Freight Transport in a Low-Carbon World

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- Federal-Aid Road Act: Origins and Legacies
- What’s New in the Latest Highway Capacity Manual?
- Asset Management with Geographic Information Systems
- Allocating Resources to Achieve Performance-Based Promises
- Life-Cycle Cost of Stormwater Best Management Practices
3 Foundations of the National Highway System:
Shaping the Federal-Aid Road Act of 1916
Alan E. Pisarski
The centennial of the Federal-Aid Road Act of 1916 underscores the legislation’s shaping influence on the federal role in the nation’s highway system. The author traces the developments that led to depoliticizing the funding process; promoting professionalism based on data collection, research, testing, and training; and cooperation between the federal government and the states.

8 Freight Transport in a Low-Carbon World:
Assessing Opportunities for Cutting Emissions
Alan McKinnon
Freight transport has been identified as one of the hardest socioeconomic activities to decarbonize, the author notes, but several mutually supportive opportunities related to supply chain structure, modal split, vehicle utilization, energy efficiency, and energy mix may help move toward reducing carbon emissions per tonne-kilometer worldwide.

16 NEW TRB PUBLICATION
The Highway Capacity Manual, 6th Edition:
A Guide for Multimodal Mobility Analysis
Lily A. Elefteriadou
The sixth edition of a transportation classic provides methods and tools for estimating the performance of traffic operations for cars, trucks, pedestrians, bicyclists, and transit. The methods address a range of analyst needs with new tools to measure travel time reliability, evaluate active traffic and demand management, assess designs for intersections and interchanges, estimate multimodal levels of service, and more.

22 NCHRP REPORT 800
Successful Practices in Geographic Information Systems–Based Asset Management
Frances Harrison
Although many transportation agencies have applied geographic information systems (GIS) for asset management, many capabilities are yet unexplored. NCHRP Report 800 provides resources for sizing up an agency’s capabilities, developing a coherent vision, planning improvements, and ensuring that GIS technologies are leveraged successfully for the benefit of the agency.

29 NCHRP REPORT 806
Cross-Asset Resource Allocation and the Impact on Transportation System Performance
Michelle Maggiore and Kevin Ford
NCHRP Report 806 presents a transparent, structured, and repeatable methodology—along with a prototype tool—that links transportation planning and budgeting with project selection and programming, applying the principles of decision science to normalize and compare project benefits across investment categories equitably.

34 NCHRP REPORT 792
The Long-Term Performance and Life-Cycle Cost of Stormwater Best Management Practices
Scott M. Taylor
NCHRP Report 792 provides practical information for state departments of transportation to improve their highway drainage systems to comply with regulations. The research describes the performance and whole-life cost of best management practices for stormwater treatment in a highway environment and offers tools to maintain a high-performing stormwater program.
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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The Transportation Research Board 2016 Annual Report is included as a special insert between pages 26 and 27.

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Kay Fitzpatrick, internationally recognized researcher in roadway geometric design, roadway safety, traffic control devices, and pedestrian facilities; and Edward Strocko, who directs the development of geospatial information and visualization tools for government agencies, transportation providers, and the public

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COMING NEXT ISSUE

The January–February TR News presents practical findings, initiatives, trends, and other research-related developments at state transportation agencies in the past year, assembled from state partnership visits, conferences, meetings, and other interactions by Transportation Research Board senior program officers. Other features explore the ways that freight projects are identified and prioritized for investment during the development of state freight plans, from case studies; the sharing of operations data among agencies; the legal environment for driverless vehicles—and more.

Photo: Scott Bernstein

Container terminal traffic at Port Newark, New Jersey; public agencies are collaborating with private terminal operators on the East Coast on port access projects to accommodate the anticipated arrival of larger vessels and the surge in capacity needs.