Overview

The Transportation Research Board is a part of The National Academies of Sciences, Engineering, and Medicine. All papers published in the Transportation Research Record – Journal of the Transportation Research Board (TRR) series have been reviewed and accepted for publication through TRB’s peer review process, established according to procedures approved by the Academies.

The TRR has long been recognized as one of the pre-eminent peer reviewed publications for transportation research papers in the United States and around the world. The first TRR (then known as the Highway Research Record) was published in 1963. The number of papers submitted annually by researchers for consideration for publication in the TRR has grown to more than 4,500. Approximately 20% of these papers are ultimately accepted for publication.

Despite this, some in the academic community have had questions regarding the value of papers published in the TRR as credit for candidates seeking tenure. These questions are raised more frequently by those who are less familiar with the TRR and the Transportation Research Board (TRB). These questions are very often predicated on the TRR citation impact factor – a quantitative measure of the number of times that published papers in a journal are referenced by authors of other papers published in that and other journals. Although the TRR is one of the most widely distributed and read transportation journals in the world, the use and readership volume is not reflected in the impact factor.

Citation Impact Factor: An Upward Trend

In 2014, the TRR recorded an ISI impact factor of .544, only slightly less than the all-time high of .556 the previous year. This continues the trend in recent years - a reflection of the continuing efforts of the TRR Publication Board (established in 2006), TRB staff, reviewers and authors further enhance the quality of the TRR, leading to increases in the TRR citation impact factor.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>TRR IMPACT FACTOR</th>
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<tbody>
<tr>
<td>2014</td>
<td>.544</td>
</tr>
<tr>
<td>2013</td>
<td>.556</td>
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<tr>
<td>2012</td>
<td>.441</td>
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<tr>
<td>2011</td>
<td>.471</td>
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<tr>
<td>2010</td>
<td>.482</td>
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<td>2009</td>
<td>.298</td>
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<td>2008</td>
<td>.259</td>
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<tr>
<td>2007</td>
<td>.206</td>
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<td>2006*</td>
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<td>2005</td>
<td>.145</td>
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<td>2004</td>
<td>.072</td>
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<tr>
<td>2003</td>
<td>.093</td>
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*No impact factor was computed for 2006

Comparisons with Other Transportation Journals

According to the Journal Citation Reports (JCR) published by Thomson-Reuters, the TRR impact factor ranks 26th out of 33 journals in the Transportation Science and Technology category. However, as shown in the table below, this measure only tells part of the story.

<table>
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<tr>
<th>ISI JCR MEASURE</th>
<th>TRR RANK IN 2014</th>
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<tr>
<td>Citation Impact Factor</td>
<td>26th</td>
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<tr>
<td>Total Cites</td>
<td>1st</td>
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<tr>
<td># of Articles</td>
<td>1st</td>
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<tr>
<td>Cited Half-Life</td>
<td>6th</td>
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<tr>
<td>Eigenfactor Score*</td>
<td>2nd</td>
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* The Eigenfactor Score calculation is based on the number of times articles from the journal published in the past five years have been cited in the JCR year, but it also considers which journals have contributed these citations so that highly cited journals will influence the network more than lesser cited journals. References from one article in a journal to another article from the same journal are removed, so that Eigenfactor Scores are not influenced by journal self-citation.

All else equal, larger journals have larger Eigenfactor scores. Eigenfactor scores are intended to give a measure of how likely a journal is to be used, i.e., how frequently an average researcher would access content from that journal.

More than 700 TRR articles were included in the JCR calculations in 2014, far outdistancing the next two highest transportation journals in terms of number of articles included (417 and 233). The TRR also has one of the highest “half-lives”, indicating that TRR articles continue to be cited for many years after they are published.
The TRR also ranks in the upper tier of the 63 journals with “transportation” in the title in “Journal Metrics from Elsevier”, as shown below. These metrics use a three year citation window for their journal metrics. To quote from this website, “This window is considered the fairest compromise for a broad database like Scopus, as it accounts for the citation maturity of most fields.” In addition, these metrics are calculated from Scopus, and the values can be reproduced by anyone who accesses Scopus.com. The Impact Factor equation is not available to the research community, and can only be calculated by Thomson Reuters.

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<tr>
<th>JOURNAL METRICS FROM ELSEVIER</th>
<th>TRR RANK IN 2014</th>
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<tr>
<td>SNIP</td>
<td>30th</td>
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<tr>
<td>IPP</td>
<td>22nd</td>
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<td>SJR</td>
<td>19th</td>
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- Source Normalized Impact per Paper (SNIP): Created by Professor Henk Moed at CTWS, University of Leiden, Source Normalized Impact per Paper (SNIP) measures contextual citation impact by weighting citations based on the total number of citations in a subject field. The impact of a single citation is given higher value in subject areas where citations are less likely, and vice versa.
- Impact Per Publication (IPP): The IPP measures the ratio of citations in a year (Y) to scholarly papers published in the three previous years (Y-1, Y-2, Y-3) divided by the number of scholarly papers published in those same years (Y-1, Y-2, Y-3). The IPP metric is using a citation window of three years which is considered to be the optimal time period to accurately measure citations in most subject fields. Taking into account the same peer-reviewed scholarly papers only in both the numerator and denominator of the equation provides a fair impact measurement of the journal and diminishes the chance of manipulation.
- Developed by Professors Félix de Moya, Research Professor at Consejo Superior de Investigaciones Científicas and Vicente Guerrero Bote at University of Extremadura, SCImago Journal Rank (SJR) is a prestige metric based on the idea that 'all citations are not created equal'. With SJR, the subject field, quality and reputation of the journal have a direct effect on the value of a citation.

Why Wasn’t the TRR Impact Factor Higher in Earlier Years?

To help answer this question, TRB has held a number of discussion groups, conducted surveys of the academic community, convened a task force on the future of the TRR, and met directly with ISI staff members who administer the Journal Citation Reports. The following have been offered as possible reasons:

- Until more recent years, authors did not have access to and could not cite other accepted TRR papers during the time gap between initial acceptance of the paper and its publication in a printed volume of the TRR.
- Until 2007, TRR volumes had only been available to the academic community and other authors in hard copy format. Online access was offered beginning in 2007.
The impact factor is calculated by dividing the number of citations of articles published in a journal by the total number of papers published in that journal. On average, more than 900 papers are published annually in the TRR, far more than any other transportation journal, thus making for a very large “denominator”.

More than half of the transportation journals publish 54 or fewer articles per year, and all but 11 publish fewer than 100. Consequently, citations from a small percentage of the 900+ TRR papers can considerably increase the impact factor of other journals, but the reverse is not true.

A significant portion of TRR papers are authored by those outside the academic community. Although the combination of high quality peer reviewed papers authored by academics and practitioners has been viewed as a unique strength of the TRR, many feel that academics are less likely to cite papers that are authored by non-academics. It has also been observed that non-academic authors do not usually include as many references in their papers as academic authors.

The TRR includes papers and volumes that encompass almost every aspect and mode of transportation, reflecting TRB’s breadth of committees and constituencies. Papers in some of these topic areas are of much more interest to researchers, and more readily lend themselves to citations, than papers in other areas. However, all papers are included in the computation of the impact factor.

The impact factor of more narrowly focused journals with much smaller universes of authors than the TRR can be significantly affected when the same authors reference and re-reference each others’ work.

What Has TRB Been Doing to Increase the TRR Impact Factor?

Although the impact factor may not be a complete measure of the value and prestige of a peer reviewed journal, TRB recognizes that it is used by many in the academic community as a key consideration in making tenure decisions. TRB has therefore taken a number of steps that have helped to increase the impact factor in recent years. These and other efforts will continue in the future.

In 2006, TRB established a TRR Publication Board to make recommendations to further enhance the quality and esteem of the TRR and the TRB peer review process. Board members include a mix of high-level academics and practitioners. Members include:

**Co-chairs:**
- C. Michael Walton, Ernest H. Cockrell Centennial Chair in Engineering, University of Texas @ Austin
- Mary Lynn Tischer, Director, Office of Transportation Policy Studies, U.S. Federal Highway Administration (retired)

**Universities:**
- Kumares Sinha, Olson Distinguished Professor of Civil Engineering, Purdue University
- Sandra Rosenbloom, University of Texas @ Austin
Mary Brooks, Professor Emerita, Dalhousie University

Practitioners:
- Michael Meyer, President, Meyer Consulting LLC
- Charles Howard, Director of Integrated Planning, Puget Sound Regional Council
- Thomas Kazmierowski, Senior Consultant, Golder Associates
- David Suits, Executive Director, North American Geosynthetics Society

TRB and the TRR Publication Board have taken, and are continuing to take, a number of steps to enhance the high value of the TRR to academics and practitioners alike. Steps taken to date include:

- Opened online access of previously published TRR papers to authors preparing papers for consideration for TRR publication, along with instructions for searching and referencing these papers.
- Provided author access to “pre-prints” of papers that have been accepted during the current year but not yet published in a TRR volume.
- Initiated a subscription service for full online access to papers that have been published in the TRR. The service has been available since March 2007. Links to cited references are included.
- Enhanced the guidelines and provided training for paper reviewers and authors.

What is TRB’s Peer Review Process for the TRR?

The Transportation Research Record: Journal of the Transportation Research Board publishes approximately 20% of the more than 4,500 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 from both the academic and practitioner communities.

The TRB peer review process for the publication of papers allows a minimum of 30 days for initial review and 60 days for re-review, to ensure that only the highest-quality papers are published. At least three reviews must support a committee’s recommendation for publication. 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 and Recommendations: 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. Publish 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 indicated on the paper submission form. Corresponding authors communicate the information to coauthors. Authors of papers in Category 2 (above) must submit a revised version by November 15 addressing all reviewer comments and must include a cover letter explaining how the comments have been addressed.

Re-review: November 20–January 25
The committee chair reviews revised papers in Category 1 (above) to ensure that the changes are made and sends the Category 2 revised papers to the initial reviewers for re-review. After re-review, the chairs make the final recommendation on papers in Categories 1 and 2. If the paper has been revised to the committee’s satisfaction, the chair will recommend publication. The chair communicates the results of the re-review to the authors.

Discussion: February 1–May 1
After the TRB Annual Meeting, 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. Attendees interested in submitting a discussion of any paper presented at the TRB Annual Meeting must notify TRB no later than February 1. If the paper has been recommended for publication in the TRR, the discussion must be submitted to TRB no later than March 1. 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 1. 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 Record.

Final Manuscript Submittal: March 15
In early February, TRB requests a final manuscript for publication—to be submitted by March 15—or informs the author that the paper has not been accepted for publication. All accepted papers are published by December 31.

TRB Annual Meeting
The majority of papers are submitted to TRB for both publication in the TRR and presentation at the TRB Annual Meeting. Chairs of committees that review papers for
publication also make recommendations on presentations. After completion of the initial review, in addition to making the preliminary publication recommendations, chairs make presentation recommendations. This ensures high-quality paper sessions at the TRB Annual Meeting. Authors of all papers on the program are asked to submit the revised versions of their papers electronically for a TRB Annual Meeting Compendium of Papers.