accuracy and quality of publication.

Publication Proofs

TRB editors make every effort to preserve the meaning or emphasis of the authors' language. Nevertheless, changes in meaning may be introduced inadvertently, and errors occasionally may occur in print. Some authors, therefore, may wish to see proofs of their papers before publication in the *Transportation Research Record*. Proofs may be obtained only by written request to the TRB Publications Office. A flat-rate charge of \$20 (payable in advance to TRB) will be assessed for copying and handling a proof paper.

Authors are required to review proofs within 2 days of receipt; to telephone, fax, or e-mail any corrections; and subsequently to mail a hard copy printout or send a PDF scan of the corrected proofs to the Publications Office for verification within 10 days. (The author requesting review of proofs will receive a PDF of the first page proofs via e-mail; alternative arrangements may be made to accommodate an author's schedule or availability.)

Decisions about whether changes (other than correction of errors) will be made must rest with the editors. Authors will be charged a fee for alterations to the original paper submitted for publication, but not for corrections of any errors inadvertently introduced during the editing process. Because alterations are costly, **authors should not consider the review of proofs an opportunity to revise or update their papers.**

To obtain a proof copy of a paper, contact Jennifer J. Weeks, Transportation Research Board, Keck 436, 500 Fifth Street, NW, Washington, DC 20001; e-mail: jweeks@nas.edu.

Publication Schedule

Each annual journal series comprises approximately 900 papers in some 60 volumes grouped by topic. For the 2017 series, the approximately 200 early-acceptance papers, submitted on November 15, 2016, will be edited, typeset, and published online starting January 1, with the goal of posting all by March 31, 2017. The volumes containing these early papers will be completed with the papers submitted on March 15, 2017, and the release of the completed volumes will begin in June, with the goal of publishing all completed volumes by December 31, 2017.

**TRANSPORTATION RESEARCH RECORD:
JOURNAL OF THE TRANSPORTATION RESEARCH BOARD**

Peer Review Process

The *Transportation Research Record: Journal of the Transportation Research Board* publishes approximately 20% of the more than 5,000 papers that are peer reviewed each year. The mission of the Transportation Research Board (TRB) is to disseminate research results to the transportation community. The Record series contains applied and theoretical research results as well as papers on research implementation.

The TRB peer review process for the publication of papers allows a minimum of 30 days for initial review and 60 days for rereview, if needed, to ensure that only the highest-quality papers are published. A minimum of three reviews are required for a publication recommendation. The process also allows for scholarly discussion of any paper scheduled for publication, along with an author-prepared closure.

The basic elements of the rigorous peer review of papers submitted to TRB for publication are described below.

Paper Submittal: June 1–August 1

Papers may be submitted to TRB at any time. However, most authors use the TRB web-based electronic submission process available between June 1 and August 1, for publication in the following year's Record series.

Initial Review: August 15–November 15

TRB staff assigns each paper by technical content to a committee that administers the peer review. The committee chair assigns at least three knowledgeable reviewers to each paper. The initial review is completed by mid-September.

By October 1, committee chairs make a preliminary recommendation, placing each paper in one of the following categories:

1. Publish as submitted or with minor revisions;
2. Reconsider for publication, pending author changes and re-review; or
3. Reject for publication.

By late October, TRB communicates the results of the initial review to the corresponding author. Corresponding authors communicate the information to coauthors.

- Authors in Category 1 (above) must submit their manuscripts for TRB editorial production by November 15, in accordance with the instructions for final manuscript submittal for publication. These early-acceptance papers will be published online between January 1 and March 31.

- Authors of papers in Category 2 (above) must submit a revised version by November 15 addressing all reviewer comments, along with an explanation of how the comments have been addressed.

Rereview: November 20–January 25

The committee chair sends the Category 2 revised papers to the initial reviewers for rereview. After rereview, the chair makes the final recommendation on papers in Category 2. If the paper has been

revised to the committee's satisfaction and ranks among the best papers, the chair may recommend publication. The chair communicates the results of the rereview to the authors.

Discussions and Closures: February 1–May 15

Discussions may be submitted for papers that will be published. TRB policy is to publish the paper, the discussion, and the author's closure in the same Record.

Many papers considered for publication in the *Transportation Research Record* are also considered for presentation at TRB meetings. Individuals interested in submitting a discussion of any paper presented at a TRB meeting must notify TRB no later than February 1. If the paper has been recommended for publication in the *Transportation Research Record*, the discussion must be submitted to TRB no later than April 15. A copy of this communication is sent to the author and the committee chair.

The committee chair reviews the discussion for appropriateness and asks the author to prepare a closure to be submitted to TRB by May 15. The committee chair reviews the closure for appropriateness. After the committee chair approves both discussion and closure, the paper, the discussion, and the closure are included for publication together in the same volume of the Record.

Final Submittal of Revised Manuscripts: March 15

In early February, TRB requests a final manuscript for the Category 2, revised papers that have been accepted for publication; the final manuscripts must be submitted by March 15. TRB also notifies authors whose papers were not accepted for publication. TRB makes a concerted effort to publish all papers by December 31.

Paper Awards: April to January

The TRB Executive Committee has authorized annual awards sponsored by Groups in the Technical Activities Division for outstanding published papers:

- Charley V. Wootan Award (Policy and Organization Group);
- Pyke Johnson Award (Planning and Environment Group);
- K. B. Woods Award (Design and Construction Group);
- D. Grant Mickle Award (Operations and Preservation Group);
- John C. Vance Award (Legal Resources Group);
- Patricia F. Waller Award (Safety and System Users Group); and
- William W. Millar Award (Public Transportation Group).

Other Groups also may nominate published papers for any of the awards above. In addition, each Group may present a Fred Burggraf Award to authors 35 years of age or younger.

Peer reviewers are asked to identify papers worthy of award consideration. Each Group reviews all papers nominated for awards and makes a recommendation to TRB by September 1. TRB notifies winners of the awards, which are presented at the following TRB Annual Meeting.

The National Academies of
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The **National Academy of Sciences** was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Marcia McNutt is president.

The **National Academy of Engineering** was established in 1964 under the charter of the National Academy of Sciences to bring the practices of engineering to advising the nation. Members are elected by their peers for extraordinary contributions to engineering. Dr. C. D. Mote, Jr., is president.

The **National Academy of Medicine** (formerly the Institute of Medicine) was established in 1970 under the charter of the National Academy of Sciences to advise the nation on medical and health issues. Members are elected by their peers for distinguished contributions to medicine and health. Dr. Victor J. Dzau is president.

The three Academies work together as the National Academies of Sciences, Engineering, and Medicine to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions. The Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

Learn more about the National Academies of Sciences, Engineering, and Medicine at **www.national-academies.org**.

The **Transportation Research Board** is one of seven major programs of the National Academies of Sciences, Engineering, and Medicine. The mission of the Transportation Research Board is to increase the benefits that transportation contributes to society by providing leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal. The Board's varied committees, task forces, and panels annually engage about 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

Learn more about the Transportation Research Board at **www.TRB.org**.

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