

TR NEWS

January–February 2022

NUMBER 337

Preservation, Maintenance, and Renewal

A Strategic Approach to Prepare for the Future

PLUS

Safe Navigation for
Pedestrians and Bicyclists
at Intersections

How We Move Matters

Serving Passengers with
Hearing Loss

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

TRB

TRANSPORTATION RESEARCH BOARD

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Learn more about the National Academies of Sciences, Engineering, and Medicine at www.nationalacademies.org.

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* Membership as of February 2022.

3 NCHRP RESEARCH REPORT 948 Getting to the Other Side: Safe Navigation for Pedestrians and Bicyclists at Alternative and Other Intersections and Interchanges

Bastian Schroeder, Shannon Warchol, and Mike Alston

Until recently, the needs and safety concerns of pedestrians and bicyclists have not been the highest priority in the design of alternative intersections. The authors address how such prioritization is measured and how improvements can be evaluated.

8 NCHRP REPORT 750, VOL. 7 Preservation, Maintenance, and Renewal: A Strategic Approach to Prepare for the Future

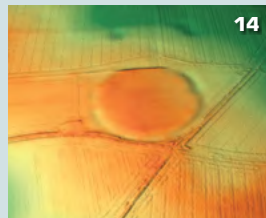
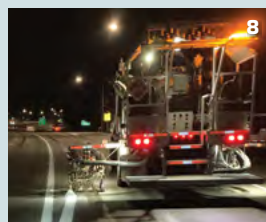
Jagannath Mallela, Hal Kassoff, and Amir N. Hanna

A large share of highway agency budgets are devoted to preservation, maintenance, and renewal (PMR) of highway assets. Agencies must balance immediate needs with longer-term strategies to embrace innovative PMR practices. This article presents NCHRP research on the application of emerging and innovative materials and technologies to deal with highway infrastructure PMR needs.

14 NCHRP SYNTHESIS 560 Digital Terrain Models: Use Cases, Benefits, and Barriers

Makram Bou Hatoum, Hala Nassereddine, and Gabriel Dadi

Analyzing highway design data via 3-D models—digital terrain models, or DTMs—can be combined with surveying technology and automated machine guidance to improve production and efficiency. The authors build on the findings of NCHRP research to investigate significant use cases of DTMs during the construction phase of a highway project, as well as the benefits of and barriers to implementing DTMs.



18 How We Move Matters: Connections Between New Transportation and Mobility Options and Environmental Health

Anne Johnson and Katherine Kortum

Marked changes in how people and goods circulate around our communities have taken place in recent years, resulting in ramifications for human health, equity, pollution, and climate. The authors summarize a virtual workshop in which participants discussed these developments, their risks and benefits, and opportunities for a healthier and more equitable mobility future.

22 TCRP RESEARCH REPORT 222 Green Bonds and the Transit Industry

Damon Fordham

By their very nature, many transit projects—which include technology that helps reduce greenhouse gas emissions—are obvious candidates for green bond funding, a compelling means of leveraging finance to advance sustainability goals. But determining which transit projects qualify for green bonds is not always clear. The author offers insights and tips on the effective application of green bond funding.



COVER The road—and work day—stretch ahead for an Arizona Department of Transportation (DOT) crew conducting pavement preservation operations on SR-88. The results of efficient, effective preservation include reduced life-cycle costs, shorter down time, and better system performance. (Photo: Arizona DOT)

Coming Next Issue

The March–April 2022 issue of *TR News* features photo highlights from the 101st TRB Annual Meeting. Authors also explore how transit agencies interact to improve bus stops and pedestrian access; roadway lighting research; and the role transportation plays in trafficking missing and murdered Indigenous women and girls and what the industry can do to address the problem.

Arm raised in protest, Colville tribal member Virginia Redstar of Nespelem, Washington, rallies against the plight of missing and murdered Indigenous women, symbolized by the red hand painted over her mouth. As much as transportation plays a role in the trafficking of these victims, the industry is increasing its efforts to stop the exploitation of these vulnerable women and girls.



Photo: Jeff Ferguson

25 Serving Passengers with Hearing Loss

Stephen O. Frazier

For travelers with hearing loss, moving through a transportation terminal can be very challenging. Background noise and spotty quality of public address systems can stymie speech comprehension, leading to confusion and even missed travel connections. “Hearing loops” allow people who are hard of hearing to understand public announcements and are increasingly being adopted by airports, rail terminals, and other transportation centers.

ALSO IN THIS ISSUE

30 Profiles

Liyng Gu, Airports Council International, and Mark L. Reno, Murraysmith and Quincy Engineering

32 Transportation Influencers

Suzie Boxman, Environmental Research and Education Foundation; Brittney Gick, Texas A&M Transportation Institute; and Stephen Wong, University of Alberta

33 Let's Hear from You!

34 Diversity, Equity, and Inclusion

35 Members on the Move

36 TRB Highlights

41 News Briefs

42 Bookshelf

44 Calendar

44 In Memoriam

TRB COVID-19 Resources

Agencies and organizations can use TRB publications and online resources for useful and timely information to help address issues related to the COVID-19 pandemic. To read about TRB's current research and activities, and for a list of relevant publications, visit www.nationalacademies.org/trb/blog/transportation-in-the-face-of-communicable-disease.

TR NEWS

features articles on innovative and timely research and development activities in all modes of transportation. Brief news items of interest to the transportation community are also included, along with profiles of transportation professionals, meeting announcements, summaries of new publications, and news of Transportation Research Board activities.

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