

Research Digest

FORWARD ALL REQUESTS TO:

The University of Texas at Austin
Center for Transportation Research Library
1616 Guadalupe St. | Suite 4.202 | Austin, Texas 78701
Phone: (512) 232-3126
Email: ctrlib@austin.utexas.edu

In this Issue:

Select Transportation Research Board Publications

Table of Contents

Item 1.	A guidebook for mitigating disruptive WiFi interference at airports (ACRP Report 127)	1
Item 2.	Airport emergency post-event recovery practices: A Synthesis of Airport Practice (ACRP Synthesis 60)	2
Item 3.	Liability aspects of pedestrian facilities (NCHRP LRD 65)	2
Item 4.	Guidebook on pedestrian and bicycle volume data collection (NCHRP Report 797)	3
Item 5.	Successful Practices in GIS-Based Asset Management (NCHRP Report 800)	4
Item 6.	Pedestrian and Bicycle Transportation Along Existing Roads: ActiveTrans Priority Tool Guidebook (NCHRP Report 803)	4
Item 7.	Guidebook for designing and managing rights-of-way for carbon sequestration and biomass generation (NCHRP Report 804)	5
Item 8.	Guide to cross-asset resource allocation and the impact on transportation system performance (NCHRP Report 806)	6
Item 9.	Selected indirect benefits of state investment in public transportation (NCHRP RRD 393)	7
Item 10.	Alliance Contracting: Evolving Alternative Project Delivery (NCHRP Synthesis 466)	7
Item 11.	Interactive Training for All-Hazards Emergency Planning, Preparation, and Response for Maintenance and Operations Field Personnel: A Synthesis of Highway Practice (NCHRP Synthesis 468)	8
Item 12.	Maintenance Quality Assurance Field Inspection Practices: A Synthesis of Highway Practice (NCHRP Synthesis 470)	8
Item 13.	Practices for Developing Transparent Best Value Selection Procedures: A Synthesis of Highway Practice (NCHRP Synthesis 471)	9
Item 14.	FEMA and FHWA emergency relief funds reimbursements to state departments of transportation: A Synthesis of Highway Practice (NCHRP Synthesis 472)	10
Item 15.	Practices for permitting superheavy load movements on highway pavements: A Synthesis of Highway Practice (NCHRP Synthesis 476)	11
Item 16.	Forecasting transportation revenue sources: survey of state practices: A Synthesis of Highway Practice (NCHRP Synthesis 479)	11
Item 17.	Buy America Requirements for Federally Funded Rail Projects (NCRRP LRD 1)	12
Item 18.	Alternative funding and financing mechanisms for passenger and freight rail projects (NCRRP Report 1)	12
Item 19.	Transportation research implementation: application of research outcomes: summary of the Second EU-U.S. Transportation Research Symposium (TRB CP 51)	13

Research Digest

Item 1

A guidebook for mitigating disruptive WiFi interference at airports

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 127 • 2015

"This Guidebook is written for airport leadership and other stakeholders that describe the WiFi interference problems at airports and offers solutions to mitigate disruptions. Interference is addressed in the context of the business and regulatory structure within which airports operate. The guidebook is designed to provide practical assistance for improving WiFi performance by enhancing the ability of airport authorities to identify when radio frequency interference is occurring and then how to eliminate, reduce or at least minimize its impact." --Foreword

(98 pages)

CONTENTS

- Summary
- Chapter 1. Radio frequency primer
- Chapter 2. WiFi service at airports and the problem of interference
- Chapter 3. Airports and network operators : issues and solutions
- Chapter 4. Strategic planning for wireless networks
- Chapter 5. Stakeholder relationships and business model options
- Chapter 6. WiFi at small and general aviation airports
- Chapter 7. References and resources
- Chapter 8. Acronyms and definitions
- Appendix A. Radio frequency primer
- Appendix B. Best technical practices to ensure accessible WiFi service
- Appendix C. IEEE 802 standards

This report is available for free download (3.1 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_127.pdf

Research Digest

Item 2

Airport emergency post-event recovery practices: A Synthesis of Airport Practice

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Synthesis 60 • 2015

"Emergency management theory and practice has focused primarily on the top priority of safety, especially for aircraft rescue and firefighting. As a result, while many studies and plans address emergency preparedness, mitigation, and response at airports, on the whole the recovery phase receives at best a cursory treatment. The objective of this synthesis is to gather commonalities and effective practices from representative commercial and general aviation airports regarding post-event recovery." --Preface (76 pages)

CONTENTS

- Summary
- Chapter 1. Introduction
- Chapter 2. Case examples
- Chapter 3. Findings
- Chapter 4. Conclusions and suggestions for further research
- References
- Bibliography
- Appendix A. List of airport emergency post-event recovery practices
- Appendix B. Participating airports
- Appendix C. Questionnaire used to guide interviews

This report is available for free download (7.3 MB):

http://onlinepubs.trb.org/Onlinepubs/acrp/acrp_syn_060.pdf

Item 3

Liability aspects of pedestrian facilities

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Legal Research Digest 65 • 2015

"Liability Aspects of Pedestrian Facilities addresses legal claims that relate to pedestrian facilities, such as sidewalks and crosswalks, and focuses on allegations of violations of the Americans with Disabilities Act (ADA) and lawsuits alleging that a government agency has been negligent in maintaining its facilities." -- TRB Publications Page (various pagings)

This report is available for free download (11 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_lrd_065.pdf

Research Digest

Item 4

Guidebook on pedestrian and bicycle volume data collection

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Report 797 • 2015

"This guidebook is directed to practitioners involved in collecting non-motorized count data. The Guidebook (1) describes methods and technologies for counting pedestrians and bicyclists, (2) offers guidance on developing a non-motorized count program, (3) gives suggestions on selecting appropriate counting methods and technologies, and (4) provides examples of how organizations have used non-motorized count data to better fulfill their missions. This guidebook also describes correction factors to improve the accuracy of counts produced by automated counters, factors for expanding short-term counts to longer-term volume estimates, and factors for adjusting counts to reflect environmental conditions at the time of the count, such as rain. The research behind the Guidebook can be found on the Transportation Research Board website as NCHRP Web-Only Document 205: Methods and Technologies for Pedestrian and Bicycle Volume Data Collection (NWOD 205). NWOD 205 includes the results of the testing and evaluation of a range of automated count technologies that capture pedestrian and bicycle volume data." --

TRID

(xvii, 139 pages)

CONTENTS

- Quick start guide
- Chapter 1. Introduction
- Chapter 2. Non-motorized count data applications
- Chapter 3. Data collection planning and implementation
- Chapter 4. Adjusting count data
- Chapter 5. Sensor technology toolbox
- Chapter 6. References
- Appendix A. Case studies
- Appendix B. Manual pedestrian and bicycle counts : example data collector instructions
- Appendix C. Count protocol used for NCHRP Project 07-19
- Appendix D. Day-of-year factoring approach

This report is available for free download (38.5 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_797.pdf

Research Digest

Item 5

Successful Practices in GIS-Based Asset Management

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Report 800 • 2015

"[This report] presents guidance for state transportation agencies on using geographic information system (GIS) technologies in transportation asset management (TAM). The guidance is in two parts: The first, for senior transportation agency leadership, presents the business case for investment in GIS technologies for TAM; the second part, for TAM practitioners, describes lessons learned from current examples of successful practices for implementing these technologies and practical evidence of the benefits and challenges associated with adoption of GIS-based TAM." --Foreword ([157] pages in various numbering)

This report is available for free download (19.3 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_800.pdf

Item 6

Pedestrian and Bicycle Transportation Along Existing Roads: ActiveTrans Priority Tool Guidebook

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Report 803 • 2015

This guidebook presents the “ActiveTrans Priority Tool (APT),” a step-by-step methodology for prioritizing improvements to pedestrian and bicycle facilities, either separately or together as part of a “complete streets” evaluation approach. The methodology is flexible, allowing the user to assign goals and values that reflect those of the agency and the community. It is also transparent, breaking down the process into a series of discrete steps that can be easily documented and communicated to the public. The guidebook is supplemented by a CD (CRP-CD-163) that contains a programmed spreadsheet to facilitate implementation of the ActiveTrans methodology, as well as a final report that documents the research approach, findings, and conclusions. The guidebook will be very useful to planners and other staff responsible for the most effective allocation of scarce resources to where they will provide the most benefit. (87 pages; 7.4 MB)

- Accompanying CD-ROM contains ActiveTrans Priority Tool Programmed Spreadsheet and Contractor's Final Report to Accompany NCHRP Report 803

This report is available for free download (Webpage with PDF and CDROM download):

<http://www.trb.org/Publications/Blurbs/172459.aspx>

Research Digest

Item 7

Guidebook for designing and managing rights-of-way for carbon sequestration and biomass generation

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Report 804 • 2015

"This report provides a Guidebook and Toolkit that describes the state of the practice of using highway - rights-of-way (ROW) vegetation for carbon sequestration and biomass generation for use as feedstock for biopower and biofuel production. This Guidebook merges the knowledge of market conditions and regulations for environmental commodities that are energy- and/or greenhouse-gas based, regulations governing the highway ROWs for commercial or revenue purposes, the best practices of highway vegetation management and agronomic practices for raising feedstock crops for carbon sequestration, biopower, and biofuels. The Guidebook and Feasibility Toolkit will be useful to operations and maintenance managers, vegetation managers, alternative finance officers, and environmental managers seeking to extract greater financial and environmental value from roadside vegetation." --Foreword (46 pages)

CONTENTS

- Summary
- Chapter 1. Primer on DOT management considerations
- Chapter 2. The carbon offset market : a primer for DOTs
- Chapter 3. The biomass energy market : a primer for DOTs
- Chapter 4. Feasibility Toolkit
- References

This report is available for free download (3.1 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_804.pdf

Research Digest

Item 8

Guide to cross-asset resource allocation and the impact on transportation system performance

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Report 806 • 2015

"State departments of transportation (DOTs) and other local and regional agencies must invest public resources—funds, land, staffing, and others—to develop and operate a transportation system that will provide mobility—efficiently, safely, and with the least possible environmentally adverse impact—to support the economy and enhance quality of life. These investments are made to construct, maintain, preserve, enhance, rehabilitate, or replace a diverse portfolio of physical assets such as pavement, traffic signals, guardrails, bridges, signs, and drainage structures. Deciding how best to allocate inevitably limited resources across these various types of assets to provide acceptable transportation system performance poses a persistent and difficult challenge for agency managers, elected officials, and the public. This report presents guidance for state transportation agencies on allocating limited resources among asset classes and organizational units to provide optimal system performance. The guidance includes discussion of analytical tools to support decision making and is supplemented by a prototypical spreadsheet-based implementation of the guide's analysis framework." --TRID

(113 pages)

CONTENTS

- Chapter 1. Research summary
- Chapter 2. Research guidebook
- Chapter 3. Testing the tool prototype
- Chapter 4. Tool implementation playbook
- Chapter 5. Conclusions and next steps
- Works cited
- Attachment. Technical memorandum : cross-asset resource allocation workshops.

This report is available for free download (19.9 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_806.pdf

Research Digest

Item 9

Selected indirect benefits of state investment in public transportation

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Research Results Digest 393 • 2015

"TRB's National Cooperative Highway Research Program (NCHRP) Research Results Digest 393: Selected Indirect Benefits of State Investment in Public Transportation explores the full range of benefits that may be associated with investment in public transportation programs, including those that could help offset the cost of transit investments and operations. Specifically, this report identifies and documents potential indirect government benefits arising from transit investments and services, and provides ways to help states make the case for strategic investment. The report also covers methods and tools for quantifying benefits and provides a conceptual framework for including these benefits along with other economic impact and benefit/cost analysis for transit." --TRID
(36 pages)

This report is available for free download (713 KB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_393.pdf

Item 10

Alliance Contracting: Evolving Alternative Project Delivery

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 466 • 2015

Alliance contracting may be defined as a project delivery model where the owner(s), contractor(s), and consultant(s) work collaboratively as an integrated team and their commercial interests are aligned with actual project outcomes. The objective of this study is to identify and synthesize current effective practices that comprise the state of the practice related to the use of alliance contracts around the world and discuss the procurement procedures that have been used to successfully implement alliance contracting on typical transportation projects.

(72 pages)

This report is available for free download (6.6 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_466.pdf

Research Digest

Item 11

Interactive Training for All-Hazards Emergency Planning, Preparation, and Response for Maintenance and Operations Field Personnel: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 468 • 2015

"The maintenance and operations personnel of state departments of transportation and the field personnel of local public works agencies are on the front lines during emergencies and disasters. Therefore, their preparedness is essential to public safety. The goal of this study was to identify interactive emergency training tools and sources appropriate for these field personnel, identify obstacles to implementation, and create a toolkit of relevant training and exercise information. The key focus for the synthesis is maintenance and operations field personnel and their managers." --Preface
(170 pages)

This report is available for free download (5.3 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_468.pdf

Item 12

Maintenance Quality Assurance Field Inspection Practices: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 470 • 2015

"This synthesis examines Maintenance Quality Assurance field inspection practices used by state transportation agencies to support maintenance investments. The report documents and summarizes the type of data collected, the methodology used to assess condition, and the processes in place to ensure the quality of the data. In addition, the synthesis presents information on how the field inspection data are used to report highway conditions, estimate budget needs, and establish targeted levels of service. Information used in this study was gathered through a literature review and a survey of state departments of transportation. Follow-up interviews with selected agencies provided additional information." --Preface
(43 pages)

This report is available for free download (3.1 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_470.pdf

Research Digest

Item 13

Practices for Developing Transparent Best Value Selection Procedures: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 471 • 2015

This synthesis examines practices related to the best value bid approach to procuring highway construction services. Best value procurement is a process to select the most advantageous offer by evaluating factors in addition to price. These factors may include schedule, technical merit, management solutions, and past performance. The report documents practices that enhance objectivity, fairness, and transparency of the selection process.

(67 pages)

This report is available for free download (3 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_471.pdf

Research Digest

Item 14

FEMA and FHWA emergency relief funds reimbursements to state departments of transportation: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 472 • 2015

"This report compiles and documents information regarding state department of transportation (DOT) experiences with federal disaster reimbursement programs. The report documents existing experiences, knowledge, learning, and practices used by DOTs to efficiently obtain appropriate reimbursements after emergency events. It also summarizes the range of things DOTs are doing to ease their response effort, secure appropriate reimbursements, and simplify cost identification. Information used in this study was acquired through a literature review, a screening survey of state DOT members of the AASHTO Special Committee on Transportation Security and Emergency Management (SCOTSEM), and follow-up interviews with DOT staff. This report will be useful to highway design practitioners."--TRID
(108 pages)

CONTENTS

- Summary
- Chapter 1. Introduction
- Chapter 2. Federal emergency reimbursement programs
- Chapter 3. State departments of transportation experience with Federal Emergency Management Agency public assistance and FHWA emergency relief programs
- Chapter 4. State departments of transportation case examples
- Chapter 5. Conclusions
- Acronyms
- Glossary
- References
- Bibliography
- Appendix A. 44-01 survey
- Appendix B. Presidential declarations
- Appendix C. Case study interview guide
- Appendix D. Case studies (web-only)
- Appendix E. NYSDOT DDIR form instructions (web-only)
- Appendix F. Caltrans damage assessment form instructions (web-only)
- Appendix G. Caltrans Paramount Bridge damage assessment form (web-only)
- Appendix H. VTrans checklists (web-only)
- Appendix I. Louisiana DTOD emergency forms and equipment/supply checklists (web-only)
- Appendix J. Public assistance grant program summary (web-only).

This report is available for free download (51.8 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_472.pdf

Research Digest

Item 15

Practices for permitting superheavy load movements on highway pavements: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 476 • 2015

"This Synthesis captures the state of the practice in permitting superheavy commercial vehicles (SHCVs) or "superloads." These are trucks that exceed the thresholds set for overweight vehicles allowed to operate with annual permits throughout state highway networks. Instead, SHCVs are issued single-trip permits on specific routes, following some type of engineering analysis. Work for this synthesis consisted of a literature review and a survey questionnaire. The literature review covered the SHCV permitting regulations and fees for the United States and the Canadian provinces, as well as efforts undertaken in Europe, Australia, and South Africa to harmonize weight regulations between their member states. The survey questionnaire was designed to collect additional detail on the practices that U.S. States and Canadian provinces implement to handle SHCV permits."--Summary
(42 pages)

This report is available for free download (22.4 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_476.pdf

Item 16

Forecasting transportation revenue sources: survey of state practices: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 479 • 2015

"TRB's National Cooperative Highway Research Program (NCHRP) Synthesis 479: Forecasting Transportation Revenue Sources: Survey of State Practices documents current and proposed forecasting methodologies, as well as shortcomings of methods as reported by state departments of transportation (DOTs). The report also includes information about the types of revenue being forecasted, and how satisfied DOTs have been by the accuracy of their projections."--TRB publication page
(41 pages)

CONTENTS

- Summary
- Chapter 1. Introduction
- Chapter 2. Background fiscal crises and challenges to transportation revenue forecasting
- Chapter 3. Federal and state revenue forecasting practices
- Chapter 4. Institutional arrangements for state revenue forecasting
- Chapter 5. Conclusions and suggestions for future research
- References
- Appendix A. Survey questionnaire
- Appendix B. Summary of selected state practices

This report is available for free download (2.04 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_479.pdf

Research Digest

Item 17

Buy America Requirements for Federally Funded Rail Projects

TRANSPORTATION RESEARCH BOARD (TRB)

NCRRP Legal Research Digest 1 • 2015

This Legal Research Digest evaluates and analyzes the requirements of four existing Buy America programs applicable to passenger and freight rail systems, each of which present different regulatory and statutory requirements: FRA, FTA, FHWA, and Amtrak. The digest deals with this topic by addressing similarities and differences among the various programs and their applicability to freight and passenger rail environments. In this analysis, "passenger rail" encompasses high-speed, intercity passenger and commuter rail. The analysis also addresses recent agency changes and policy interpretations, including application of waivers." --[p.1]

(76 pages)

This report is available for free download (746 KB):

http://onlinepubs.trb.org/Onlinepubs/ncrrp/ncrrp_lrd_001.pdf

Item 18

Alternative funding and financing mechanisms for passenger and freight rail projects

TRANSPORTATION RESEARCH BOARD (TRB)

NCRRP Report 1 • 2015

"NCRRP Report 1: Alternative Funding and Financing Mechanisms for Passenger and Freight Rail Projects identifies alternative funding and financing tools that can be used to realize passenger and freight rail project development, including capital investments, operations, and maintenance. The research produced by Project 07-01 resulted in NCRRP Report 1, a comprehensive guidebook for practitioners, and a separate report summary geared to policymakers and decision makers. NCRRP Report 1 provides an assessment of broad financing and funding requirements in the context of intercity passenger and freight rail systems, a detailed review of funding and financing options and associated considerations, and an in-depth assessment of implementation requirements for a broad spectrum of rail projects and services. The report summary, available separately, highlights the significant issues that underlie consideration of how to pay for rail projects and services that have an identified funding gap, including the policy considerations that must be addressed to bridge that gap." --Foreword

(185 pages)

This report is available for free download (38.7 MB):

http://onlinepubs.trb.org/onlinepubs/ncrrp/ncrrp_rpt_001.pdf

Research Digest

Item 19

Transportation research implementation: application of research outcomes: summary of the Second EU-U.S. Transportation Research Symposium

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

TRB Conference Proceeding 51 • 2015

"The purpose of the Second EU-U.S. Transportation Research Symposium was to promote cooperation across the Atlantic and share best practices for the implementation of research outcomes in the field of surface transportation at the local, state, national, and international levels. EU-U.S. cooperation can optimize public funding of transportation research.... This document provides a summary of the entire content of the Second EU-U.S. Transportation Research Symposium held April 10-11, 2014, in Paris, France; all presentations, comments, and discussions are included. The summary is organized by symposium session or breakout session with a concluding section that synthesizes the suggestions that emerged from the symposium. This format was selected to give the reader a full understanding of the ideas expressed as well as to document the lessons learned and offer recommendations for successful implementation of research outcomes." --Preface
(viii, 149 pages)

This report is available for free download (3.2 MB):

<http://onlinepubs.trb.org/onlinepubs/conf/cp51.pdf>