

TR NEWS

King Coal Highway

Model Public-Private Partnership

U.S. Energy Outlook: Positive Implications for Transportation

Automated Vehicle Technology: Research Areas to Follow

Driverless Cars: Promises and Pitfalls

Programming Funds for Research

Plus:
Practical Findings from Cooperative Research Programs



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The **Transportation Research Board** is one of six major divisions of the National Research Council, which serves as an independent adviser to the federal government and others on scientific and technical questions of national importance, and which is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The mission of the Transportation Research Board is to provide 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 activities 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.

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MAY–JUNE 2014

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Gary Maring and Marianne Mintz

Advances in exploration and production technologies have opened up vast new reservoirs of domestic oil and natural gas in the United States. The authors survey recent developments and the outlook, which they term a “win–win for U.S. transportation, economic development, energy, air quality, and climate policy.”

12 The King Coal Highway: West Virginia Department of Transportation’s First Public–Private Partnership

Sabrina DeVall and Michael Pumphrey

A public–private partnership between West Virginia and a coal mining company reduced project costs and time in completing construction of portions of a north–south Interstate Highway corridor traversing mountainous terrain. The authors describe the problems solved and benefits gained from what has become a model project.

19 Automated Vehicle Technology: Ten Research Areas to Follow

Robert P. Denaro, Johanna Zmud, Steven Shladover, Bryant Walker Smith, and Jane Lappin

TRB and Stanford University cosponsored a workshop in July 2013 on the challenges and opportunities related to the increasing automation of motor vehicles and the environments in which they operate. The authors trace ten major topics with related research questions culled from the workshop’s breakout sessions.

25 POINT OF VIEW

Who Is in Charge? The Promises and Pitfalls of Driverless Cars

M. L. Cummings and Jason Ryan

Driverless car technology promises safer and more efficient driving systems, but many questions remain, the authors note, such as the robustness of the technology and the interaction between the human driver and the technology. Proper design and extensive testing are needed, and great care should be taken in implementation.

31 SIGNALS

A Note About Programming Research Funding

Robert E. Skinner, Jr.

Allocating funds to support research and innovation is a formidable task, the author notes, and suggests a four-faceted approach that may help provide a better, more understandable rationale for research investments and promote investments that will be more cost-effective in the long term.

34 Assessing Highway Research and Development Priorities

Walter E. Diewald

36 NCHRP REPORT

Automated Enforcement for Speeding and Red Light Running

Rebecca Fiedler and Kim Eccles

A recent National Cooperative Highway Research Program (NCHRP) Report examines successful automated speed and red light running enforcement initiatives and explores the factors contributing to success.

40 NEW NCHRP REPORT

Communicating the Value of Preservation: A Playbook

Joe Crossett

A recent NCHRP Report developed guidance for officials at state transportation agencies to develop and implement strategies for communicating the role and importance of maintenance and asset preservation in sustaining highway system performance.



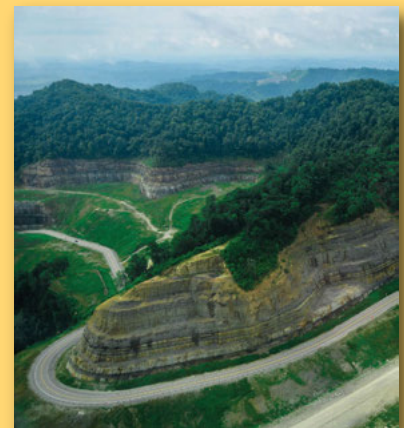
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COVER: Completed Red Jacket section of the King Coal Highway, a public–private partnership project in West Virginia, part of the Interstate 73–Interstate 74 North–South corridor. (Photo: Mingo County Redevelopment Authority)

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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Lea Camarda, Associate Editor
Jennifer J. Weeks, Photo Researcher
Juanita Green, Production Manager
Michelle Wandres, Graphic Designer

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43 NCHRP SYNTHESIS OF HIGHWAY PRACTICE Engineering Economic Analysis Practices for Highway Investments

Michael J. Markow

An NCHRP synthesis study affirms the benefits of engineering economic methods, showing how select transportation agencies have applied exemplary practices in benefit–cost analyses and similar procedures to a range of applications in highway investment decision making.

47 NCHRP REPORT A Model for Identifying and Evaluating the Historic Significance of Post–World War II Housing

Emily Pettis and Christina Slattery

The protection of post–World War II residences increasingly is being considered as part of a transportation project's compliance with the National Historic Preservation Act. An NCHRP Report offers national guidance, a national historic context, and a survey and evaluation methodology for single-family postwar residences.

50 NCHRP PROJECT IN PROGRESS Framework for Making Safe Transportation Decisions: Seven Principles for Prioritizing Safety

Susan B Herbel and Nicole Waldheim

The authors present seven tested, practical principles derived from an NCHRP project in progress to help states to incorporate transportation safety considerations and implement measures throughout the planning process.

54 ACRP SYNTHESIS OF AIRPORT PRACTICE Issues with Airport Organization and Reorganization: Finding the Perfect Organizational Structure for an Airport

Kimberly A. Kenville and James F. Smith

An Airport Cooperative Research Program synthesis study has assembled a flight plan to assist airports in changing or adapting their organizational structures to meet strategic, operations, and business goals and to facilitate the delivery of core services.

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COMING NEXT ISSUE

Feature articles and sidebars in the July–August TR News assemble a comprehensive how-to on performance management in transportation. Authors explore current thinking, lessons learned, tools and techniques, and issues related to performance management—what works and what does not. Features detail the experience of a CEO in championing performance management; how state DOTs are using performance measures in long-range planning; successful efforts to communicate performance management information; developing organizational support for performance management; underpinning performance measurement and decision making with quality information; the interrelationship between transportation asset management and performance management—and more.



North Carolina DOT's website dashboard presents statistics on performance, providing accountability at all levels and across all program areas.