

# Transportation Research Board Reviewer Instructions

Peer review is essential in the conduct and dissemination of research. TRB's volunteers review approximately 3,000 research and practical papers each year. The information in this document will serve as a reminder for experienced reviewers and as an introduction for new reviewers. New reviewers may want to pay special attention to the appendix: Tips on How to Review a Technical Paper. All reviewers should be aware of the following:

- Your review is critical in advancing transportation practice.
- The review process serves two important functions: providing guidance to authors and informing publication and presentation decisions.
- Completing your review by the **deadline, September 15**, is critical to the process.
- You are welcome to contact your paper review coordinator or TRB staff person with any questions.

## Your Review Is Critical

The care and thoroughness of your review are the foundations for the quality of TRB's Annual Meeting and the *Transportation Research Record* (TRR) series. A good review requires fairness in judgment, expertise in the field, and carefully crafted comments that help authors improve their papers and work. Please take the time and effort in your review to serve the authors and TRB well.

## Review Process Goals

As mentioned above, the paper review process has two separate but equally important goals. The first is to provide guidance to the authors, and the second is to provide TRB volunteers and staff with the basis for presentation and publication decisions. Mentoring the authors includes helping authors improve the paper under review and papers that they might write in the future. Comments should be detailed, specific, and polite. Avoid vague complaints and provide appropriate citations if authors are unaware of relevant work. Even negative reviews can be polite and constructive!

The decisions concerning presentation of the paper at the Annual Meeting and publication of the paper in the TRR series are separate. They are made by TRB staff with the input of the individual reviewers and the committee leadership. Typically, slightly more than half of the papers submitted each year are selected for presentation at the Annual Meeting. Publication in the TRR series is limited to approximately 25 percent of the papers submitted. As a reviewer, you are a critical part of the process of selecting the best papers for presentation and publication.

## Conflict of Interest—Before You Start the Review

Your first step should be to consider your relationship with the paper authors. To ensure the credibility of the process, reviewers should not have a conflict of interest with the authors they review. Conflicts of interest in this context are situations where the outcome of the review would

influence your job, your financial situation, or your employer's finances. The following are examples of conflict of interest:

- The paper author or coauthor is a co-worker.
- The paper author or coauthor is one of your students.
- The paper author or coauthor is a client.

In these situations, or any others that you are concerned about, you should contact the paper review coordinator immediately and ask for advice, or withdraw from the review if appropriate.

Your second step should be to consider your potential bias concerning the paper content or with the authors. Are you involved in a debate on the issue covered in the paper or have you developed a competing process, approach, or tool that covers the same issues? This would give you a specific perspective on the paper, which would not necessarily preclude your reviewing the paper, but it is important that you disclose this bias to the paper review coordinator.

### **Confidentiality—While You Are Conducting Your Review**

The TRB paper review process is a “single-blind” process: the authors are never told who reviewed their papers, but the reviewers know who authored the paper. To maintain the validity of this process, reviewers should never contact the authors about the paper under review.

The contents of the papers cannot be used, referenced, or included in future work by the reviewers until the review, presentation, and publication processes are complete. Until then, the information in the papers should be treated as confidential and may not be used for any purpose not related to the review process.

### **Review Process Overview**

The paragraphs below provide a general overview of the TRB paper review process. Additional information is always available from TRB staff.

*Paper submittal and committee assignment:* Papers are submitted to the TRB paper submission website before the August 1 deadline. TRB staff assign each paper to a specific committee to conduct the review.

*Paper reviewer assignment:* The committee chair or a committee volunteer who oversees the paper review process is referred to as a paper review coordinator. The paper review coordinator assigns each paper to at least three reviewers. The reviewers are notified by e-mail of their assignments. Reviewers are urged to look at their papers quickly to ensure that there are no confidentiality problems and that they have the requisite expertise to review the papers. If there are any problems, they should contact the paper review coordinator immediately.

*Paper review:* Reviewers are asked to complete an online form with four distinct sections—two series of check boxes, written comments for the author(s), and a confidential set of comments for the paper review coordinator. Each of these sections will be described in greater detail later.

*Presentation and publication recommendations:* After receiving the reviews, the paper review coordinator then works with the committee leadership and TRB staff to make the presentations and publication recommendations. See Text Box 1 for the possible recommendations. The paper review coordinator then e-mails the recommendations to the authors. Reviewers receive a blind copy of these e-mails—so they know the final recommendations and how their assessment compared with that of the other reviewers. The paper publication recommendation process may end at this point or may continue into a re-review step.

*Re-review process for publication:* Reviewers may be asked to re-review either the papers they reviewed initially or a new set of papers later in the year. Committees handle the re-review differently, so the re-review experience will depend on the committee leadership.

## **How to Review a Paper—Finally!**

With the background information out of the way, this section covers technical review philosophy and the TRB process and review form.

### Technical Review Philosophy

Paper reviewers have a responsibility to read the paper carefully and then provide the authors with a clear, detailed, diplomatic, and unbiased evaluation. They should assess the composition, accuracy, originality, and interest to TRB community and should offer clear, detailed suggestions for improvement. The review should not include sarcastic, destructive, personal, or offensive comments. Reviewers, in addition to having a responsibility to the author, make a commitment to the committee to produce a timely review and to outline any ethical concerns they might have with the paper. Ethical concerns might include the paper having been published elsewhere, incomplete attribution of material, or plagiarism. Reviewers and their reviews ensure that the presentations at the Annual Meeting and the papers published in the TRR series meet TRB standards of quality and integrity.

TRB accepts a wide range of paper types. Your approach to review and your focus will depend on the type of paper you are reviewing. The following are examples.

- For papers describing fundamental research or data collection: Are the measurements or analysis properly applied and the correct conclusions drawn? Are there hidden factors that may invalidate the conclusions?
- For policy papers: Does the paper offer insight into the policy issues and alternatives? Does it provide well-reasoned critiques of alternative proposals?
- For state-of-the-practice papers: Does the paper cover a unique, creative tool or process that will be of interest to the transportation community? Have the authors overcome a problem that many practitioners are facing? Does the paper describe the innovation clearly?

TRB reviewers should review only the content—you don't need to provide editorial comments on grammar, spelling, sentence structure, and so forth. If editorial problems are so pervasive that

#### **Text Box 1 Possible Recommendations**

##### Presentation recommendation

- Yes
- No

##### Publication recommendation

- Yes
- No
- Requires revision or re-review, or both, for publication
- To be determined

you can't understand the paper, simply suggest that the author find an editor to improve the English or the language. If the paper is published, TRB editors will work with the authors to correct language issues. However the primary burden to provide an edited, readable paper rests on the author.

### TRB Review Form

As mentioned earlier, there are four distinct sections of the TRB Paper Review Form: two sets of check boxes, written comments for the author, and a confidential set of written comments for the paper review coordinator.

*Check boxes:* There are two sets of check boxes on the TRB form—one that the author sees and one that only the paper review coordinator sees. The specific questions and possible responses are shown in Text Box 2. These questions provide the paper review coordinator with a “snapshot” comparison of the papers; however, they are not a substitute for the written comments. The text box comments are **always** used to make the final presentation and publication decisions. When responding to the check boxes, there may be considerations or special factors with regard to the paper that seem to be missing—please include these items in one of the comment boxes.

*Comments that the author and paper review coordinator sees:* Comment Box A is sent to the paper authors and the most important and valuable part of the review. This is where you can most effectively accomplish the first goal of the paper review process, providing guidance to the authors. Please keep your comments polite and constructive. Reviewers should acknowledge positive and negative aspects of the paper and suggest improvements. There is no length limit to the written comments.

#### **Text Box 2**

##### **Review Form Check Boxes**

**For the author** [*responses range from Excellent (5) to Poor (1) or No Opinion/Not Applicable*]

1. Objectives appropriate and clearly stated:
2. Methodology technically sound:
3. Data valid:
4. Conclusions valid and properly supported:
5. Existing work adequately described and properly referenced:
6. Study effort adequately described:
7. Overall contribution to the state of the art or practice:
8. Originality and timeliness:
9. Usefulness to practitioners:
10. Usefulness to researchers:
11. Long-term value as a research reference or description of practice:
12. Paper organization:
13. Abstract clearly conveys meaning of paper:
14. Well written and easily understood:

##### **For the paper review coordinator**

15. Length of paper appropriate for subject and intended audience (*Yes, Possibly, No, or No Opinion/Not Applicable*)
16. Free of sensitive statements advocating special interests, advertising, and recommendations on government policies and programs (*Yes, Possibly, No, or No Opinion/Not Applicable*)
17. Rating for presentation (*Excellent (5) to Poor (1) or No Opinion/Not Applicable*)
18. Rating for publication (*Excellent (5) to Poor (1) or No Opinion/Not Applicable*)
19. Publication recommendation (*Accept, Requires Revision or Re-review, Reject, No Opinion/Not Applicable*)
20. This paper should be considered for a paper award (*Yes, Possibly, No, or No Opinion/Not Applicable*)

### **Comment Box A**

Comments for corresponding author:  
Please include in the Comment Box A your detailed comments regarding:

- Specific flaws in the paper that must be corrected.
- Supporting comments for your presentation and publication recommendations
- Explain any low ratings (1's or 2's) in the review results.
- Help the author(s) improve the paper.

Reviewers often begin with an overall assessment of the paper and continue by identifying the prominent strengths and weaknesses. Starting with the “big picture” helps the author frame the subsequent detailed comments. The detailed comments should focus on specific parts of the paper and provide guidance for revision or future research efforts. These detailed comments are critical to the authors and the paper review coordinator. If you have ranked a paper very high or very low in the check box section, the detailed comments should offer an explanation for that ranking. This section should provide the foundation

for the presentation and publication recommendations **without stating those recommendations.**

Please do not include your presentation or publication recommendations in this section. Reviewers often disagree, and these differences of opinion are resolved by the paper review coordinator and the committee leadership. Including your recommendations in this section can confuse the authors and disappoint many.

If your review was not positive because the scope or the content is not appropriate for the TRR series, recommending another journal for publication would be helpful to new authors and can provide a service to other journals.

*Comments that the only review coordinator sees:* The second text box, as mentioned earlier, is available only to the paper review coordinator. It is acceptable to be more “brutal” in this text box, if necessary. You will have provided your recommendations on publication and presentation in the second set of check boxes. Comment Box B is where you elaborate on those recommendations. Paper review coordinators may be responsible for up to 100 papers, so a clear, concise assessment of the paper will be welcome.

### **Comment Box B Comments for Review Coordinator Only**

Please include in Comment Box B any additional comments that will assist the chair in the determination of the acceptability of this paper for presentation and publication. Also, use Comment Box B to indicate whether you are aware of the publication of this paper elsewhere.

This text box is also the place to disclose any biases that you might have. This will help the paper review coordinator understand the background you bring to your

review and help in comparing your review with that of others.

## **In Closing**

Please do your best to follow the golden rule—provide the type of review that you would want to receive on a paper you had written. Feel free to contact your paper review coordinator or TRB staff if you have any questions about the paper review process. However, please do not contact authors directly.

TRB, your committee, and the transportation community appreciate your efforts.

## References

This document was improved by similar documents developed by other organizations, particularly the web pages referenced below. Suggestions, ideas, and procedures were also drawn from the Canadian Journal of Administrative Sciences, American Society of Civil Engineers, International Journal of Vehicle Design, International Journal of Pavement Research and Technology, International Journal of Solids and Structures, and the International Journal of Pavement Engineering.

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Suggestions and comments about this document should be sent to [kfisher@nas.edu](mailto:kfisher@nas.edu).

## **Appendix A**

### **Tips on How to Review a Technical Paper**

Each reader develops a unique process for reviewing a technical paper, and that technique is often dependent on how the reader assimilates information. This section is not intended to dictate a process. Instead, it is intended to provide one approach for those new to the paper review process. One thing to keep in mind is that technical papers generally require several readings before it is possible to provide a helpful review.

#### **Step 1: Note the Authors**

Knowing who the authors are and where they work can be useful in reviewing the paper.

#### **Step 2: Read the Abstract**

The next step is to read the abstract carefully. This will give you a sense of what the paper is going to try to accomplish and summarize its findings and conclusions. You should be able to understand the abstract without reading the paper.

#### **Step 3: Skim the Conclusions**

Technical papers do not need to be approached in the same way as a work of fiction, so skipping to the end is acceptable. Reading the conclusions early in the process gives you a framework for reading the main text. As you read each conclusion, think about the type of analysis or research necessary to reach it.

#### **Step 4: Read the Main Text**

There are many things to consider as you read the main text of the paper. Often it is useful to skim this section and become familiar with the basic outline or structure of the paper and then read it in more detail.

As mentioned earlier, TRB papers run the gamut from fundamental research to descriptions of improvements in the state of the practice. Your review will depend on what type of paper you have been assigned. The first list of questions apply to all types of papers.

- Is the writing clear and concise?
- Does the introduction make clear what the paper is about and why the research is interesting? Is there an appropriate literature review and a statement of what is “new” in the paper?
- Have the authors clearly stated the problem they are trying to solve, the hypothesis they are trying to prove, or the research question they are trying to answer?
- Are technical terms, acronyms, and other jargon explained?
- Are the figures and graphs appropriate and appropriately labeled? Would a different figure better illustrate the findings? Do the figures and graphs adequately show the important results?
- If there are tables, do they appropriately describe the results? Should one or more tables be added/deleted?

The following are among the questions that might not be applicable to all types of papers:

- Do the authors clearly explain the data collection and analysis?
- Are the authors' conclusions justified by the results found in the study?
- Have the authors used a reasonable analysis technique to test their hypothesis or answer the research question?
- Are the results reasonable and expected?
- If there are unexpected results, do the authors adequately account for them?
- Do the authors note limitations of the study? Should additional limitations be noted?

### **Step 5: Note the References**

References illustrate the understanding that the authors have of earlier work and therefore demonstrate that they have built on that research base. The references credit the contributors to the knowledge base in the particular field. They provide an additional resource to readers who want to learn more about the topic. For all these reasons, important references in this area of research should be cited.

Providing the authors with additional critical references is helpful. Providing the paper review coordinator with a sense of the adequacy of the reference list is also helpful.

### **Step 6: Consider the Paper as a Whole**

After reaching an understanding of the individual parts of the paper, it is important to step back and consider the paper as a whole. Does the title accurately reflect the paper content? Did the abstract accurately describe the paper and its conclusions? Did the paper support the conclusions?

Reviewing technical papers is a learned skill. Experience will help you review papers more quickly, provide you with better context for your review, and help improve the technical papers that you write. As mentioned earlier, the process outlined above is not the only approach, and you will no doubt develop your own technique over the years.