

Research Digest

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Item 1

Compilation of State Airport Authorizing Legislation

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP LRD 15 • 2011

The purpose of this digest is to present information that has been compiled, reviewed, and summarized pertaining to each state's airport-specific legislation, including laws establishing, developing, operating, expanding, and funding airports. The compilation focuses on legislation expressly applicable to public airports rather than legislation applicable to local governments generally. It compares and contrasts zoning and land use; purchasing authority; commercial operations; ground transportation, funding, and taxing authority; law enforcement; and sovereign immunity. This digest seeks to provide policy-makers, airport operators, and other practitioners a convenient and synthesized resource of all states' airport-specific legislation. It should be useful to attorneys, legislators, administrators, airport planning officials, financial officials, community participants, and all persons interested in the legal structure for airport development and operations.

This report is available for free download (6.3 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_lrd_015.pdf

Item 2

Procurement of Airport Development and Planning Contracts

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP LRD 16 • 2012

"Most airport operators, as public agencies, are subject to some type of procurement law or regulation for carrying out procurements and awarding contracts. Airports procure a variety of contracts for construction services, professional services, and the purchase of equipment. Typically, some form of competitive selection is required. The various competitive procurement requirements exist to promote fair and open competition and to ensure integrity and confidence in the public procurement system. Which procurement requirements apply to any given procurement will depend upon the type of goods and services required and the funding source. This digest provides guidance to airport operators, their counsel, and bidders on how to determine which requirements apply to any given procurement and an overview of the consequences for noncompliance so that airports can better understand the inherent risks associated with each funding source." --TRID

This report is available for free download (454 KB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_lrd_016.pdf

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Item 3

Guidebook for Implementing Intelligent Transportation Systems Elements to Improve Airport Traveler Access Information

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 70/CRP-CD-114 • 2012

This report includes a guidebook with an accompanying interactive CD-ROM, CRP-CD-114, that provides descriptions, component details, and examples of how airport ground access information can be disseminated using various intelligent transportation systems (ITS) technologies. The guidebook contains tables to help airport operators determine the applicability of certain ITS strategies based on airport operational needs and airport size. ITS needs of airports not only must address the size of the airport, but also must consider the nature of traveler demographics, levels of congestion on the surrounding roadway network, as well as other defining characteristics. The interactive CD that accompanies the guidebook helps the user to explore and evaluate the information needs of various airport traveler market segments and to identify ITS technologies that best meet the needs of the airport user. The CD also contains a decision support tool that allows users to identify appropriate methods of delivering airport traveler information based on airport traveler market segment. At the same time, the decision support tool helps airport management and staff recognize technologies and efforts they already use to disseminate traveler information so that constructive next steps can be suggested. This guidebook and accompanying CD were developed for a broad spectrum of users, including airport personnel (management, planning, information technology, operations, and public information staff) and project planners and designers who have responsibility for collecting and providing ground access information to airport travelers.

This report is available for free download (6.1 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_070.pdf

Item 4

Application of Enterprise Risk Management at Airports

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 74/CRP-CD-117 • 2012

This report is a guidebook that begins with a summary of the principles of enterprise risk management (ERM), its benefits, and how it applies to airports. The guidebook then discusses implementation of the iterative ERM process including roles and responsibilities from the governing board to all staff members. The accompanying CD-ROM, CRP-CD-117, is an electronic tool that can be used to support the ERM process and catalog identified risks in a risk register with expected likelihood of occurrence and expected severity of impact on the airport to generate a risk score and a risk map. Once the risk score has been developed, mitigation strategies can be put in place and documented using the response plan work sheets within the electronic tool. Because ERM is iterative and scalable to airports of any size and with varying resources, airport directors and managers of airports of all sizes will be able to use the framework outlined in this guidebook to more proactively manage threats and opportunities.

This report and the contents of an accompanying CD-ROM are available for free download:

<http://www.trb.org/Publications/Blurbs/167515.aspx>

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Item 5

Addressing Uncertainty about Future Airport Activity Levels in Airport Decision Making

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 76 • 2012

This report provides a guidebook on how to develop air traffic forecasts in the face of a broad range of uncertainties. It is targeted at airport operators, planners, designers, and other stakeholders involved in planning, managing, and financing of airports, and it provides a systems analysis methodology that augments standard master planning and strategic planning approaches. This methodology includes a set of tools for improving the understanding and application of risk and uncertainty in air traffic forecasts as well as for increasing overall effectiveness of airport planning and decision making. In developing the guidebook, the research team studied existing methods used in traditional master planning as well as methods that directly address risk and uncertainty, and based on that fundamental research, they created a straightforward and transparent systems analysis methodology for expanding and improving traditional planning practices, applicable through a wide range of airport sizes. The methods presented were tested through a series of case study applications that also helped to identify additional opportunities for future research and long-term enhancements.

CONTENTS

- PART I. Primer on Risk and Uncertainty in Future Airport Activity
- PART II. A Framework and Methodology for Addressing Uncertainty about Future Airport Activity Levels in Airport Decision Making
- PART III. Applying the Methodology Using Real Life Case Studies
- PART IV. Conclusions and Recommendations for Further Research

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

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_076.pdf

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Item 6

Guidebook for developing general aviation business plans

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 77 / CRP-CD-119 • 2012

"ACRP Report 77: Guidebook for Developing General Aviation Airport Business Plans is designed to help general aviation airport managers and policymakers develop and implement an airport business plan. This resource has been prepared specifically for general aviation airport practitioners. This Guidebook and accompanying digital files were created to help general aviation airport managers and policymakers gain a better understanding of (1) the value of an airport business plan, (2) the elements of an airport business plan, and (3) the process for developing and implementing an airport business plan. In addition to defining an airport business plan (as a document that uses a logical and disciplined structure to set out goals, objectives, and action plans that drive the day-to-day operation and management of an airport), this resource discusses the interrelationships among the primary planning documents for airports (i.e., strategic plan, business plan, and master plan) and provides step-by-step guidance for preparing the elements of an airport business plan." --p.1

CONTENTS

- Summary
- ch. 1. Introduction
- ch. 2. Airport business plan
- ch. 3. Airport business planning process
- ch. 4. Preparing the elements of an airport business plan
- ch. 5. Implementation
- ch. 6. Airport and market
- ch. 7. Organization
- ch. 8. Operations
- ch. 9. Marketing
- ch. 10. Aviation products, services, and facilities
- ch. 11. Financial
- Glossary of terms and acronyms
- Bibliography

This report and the contents of an accompanying CD-ROM are available for free download::

<http://www.trb.org/Publications/Blurbs/168114.aspx>

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Item 7

Evaluating Airfield Capacity

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 79/CRP-CD-124 • 2012

"This report provides a guidebook and accompanying CD-ROM, CRP-CD-124, to assist airport planners with airfield and airspace capacity evaluation at a wide range of airports. The guidebook describes available methods for evaluating existing and future airfield capacity; provides guidance on selecting an appropriate capacity analysis method; provides best practices in assessing airfield capacity and applying the modeling techniques; and outlines specifications for new models, tools, and enhancements. The guidebook includes relevant background information on airfield components and operations, descriptions of existing modeling tools, explanations of new modeling tools created as part of this research, and a decision-support tool to help select a capacity evaluation technique. The accompanying CD-ROM provides prototype capacity spreadsheet models that are designed to be a preliminary planning tool, similar to the Airfield Capacity Model (ACM) but with more flexibility to change input assumptions to represent site-specific conditions from the most simple to moderate airfield configurations." --TRID

This report is available for free download (8.4 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_079.pdf

Item 8

Guidebook for incorporating sustainability into traditional airport projects

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 80 / CRP-CD-125 • 2012

This report describes sustainability, its benefits, and identifies different applications in traditional airport construction and everyday maintenance projects. An accompanying CD-ROM, CRP-CD-125, provides an Airport Sustainability Assessment Tool (ASAT) that complements the guidebook and can be used to: assist the user in identifying sustainability initiatives that might be most applicable to an airport project, given certain criteria that the user sets; obtain more information about specific strategies; and learn about sustainability initiatives that have been implemented at other airports through case studies. The guidebook and the CD-ROM will be useful to environmental managers, planners, and consultants interested in adopting sustainability strategies and initiatives into their next airport project.

CONTENTS

- Summary
- ch. 1. What is sustainability?
- ch. 2. Purpose and structure of the Guidebook and ASAT
- ch. 3. Approaching sustainability at airports
- ch. 4. Implementation process
- ch. 5. Airport Sustainability Assessment Tool
- ch. 6. Case study summaries
- Appendix A. Glossary of terms and definitions
- Appendix B. Sustainable initiatives for incorporation Into traditional airport projects
- Appendix C. Resources and references.

This report and the contents of an accompanying CD-ROM are available for free download:

<http://www.trb.org/Publications/Blurbs/168044.aspx>

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Item 9

Winter design storm factor determination for airports

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Report 81 • 2012

"ACRP Report 81: Winter Design Storm Factor Determination for Airports identifies the relevant factors in defining a winter design storm for use in sizing airport deicing runoff management systems and components. The guidebook also provides a decision support tool for identifying an appropriate winter design storm for an airport-specific project; a review of regulations as they pertain to deicing runoff; and suggestions for target levels of service, including the acceptable level of risk of the designed system not meeting performance standards." --publ. website

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

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_081.pdf

Item 10

Exploring Airport Employee Commute and Parking Strategies: A Synthesis of Airport Practice

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Synthesis 36 • 2012

Airport employees are vital to the operation of an airport. They staff the airport on a daily basis from well before the first flight operation until after the last flight operation, which at many airports is 24 hours a day, 365 days a year. Airport employees generate a significant number of vehicle trips to and from the airport each day, which impacts air quality, airport traffic conditions, and traffic in the communities surrounding the airport and on the freeway system. The purpose of this report was to determine what is known about airport employee commute patterns and commute modes, what programs are being offered to airport employees by the airport operator or a transportation management association (TMA) to provide them with alternatives to the drive alone commute to work, how progress is being monitored, what is known about the effectiveness of airport employee commute options (ECO) programs, what the challenges are for the providers of such programs, and to research some ECO programs offered by non-airport employers for program elements that may have applicability in the airport environment. This report was accomplished through a literature search of airport employee commute programs, commute programs offered by non-airport employers that may have applicability in the airport environment, and through interviews with four U.S. and one U.K. airport operators (of 16 airports and 3 TMAs identified, 84% interviewed) that offer comprehensive airport ECO programs. Each of the five case studies provides an example of how ECO strategies are applied in the airport environment.

This report is available for free download (6.3 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_syn_036.pdf

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Item 11

Expediting aircraft recovery at airports: a synthesis of airport practice

TRANSPORTATION RESEARCH BOARD (TRB)

ACRP Synthesis 38 • 2012

"Synthesis 38: Expediting Aircraft Recovery at Airports includes suggested procedures to help airports expedite the recovery of disabled aircraft that are designed to avoid injury to personnel, damage to airport equipment, and secondary damage to the aircraft. For the purposes of the report, a disabled aircraft is defined as one that is unable to move using its power after an excursion from a runway or taxiway." --publ. website

This report is available for free download (5.8 MB):

http://onlinepubs.trb.org/onlinepubs/acrp/acrp_syn_038.pdf

Item 12

Handbook on applying environmental benchmarking in freight transportation

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCFRP Report 21 • [2013]

"NCFRP Report 21: Handbook on Applying Environmental Benchmarking in Freight Transportation identifies and evaluates approaches that can be used by public and private entities to estimate, monitor, and reduce freight emissions and impacts across the supply chain by examining how benchmarking can be used as a management tool in the freight and logistics industry to promote environmental performance. The handbook provides a step-by-step overview of the benchmarking process and describes a framework for applying this process to freight carriers, shippers, and freight hubs"--Foreword

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

http://onlinepubs.trb.org/onlinepubs/ncfrp/ncfrp_rpt_021.pdf

Item 13

Guidebook for Assessing Evolving International Container Chassis Supply Models

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCFRP RRD 20 • 2012

This report "describes the historical and evolving models of international container chassis ownership and management in the United States. It is intended to provide stakeholders, including beneficial cargo owners, public policy makers and planners, trucking companies, ocean carriers, and terminal operators with an understanding of the most salient issues and implications as the chassis supply market continues to evolve so they can make informed decisions going forward." --Foreword

This report is available for free download (6.9 MB):

http://onlinepubs.trb.org/onlinepubs/ncfrp/ncfrp_rpt_020.pdf

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Item 14

Fatigue Evaluation of Steel Bridges

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP Report 721 • 2012

This report provides proposed revisions to Section 7-Fatigue Evaluation of Steel Bridges of the "AASHTO Manual for Bridge Evaluation" with detailed examples of the application of the proposed revisions. The proposed revisions and examples were developed based on analytical and experimental research conducted to improve existing methods to evaluate and assess the serviceability of bridge structures for the fatigue limit state. The material in this report will be of immediate interest to highway design engineers.

This report is available for free download:

<http://www.trb.org/Main/Blurbs/167233.aspx>

Item 15

A guidebook for nighttime construction: impacts on safety, quality, and productivity

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP Report 726 • 2012

"NCHRP Report 76 provides suggested guidance on the conduct of nighttime highway construction and maintenance operations. These guidelines are based on best practices and strategies for nighttime operations that relate to the personnel and traveling public safety and the quality of the as-built facility. The guide also addresses work-zone risk analysis planning and implementation, construction nuisances to both neighbors and workers, and work-zone illumination methods." --publ. website

CONTENTS

- Introduction and framework
- Risk
- Illumination
- Nuisances
- Productivity
- Quality
- Cost
- Safety
- Communications
- Interactions
- Summary for implementation and keys to success

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

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_726.pdf

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Item 16

Models to Support State-Owned Park and Ride Lots and Intermodal Facilities -- revised November 2012

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP RRD 359 rev. • 2012

"This NCHRP digest addresses the needs and issues associated with state park and ride/intermodal commuter facilities and programs. It identifies deficiencies, best practices, and promising innovations. Research was conducted over an 8-month period and involved interviews with a small but representative sample of managers responsible for administering these programs. Sixty-two percent of the surveyed programs are managed by state departments of transportation with the remaining programs managed by public transit authorities and transportation districts. This digest has four chapters, organized as follows: (1) Program Surveys - A synthesis of each of the surveyed programs; (2) Key Findings and Best Practices - An analytical assessment and identification of best practices; (3) Conclusions - Researcher suggestions for managers challenged by the demands for and the costs of public park and ride/intermodal commuter facilities; and (4) Suggested Research - A short list of suggested topics for additional study." -- TRID

This report is available for free download (817 KB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_359.pdf

Item 17

A Toolkit for Reporting Rural and Specialized Transit Data: Making Transit Count

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP RRD 373 • 2012

The objective of this research was to identify the data reporting requirements of state departments of transportation (DOTs) to meet the Federal Transit Administration's (FTA's) requirements, and develop a set of tools to assist state DOTs and individual rural and specialized transit providers in data collection, analysis, management, and reporting. The objective was also to conduct an analysis of automated transit data collection and reporting processes in state DOT transit units. Tasks included a review of FTA's requirements for rural and specialized transit data reporting; issuance of a questionnaire to DOTs to learn about data reporting collection processes and needs; and the preparation of mini-case studies to highlight DOT automated transit data collection and reporting processes.

This report is available for free download (24.4 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_373.pdf

Item 18

A Proposed Technology Evaluation Program for Warm-Mix Asphalt

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP RRD 374 • 2012

This digest summarizes key findings from the project final report for NCHRP Project 20-07, Task 311, Development of a Warm Mix Asphalt Technology Evaluation Program, conducted by Villanova University. The primary objective of Task 311 was to define a warm mix asphalt (WMA) technology evaluation program that would be compatible with a centralized system of testing, evaluation, and data reporting of engineering materials for the state departments of transportation, such as the American Association of State Highway and Transportation Officials (AASHTO) National Transportation Product Evaluation Program (NTPEP).

This report is available for free download (923 KB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_374.pdf

Research Digest

Item 19

Data Needs for Assessing Rural Transit Needs, Benefits, and Levels of Service

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP RRD 376 • 2012

This digest presents the results of National Cooperative Highway Research Program (NCHRP) Project 20-65, Task 36, "Data Needs for Assessing Rural Transit Needs, Benefits, and Levels of Service." The primary objectives of this project were to (1) review the data elements currently reported in the Rural National Transit Database (NTD) and identify data elements that are needed to record pre- and post-service change information; and (2) identify potential levels of service (LOS) options that are more accurate or useful for future evaluation of rural service. The concept of LOS can be applied to many aspects of public transit services. In this report, the expression refers to measures of service availability from the passenger's perspective. Additionally, the project called for options for using the data elements and measures of LOS from other readily available data to conduct rural transit needs assessment and performance analysis. The researchers also developed draft tools to help state departments of transportation understand the effects of various service types and levels on rural communities.

This report is available for free download (723 KB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_376.pdf

Item 20

Evaluation of bridge scour research

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

NCHRP RRD 378 • 2012

This digest summarizes key findings of three National Cooperative Highway Research Program (NCHRP) projects: Project 24-27(01) - Evaluation of Bridge Scour Research: Pier Scour Processes and Predictions; Project 24-27(02) - Evaluation of Bridge Scour Research: Abutment and Contraction Scour Processes and Predictions; and Project 24-27(03) - Evaluation of Bridge Scour Research: Geomorphic Processes and Predictions. These projects had the common objectives to (1) critically evaluate the body of bridge scour research completed worldwide since the early 1990s and (2) propose specific research results for adoption by AASHTO in its development of future editions of two key highway hydraulic engineering guidance documents: Policy for Design of Highway Drainage Facilities and Recommended Procedures for Design of Highway Drainage Facilities. The digest is based on project final reports available as NCHRP Web-Only Documents 175, 181, and 177, respectively.

This report and related documents are available for free download:

<http://www.trb.org/Publications/Blurbs/167759.aspx>

Research Digest

Item 21

Selected state DOT cost reduction initiatives for the administration of state public transportation programs
TRANSPORTATION RESEARCH BOARD (TRB)
NCHRP RRD 379 • 2012

This digest describes the results of National Cooperative Highway Research Program (NCHRP) Project 20-65, Task 38, Estimated Impact of Selected State DOT Cost Reduction Initiatives on the Administration of State Public Transportation Programs, which was conducted by ICF International, Fairfax, Virginia. The purpose of this research was to identify the effects and costs associated with implementing cost containment initiatives as well as to suggest ways in which state departments of transportation can make informed decisions regarding the use of these various initiatives. The digest provides a summary of the project, the background literature review, and the project results. In addition, a Cost Containment Decision Guide that was created based on the results of this study is included.

This report is available for free download (3.5 MB):
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_379.pdf

Item 22

Significant Findings from Full-Scale Accelerated Pavement Testing: A Synthesis of Highway Practice
TRANSPORTATION RESEARCH BOARD (TRB)
NCHRP Synthesis 433 • 2012

"NCHRP Synthesis 433: Significant Findings from Full-Scale Accelerated Pavement Testing documents and summarizes significant findings from the various experimental activities associated with full-scale accelerated pavement testing (f-sAPT) programs that have taken place between 2000 and 2011. The report also identifies gaps in knowledge related to f-sAPT and where future research may be needed. NCHRP Synthesis 433 is designed to expand the f-sAPT base of knowledge documented in NCHRP Syntheses 325 and 235, both with the same title of Significant Findings from Full-Scale Accelerated Pavement Testing. f-sAPT is the controlled application of a wheel loading, at or above the appropriate legal load limit, to a pavement system to determine pavement response in a compressed time period. The acceleration of damage is achieved by one or more of the following factors: increased repetitions, modified loading conditions, imposed climatic conditions, and thinner pavements with a decreased structural capacity which have shorter design lives."

This report is available for free download (9.5 MB):
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_433.pdf

Research Digest

Item 23

Local Policies and Practices that Support Safe Pedestrian Environments: A Synthesis of Highway Practice

TRANSPORTATION RESEARCH BOARD (TRB)

NCHRP Synthesis 436 • 2012

Many communities around the country have adopted regulatory, administrative, and financial practices designed to promote and fund safe pedestrian facilities and activities. The objective of this study is to document various tools and strategies used by municipalities to improve the safety, convenience, and accessibility of the pedestrian experience. Information used in this study was acquired through a review of the literature and interviews with key staff in local agencies that have implemented practices designed to support pedestrian-friendly environments.

CONTENTS

- Introduction
- State of practice in the industry
- Case studies
- Summary of implementation challenges and strategies
- Conclusions

This report is available for free download (1 MB):

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_436.pdf

Research Digest

Item 24

Assessing the Long-Term Performance of Mechanically Stabilized Earth Walls: A Synthesis of Highway Practice
TRANSPORTATION RESEARCH BOARD (TRB)
NCHRP Synthesis 437 • 2012

"Mechanically stabilized earth (MSE) walls are an important class of infrastructure assets whose long-term performance depends on various factors. As with most all other classes of assets, MSE walls need periodic inspection and assessment of performance. To date, some agencies have established MSE wall monitoring programs, whereas others are looking for guidance, tools, and funding to establish their own monitoring programs. The objective of this synthesis project is to determine how transportation agencies monitor, assess, and predict the long-term performance of MSE walls. The information used to develop this synthesis came from a literature review together with a survey and interviews. Of the 52 U.S. and 12 Canadian targeted survey recipients, 39 and five, respectively, responded. This synthesis reveals that unlike bridges and pavements, MSE walls and retaining walls in general are often overlooked as assets. Fewer than one-quarter of state-level transportation agencies in the United States have developed some type of MSE wall inventory beyond that which may be captured as part of their bridge inventories. Fewer still have the methods and means to populate their inventories with data from ongoing inspections from which assessments of wall performance can be made. In the United States, there is no widely used, consistently applied system for managing MSE walls. Wall inventory and monitoring practices vary between agencies. This synthesis examines existing practices concerning the nature, scope, and extent of existing MSE wall inventories. It also examines the collection of MSE wall data, including the types of performance data collected, how they are maintained in wall inventories and databases, the frequency of inventory activities, and assessment practices relevant to reinforcement corrosion and degradation. Later parts of this synthesis discuss how MSE wall performance data are assessed, interpreted, and used in asset management decisions. This synthesis finds that the most well-implemented wall inventory and assessment system in the United States is the Wall Inventory Program developed by FHWA for the National Park Service. However, this system, like some others, uses 'condition narratives' in a process that can be somewhat cumbersome and subjective. Other systems use more direct numeric scales to describe wall conditions, and an advantage of such systems is that they are often compatible with those used in assessments of bridges. As experience with MSE walls accumulates, agencies will likely continue to develop, refine, and better calibrate procedures affecting design, construction, condition assessment, and asset management decisions. One portion of this synthesis is dedicated to summarizing the actions taken thus far by survey respondents to improve the long-term performance of their MSE walls. Many agencies prescribe the use of a pre-approved wall design and/or wall supplier. Other actions or policies frequently focus on drainage-related issues"--Summary

This report is available for free download (10.2 MB):
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_437.pdf

Item 25

Expedited Procurement Procedures for Emergency Construction Services: A Synthesis of Highway Practice
TRANSPORTATION RESEARCH BOARD (TRB)
NCHRP Synthesis 438 • 2012

Faced with disasters that close highways to the traveling public, state departments of transportation (DOTs) must undertake emergency procurement procedures to repair and reopen roadways. These procedures provide expedited delivery of contractor services. This study reports and discusses emergency procurement procedures being utilized by state DOTs, in coordination with federal agencies. Information for the study was gathered through a literature review and a survey of state DOTs and Federal Lands Highway Divisions. The study includes legal case studies.

This report is available for free download (2.6 MB):
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_438.pdf

Research Digest

Item 26

Transit agency intergovernmental agreements : common issues and solutions

TRANSPORTATION RESEARCH BOARD (TRB). TRANSIT COOPERATIVE RESEARCH PROGRAM (TCRP)
TCRP LRD 42/CRP-CD-122 • 2012

"TRB's Transit Cooperative Research Program (TCRP) Legal Research Digest 42 explores transit-related issues that have the potential to require intensive and time-consuming negotiations related to the development of intergovernmental agreements (IOMs) and memoranda of understandings (MOUs). The print version of the digest includes a CD-ROM with approximately 119 example IOMs and MOUs, and a checklist of items to follow when developing agreements." --publ. website

This report is available for free download (Website):

<http://www.trb.org/Publications/Blurbs/168256.aspx>

Item 27

Track Design Handbook for Light Rail Transit -- Second Edition

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES
TCRP Report 155 • 2012

This Handbook provides guidelines and descriptions for the design of various common types of light rail transit (LRT) track. The track structure types include ballasted track, direct fixation ("ballastless") track, and embedded track. The components of the various track types are discussed in detail. The guidelines consider the characteristics and interfaces of vehicle wheels and rail, tracks and wheel gauges, rail sections, alignments, speeds, and track moduli. The Handbook includes chapters on vehicles, alignment, track structures, track components, special trackwork, aerial structures/bridges, corrosion control, noise and vibration, signals, traction power, and the integration of LRT track into urban streets. These chapters provide insight into other systems that impact the track design and require interface coordination. In addition, the Handbook includes chapters on the construction and maintenance of LRT trackwork. This Handbook will be of interest to designers, operators, manufacturers, and those maintaining LRT systems.

CONTENTS

- General introduction
- Light rail transit vehicles
- Light rail transit track geometry
- Track structure design
- Track components and materials
- Special trackwork
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- Noise and vibration control
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- Transit traction power
- LRT track in mixed traffic
- LRT track construction
- LRT track and trackway maintenance

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Research Digest

Item 28

Guidebook for Evaluating Fuel Purchasing Strategies for Public Transit Agencies

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

TCRP Report 156 • 2012

This report is a guidebook for public transit agency professionals on how to identify and evaluate risks and uncertainties with respect to fuel prices, and describes tools and techniques for minimizing the impact of these uncertainties over time. This guidebook introduces the concept of fuel price risk management to public transit agencies, identifying alternative purchasing strategies and outlining steps necessary to implement an effective risk management program. It defines and evaluates alternative cost-effective fuel purchasing strategies designed to benefit public transportation agencies of varying sizes, and it provides a management framework to assist transit agencies through the fuel purchasing process. While using this guidebook, it is important to recognize that “risk management” is distinct from “removal of risk.” It does not assure the lowest fuel prices; rather, it seeks to control the impact of price swings on overall transit system operating budgets.

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