TRB 2021 投稿心得与交流

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2020.07.13

上海交通大學
SHANGHAI JIAO TONG UNIVERSITY

目 录

TRB 2021 基本信息

- 美国交通运输年会（TRB）- 举办时间最久，规模最大，交通学科最齐全的国际交通大会

超过1万4000名参会者	→	学术交流、拓宽视野
超过200家参展公司	→	前沿科技、求职预览
TRB 2021 是第100届年会	→	特殊活动

TRB 2021 参与意义

1. 国际会议论文 & SCI论文发表

Transportation Research Record: Journal of the Transportation Research Board

TRB 2021 参与意义

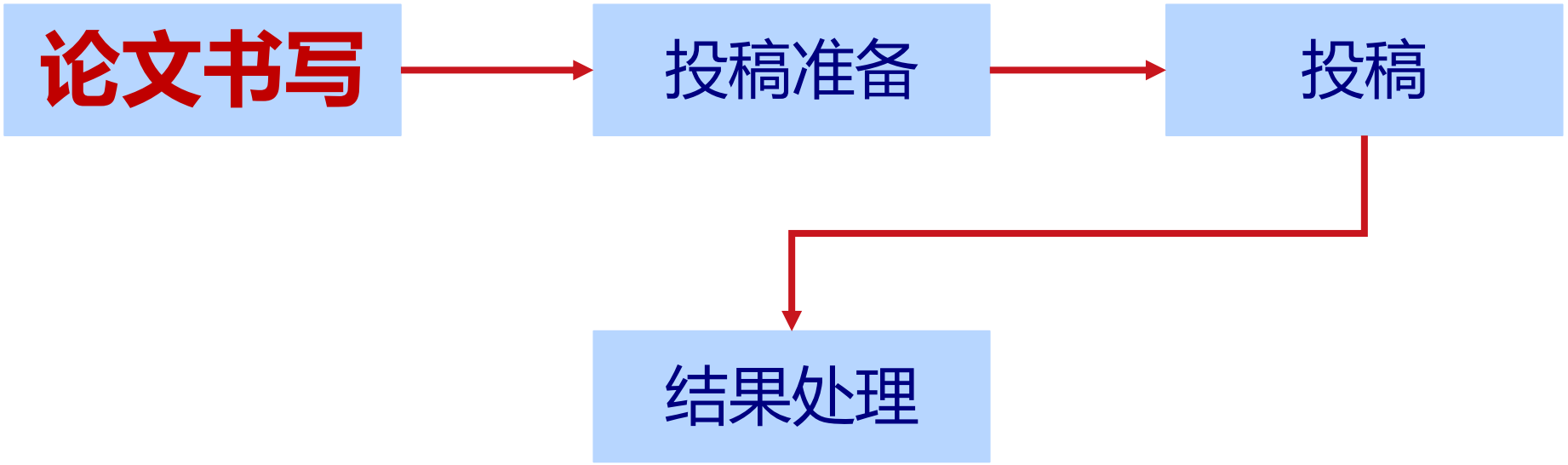
2. 学术交流 & 行业交流
   - 4000场交流
   - 800+分组会议和专题讨论
   - 200+家参展公司

AECOM Deloitte. DiDi BMW BNSF RAILWAY

TRB 2021 参与意义

3. 地点：华盛顿会展中心

TRB 个人心得与建议



TRB 论文书写 – 简要

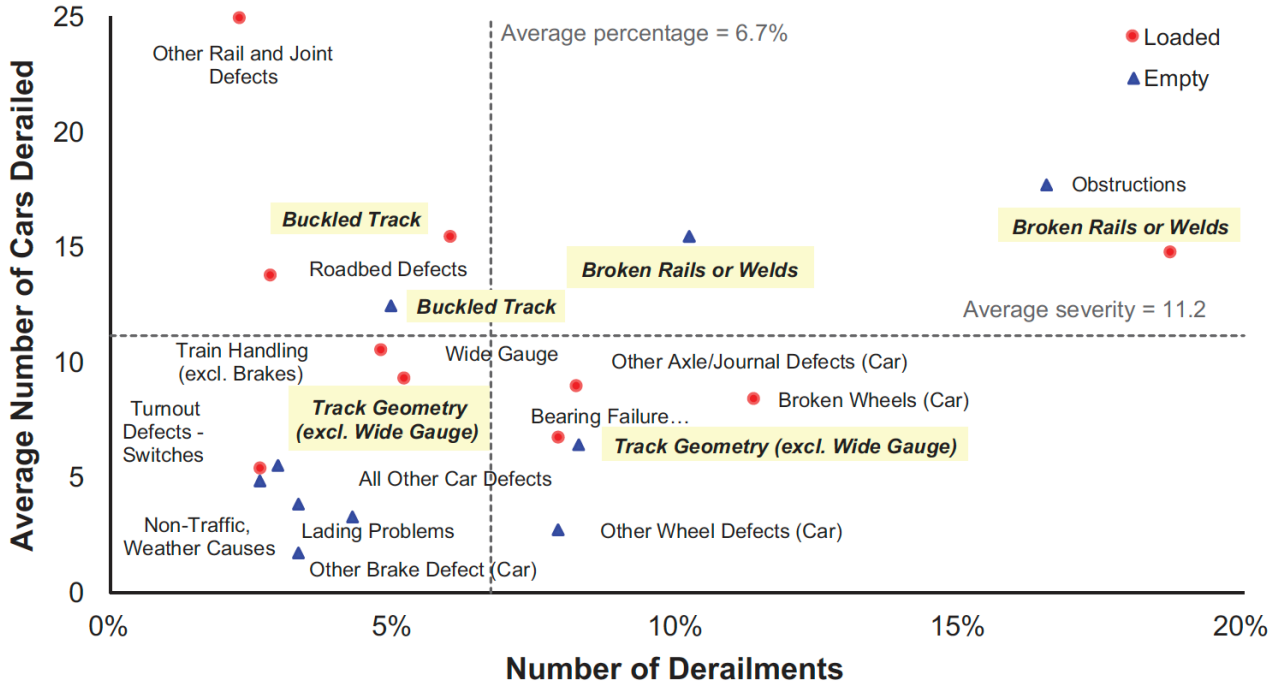
- TRB 2021 投稿时间：现在 - 2020年8月1日23:59:59

- 英文字数不超过7500字，且每个表格算作250字
  - 2个表格+7000字
  - 4个表格+6500字
  - 包括摘要、acknowledgment、references

TRB 论文书写 – 简要

审稿人 ——研究人员、政策制定者、政府和工业界人员

- 数据分析清晰 （但要全面深刻）
- 模型易懂



Li, W., Roscoe, G.S., Zhang, Z., Saat, M.R. and Barkan, C.P., 2018. Quantitative analysis of the derailment characteristics of loaded and empty unit trains. *Transportation Research Record*, *2672*(10), pp.156-165.

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$\tilde{y}_2=\left(\left[\underline{Ex_2},\overline{Ex_2}\right],En_2,He_2\right)$ can be expressed as follows (*26*):

1) $\tilde{y}_1+\tilde{y}_2=\left(\left[\underline{Ex_1}+\underline{Ex_2},\overline{Ex_1}+\overline{Ex_2}\right],\sqrt{En_1^2+En_2^2},\sqrt{He_1^2+He_2^2}\right)$,

2) $\tilde{y}_1\times\tilde{y}_2=\left(\left[\underline{Ex_1}\underline{Ex_2},\overline{Ex_1}\overline{Ex_2}\right],\sqrt{(En_1Ex_2)^2+(En_2Ex_1)^2},\sqrt{(He_1Ex_2)^2+(He_2Ex_1)^2}\right)$,

3) $\lambda\tilde{y}_1=\left(\left[\lambda\underline{Ex_1},\lambda\overline{Ex_1}\right],\sqrt{\lambda}En_1,\sqrt{\lambda}He_1\right),\lambda>0$,

4) $\tilde{y}_1^{\lambda}=\left(\left[\underline{Ex_1}^{\lambda},\overline{Ex_1}^{\lambda}\right],\sqrt{\lambda}(Ex_1)^{\lambda-1}En_1,\sqrt{\lambda}(Ex_1)^{\lambda-1}He_1\right),\lambda>0$,

where $Ex_1=\frac{\underline{Ex_1}+\overline{Ex_1}}{2}$, $Ex_2=\frac{\underline{Ex_2}+\overline{Ex_2}}{2}$.

Definition3 Let $\tilde{y}_1=\left(\left[\underline{Ex_1},\overline{Ex_1}\right],En_1,He_1\right)$ and $\tilde{y}_2=\left(\left[\underline{Ex_2},\overline{Ex_2}\right],En_2,He_2\right)$ be interval cloud, then

$$d(\tilde{y}_1,\tilde{y}_2)=\frac{1}{2}\left(\begin{array}{l}\left(\left(1-\frac{En_1+He_1}{Ex_1}\right)\underline{Ex_1}-\left(1-\frac{En_2+He_2}{Ex_2}\right)\underline{Ex_2}\right)^2\\+\left(\left(1-\frac{En_1+He_1}{Ex_1}\right)\overline{Ex_1}-\left(1-\frac{En_2+He_2}{Ex_2}\right)\overline{Ex_2}\right)^2\end{array}\right) \quad (1)$$

Where $Ex_1=(\underline{Ex_1}+\overline{Ex_1})/2$ and $Ex_2=(\underline{Ex_2}+\overline{Ex_2})/2$.

$d(\tilde{y}_1,\tilde{y}_2)$ is called an interval cloud distance between $\tilde{y}_1$ and $\tilde{y}_2$ (*28*).

Definition4 Let $y_i=(Ex_i,En_i,He_i)$ (i=1,2,…,n) be n clouds, $\omega=(\omega_1,\omega_2,...,\omega_n)^T$ is associated weight, $\omega_i\in[0,1]$, and $\sum_{i=1}^{n}\omega_i=1$.The cloud weighted average (CWA) operator is defined as follows (*27*):

$$\mathrm{CWA}(y_1,y_2,...,y_n)=\sum_{i=1}^{n}\omega_i y_i=\left(\sum_{i=1}^{n}\omega_i Ex_i,\sqrt{\sum_{i=1}^{n}\omega_i En_i^2},\sqrt{\sum_{i=1}^{n}\omega_i He_i^2}\right). \quad (2)$$

Definition5 Let $\tilde{y}_i=\left(\left[\underline{Ex_i},\overline{Ex_i}\right],En_i,He_i\right)$ (i=1, 2,…,n) be n interval clouds, $\omega=(\omega_1,\omega_2,...,\omega_n)^T$ is associated weight, $\omega_i\in[0,1]$,and $\sum_{i=1}^{n}\omega_i=1$. The interval cloud weighted average (ICWA)operator is defined as follows (*28*):

$$\mathrm{ICWA}(\tilde{y}_1,\tilde{y}_2,...,\tilde{y}_n)=\sum_{i=1}^{n}\omega_i\tilde{y}_i=\left(\sum_{i=1}^{n}\omega_i[\underline{Ex_i},\overline{Ex_i}],\sqrt{\sum_{i=1}^{n}\omega_i En_i^2},\sqrt{\sum_{i=1}^{n}\omega_i He_i^2}\right). \quad (3)$$

TRB 论文书写 – 审稿指南

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. Ready for implementation by practitioners (practice-ready)
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. Is the paper written well enough to be readily understood? Poor English grammar is sufficient grounds for rejection of the paper

TRB 论文书写 – 结构

1. Introduction (and research objective)
2. Literature Review (and contribution)
3. Methodology (data source / method)
4. Analysis and Results
5. Discussions
6. Conclusions and Future Research
7. Author Contribution Statement
8. Acknowledgment
9. References

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Contributions To Research And Practice

TRB 论文书写 – 结构

7 CONTRIBUTIONS TO RESEARCH AND PRACTICE

7.1 Contribution to Academic Research

- As one of the few first studies in end-of-track collisions and terminal safety, this paper studies end-of-track collisions and develops a micro-level analysis using Fault Tree Analysis. The analytical results can be used as a long-term reference for railway researchers to understand the hazards at passenger terminals and to develop effective accident prevention strategies.
- This paper proposes PTC enforcement Concept of Operations at stub-end terminals and also assesses the incremental cost and operational impact. It offers insights for future research to minimize additional adverse impacts and to maximize the safety level at terminals.
- This paper serves as a starting point for the development of an integrated risk management framework of passenger terminals. The PTC system would be one accident prevention strategy, while other advanced technologies or mechanisms can also be developed as equivalent safety options in future academic research.

7.2 Contribution to Practice

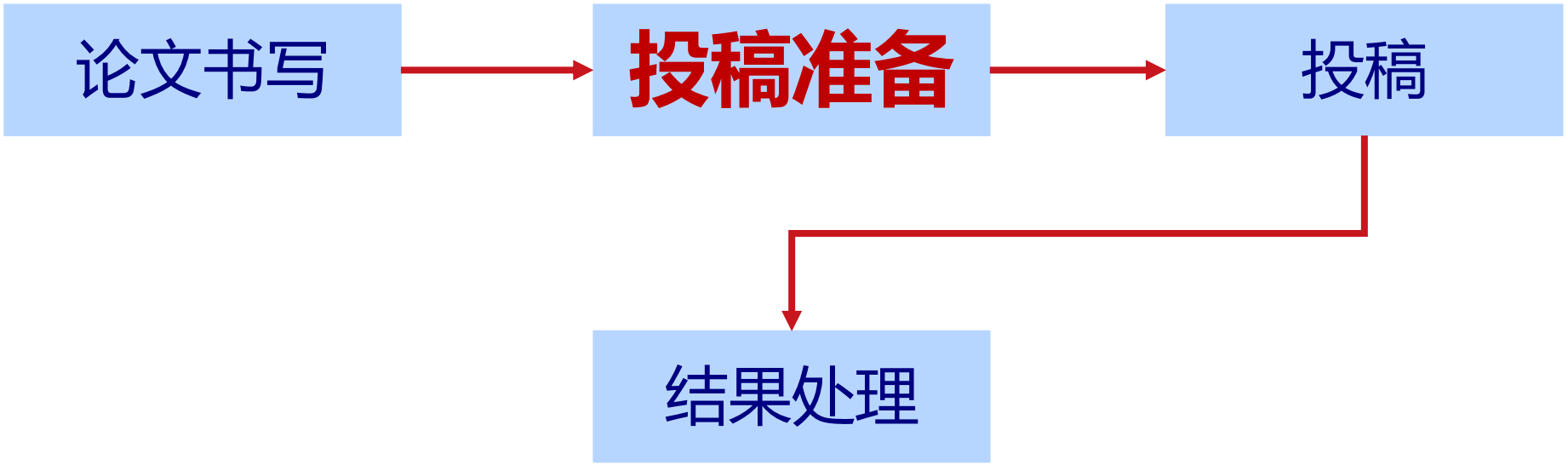
- The proposed Concept of Operations provides the railroad industry with insight into how the PTC system may function (what is needed, how to implement it) if the system was enforced at terminals.
- This paper aims to provide the industry with a portfolio of relatively comprehensive analyses involving safety benefits, Concept of Operations, cost calculation, and operational impact, as well as a decision support reference. These analytical results are useful for practitioners from railroad industry to qualitatively and quantitatively assess PTC enforcement at terminals in the future, should PTC be considered as an option to prevent end-of-track collisions.

Contributions To Research And Practice

TRB 论文书写 – 其他

1. 语言精炼，避免语法错误
2. 摘要简洁 – 不超过250字
3. 格式要求
   - https://trb.secure-platform.com/a/page/TRBPaperReview2020
4. 可提交Word生成PDF版本，或者LaTex版本

TRB 个人心得与建议



TRB 投稿准备– Committee 选择

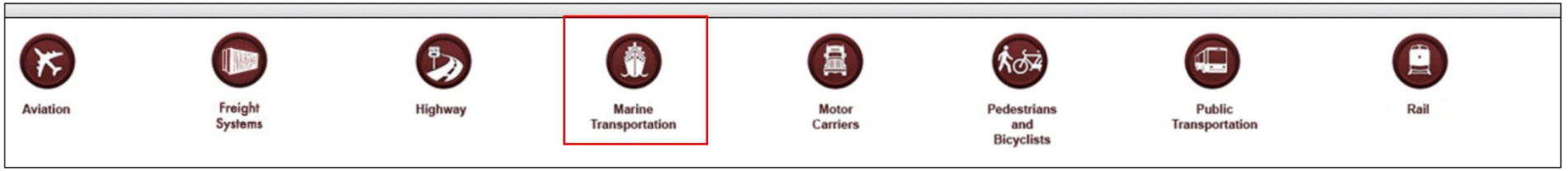
1. 每篇文章投稿，需选择相关的委员会
2. 超过200个专业委员会分支
   - http://www.trb.org/AboutTRB/StandingCommitteesMT.aspx
3. 交通类型 -> 相关领域 -> 次相关领域

Technical Activities Division Standing Committees

The standing committees within TRB are communities of individuals who share an interest and expertise in transportation. With more than 200 committees, almost every transportation mode and topic is represented in the standing committee structure. To learn more about standing committees, view our brochure on Getting Involved in TRB's Standing Committees.

To find committee(s) of interest to you, you can search by Keyword, View All Standing Committees, or View by Groups and Sections. You can also search by mode and topic through the links provided below.

Learn about the Technical Activities Division Strategic Alignment Effort.



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航运

Code	Committee Name
AMR30	Standing Committee on Transportation for National Defense
AT020	Standing Committee on International Trade and Transportation
AT030	Standing Committee on Agriculture and Food Transportation
AT040	Standing Committee on Transportation of Hazardous Materials
AT045	Standing Committee on Intermodal Freight Transport
AW000	Marine Group
AW010	Standing Committee on Ports and Channels
AW020	Standing Committee on Inland Water Transportation
AW030	Standing Committee on Marine Environment
AW040	Standing Committee on Marine Safety and Human Factors
AW050	Standing Committee on Ferry Transportation

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公共交通

Code	Committee Name
A0030C	City Transportation Issues Coordinating Council
ACS60	Standing Committee on Truck and Bus Safety
AJL20	Standing Committee on Transit and Intermodal Transportation Law
AME50	Standing Committee on Accessible Transportation and Mobility
AP000	Public Transportation Group
AP010	Standing Committee on Transit Management and Performance
AP015	Standing Committee on Transit Capacity and Quality of Service
AP020	Standing Committee on Innovative Public Transportation Services and Technologies
AP025	Standing Committee on Public Transportation Planning and Development
AP030	Standing Committee on Public Transportation Marketing and Fare Policy
AP045	Standing Committee on Passenger Intermodal Facilities
AP050	Standing Committee on Bus Transit Systems
AP055	Standing Committee on Rural, Intercity Bus, and Specialized Transportation
AP065	Standing Committee on Rail Transit Systems
AP075	Standing Committee on Light Rail Transit
AR050	Standing Committee on Railroad Infrastructure Design and Maintenance
AR060	Standing Committee on Rail Transit Infrastructure Design and Maintenance
AW050	Standing Committee on Ferry Transportation

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轨道交通

Code	Committee Name
AMR30	Standing Committee on Transportation for National Defense
AP065	Standing Committee on Rail Transit Systems
AR000	Rail Group
AR010	Standing Committee on Passenger Rail Transportation
AR020	Standing Committee on Rail Rolling Stock and Motive Power
AR030	Standing Committee on Railroad Operating Technologies
AR040	Standing Committee on Freight Rail Transportation
AR050	Standing Committee on Railroad Infrastructure Design and Maintenance
AR060	Standing Committee on Rail Transit Infrastructure Design and Maintenance
AR070	Standing Committee on Rail Safety
AR080	Standing Committee on Highway/Rail Grade Crossings
AT010	Standing Committee on Freight Transportation Economics and Regulation
AT020	Standing Committee on International Trade and Transportation
AT030	Standing Committee on Agriculture and Food Transportation
AT040	Standing Committee on Transportation of Hazardous Materials
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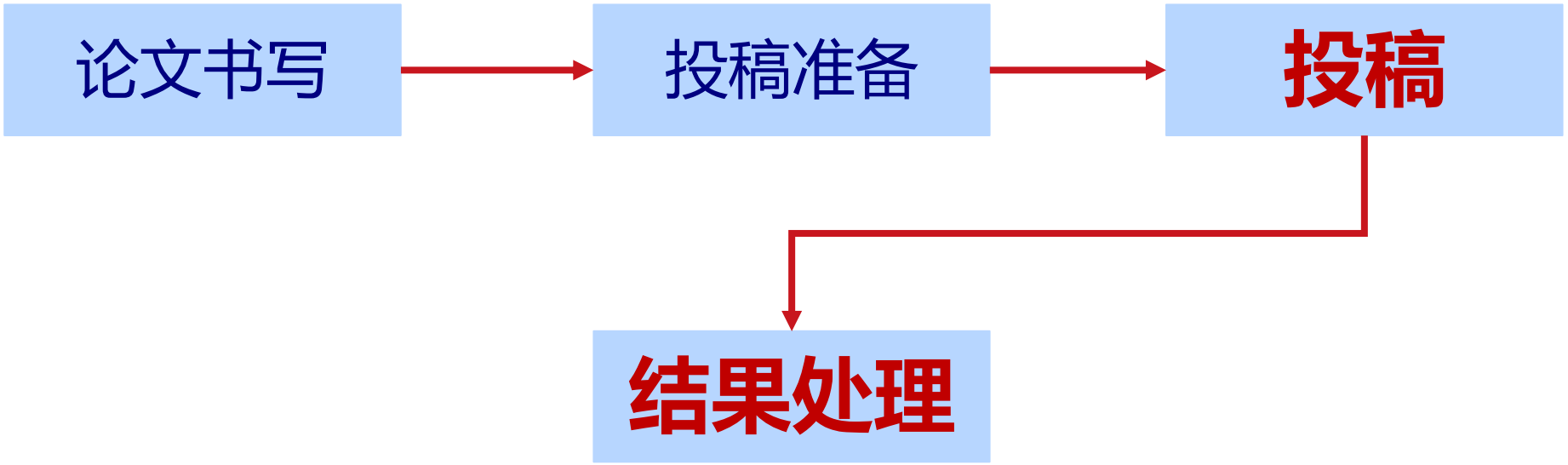
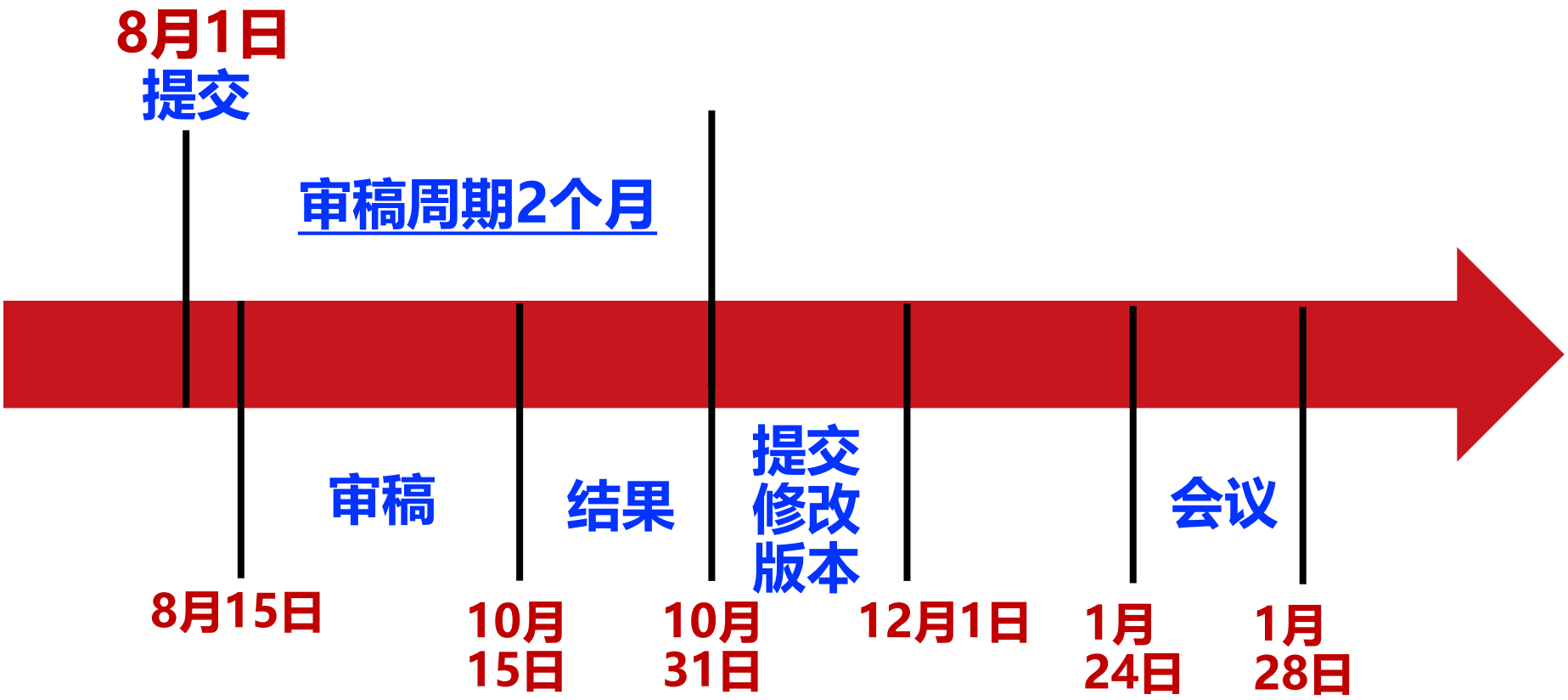
TRB 个人心得与建议



TRB 2021 时间线

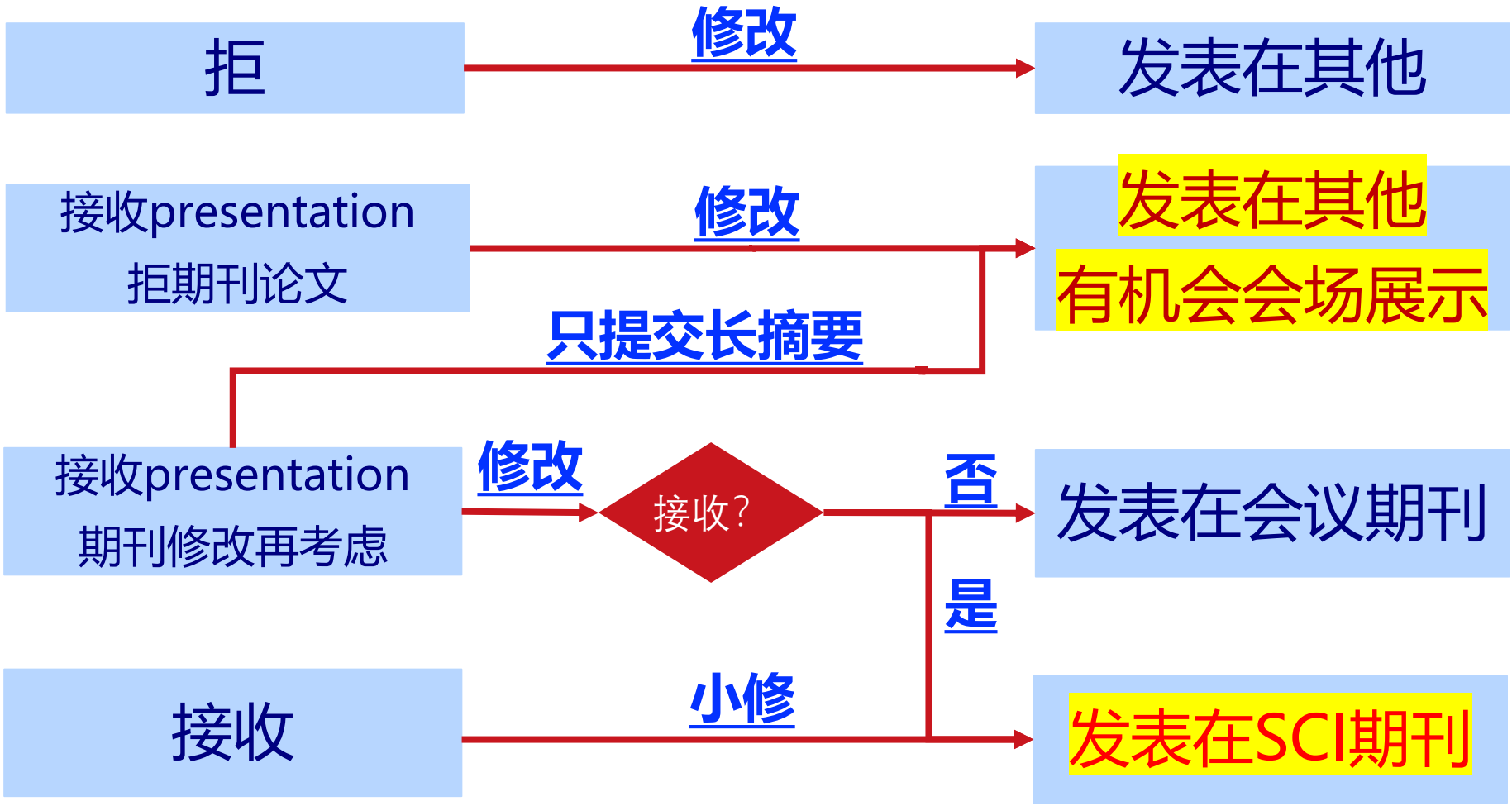

8月1日
提交
审稿周期2个月
审稿
结果
提交
修改
版本
会议
8月15日
10月
15日
10月
31日
12月1日
1月
24日
1月
28日

TRB 2021 - 提交 & 结果

1. **提交会议展示**
2. 提交会议展示和期刊论文

TRB 2021 结果情况

2. 提交会议展示和期刊论文



其他 - TRB 2021 Call for Papers

COVID-19

- The COVID-19 pandemic and use of various travel modes
- The COVID-19 pandemic, telecommuting, and activity organization
- E-shopping and impacts on shopping trips
- Travel to access health facilities
- Land use, long-term choices, and the disruption of the pandemic
- Temporary vs. long-term impacts of the pandemic
- How transportation has affected the spread of COVID-19.

总结

- 不超过7500字，审稿人包括学术界、业界、政府人士
  - 内容简介、模型易懂
  - 数据或者案例支持
- 审稿标准固定，且注重实用性
  - 明确研究目标
  - 明确研究贡献，包括学术界和工业界
- 找准committee
- TRB 会议和期刊审稿周期不长、作者选择灵活

谢谢！