Pavement Management Guide for Local Agencies: Literature Search
IdeaScale 92

July 14, 2017

Prepared for: Mitch Bartelt
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Resources searched: TRID, RIP, Library Catalog, Internet

Summary: Pavement Management Guides have been produced for decades. I did not include those prior to 2000 unless they were specific to local roads or seemed to be good overall resources. I tried to locate the best resources that pertain to local roads.

Most Relevant Results

Pavement Management Guide for City Streets (Contact the library for the full text)
Authors: MR Broten, CA Beckemeyer, DG Peshkin, KA Zimmerman
Publication Date: 1994-6-1: ERES Consultants, Inc.

Abstract: This Guide has been developed to introduce the cities of South Dakota to the concept of pavement management. The Guide includes background information on pavement management systems, as well as detailed information about a simple and easy-to-use system. Cities that implement the contents of this Guide will be able to start performing pavement management activities. This Guide has been developed specifically for cities of South Dakota, based on the needs and requirements that they themselves have expressed, and as such should be particularly well-suited to their needs. However, information is also presented that will allow cities whose needs advance beyond the capabilities of the system presented here to add or refine their capabilities. This Guide is one of three that have been developed to meet the needs of the cities. The "Pavement Condition Survey Guide for City Streets" presents information on evaluating pavement distresses, which is an integral part of a pavement management system, and the "Pavement Design, Maintenance, and Rehabilitation Guide for City Streets" compiles some appropriate pavement design and repair information for the needs identified through a pavement management analysis.

Implementing Pavement Management Systems for Local Agencies: Implementation Guide
Authors: Angela Wolters, Katie Zimmerman, Dr. Kerrie Schattler, Ashley Rietgraf
Publication Date: August 2011: Illinois Center for Transportation
No abstract available
Implementing Pavement Management Systems for Local Agencies

Authors: Angela Wolters, Kathryn Zimmerman, Kerrie Schattler, Ashley Reitgraf
Publication date: December 2011: Illinois Center for Transportation

Executive Summary:
Systematic management of pavements has become increasingly important as pavements continue to age and deteriorate and funding levels have decreased due to reduced funding or increased competition for funds. The use of a pavement management system (PMS) is intended to provide roadway managers with a systematic process for generating answers to many of their pavement management questions. Pavement management can be simply defined as the process of maintaining the pavement infrastructure cost-effectively. The American Public Works Association (APWA) defines pavement management in the following way (1993):

Pavement management is a systematic method for routinely collecting, storing, and retrieving the kind of decision-making information needed to make maximum use of limited maintenance (and construction) dollars.

Pavement management is, in essence, a process that includes a series of steps that will help the user analyze work plan alternatives. Combined with practical judgment and local knowledge, the pavement management recommendations can be used to help make final roadway investment decisions.

Less Relevant Results

Pavement Management Guide, Second Edition (Contact the library for the full text)
Author: AASHTO
Publication Date: 2012

Abstract:
This guide covers the following specific areas in nine chapters: Introduction to the Guide; Managing Transportation Assets Effectively; Inventory Data Collection and Data Integration Issues; Pavement Condition Assessment; Pavement Performance Modeling; Project and Treatment Selection; Using and Presenting Pavement Management Results; Implementation of Pavement Management Systems; and Future Directions.

Pavement Design, Maintenance, and Rehabilitation Guide for City Streets (Contact the library for the full text)
Authors: CA Beckemeyer, RK Kumapley, DG Peshkin
Publication Date: June 1, 1994, ERES Consultants, Inc.

Abstract:
The Pavement Design, Maintenance, and Rehabilitation Guide for City Streets was developed to provide the cities and towns of South Dakota with guidance in the design of new streets and in the identification of appropriate pavement maintenance and rehabilitation techniques for existing streets. The guide addresses both geometric- and pavement-related issues. The geometric-related guidelines address right-of-way (ROW) width, pavement width, design speed, horizontal and vertical clearances, parking lanes, grades, curvature, superelevation, and intersection alignment. The pavement-related guidelines address asphalt concrete (AC), portland cement concrete (PCC), blotter (chip seal), and gravel pavements.
Pavement Condition Survey Guide for City Streets  
Authors: KA Zimmerman, CA Beckemeyer, DG Peshkin  
Publication Date: 1994-6-1; ERES Consultants  

Abstract:  
This guide was developed to provide an easy, consistent means of assessing city street pavement conditions, both within a community and statewide. The guide includes an easy-to-use subjective condition rating methodology that defines pavement condition ratings from 0 to 100. In addition, guidance for determining a pavement's necessary level of repair is provided. This guide is part of a three-document series. The other two documents are the "Pavement, Design, Maintenance, and Rehabilitation Guide for City Streets", and the "Pavement Management Guide for City Streets".

Pavement Management Guide for City Streets (Contact the library for the full text)  
Authors: MR Broten, CA Beckemeyer, DG Peshkin, KA Zimmerman  
Publication Date: 1994-6-1; ERES Consultants, Inc.  

Abstract:  
This Guide has been developed to introduce the cities of South Dakota to the concept of pavement management. The Guide includes background information on pavement management systems, as well as detailed information about a simple and easy-to-use system. Cities that implement the contents of this Guide will be able to start performing pavement management activities. This Guide has been developed specifically for cities of South Dakota, based on the needs and requirements that they themselves have expressed, and as such should be particularly well-suited to their needs. However, information is also presented that will allow cities whose needs advance beyond the capabilities of the system presented here to add or refine their capabilities. This Guide is one of three that have been developed to meet the needs of the cities. The "Pavement Condition Survey Guide for City Streets" presents information on evaluating pavement distresses, which is an integral part of a pavement management system, and the "Pavement Design, Maintenance, and Rehabilitation Guide for City Streets" compiles some appropriate pavement design and repair information for the needs identified through a pavement management analysis.

Practical Guide for Quality Management of Pavement Condition Data Collection  
Authors: Linda M. Pierce, Ginger McGovern, Kathryn A. Zimmerman  
Publication date: February 2013; U.S. Department of Transportation, Federal Highway Administration  

Abstract:  
An effective pavement management system depends on reliable, accurate, and complete information. Having quality pavement management data is directly linked to the ability of the pavement management system to contribute to the development of reasonable and reliable recommendations and decisions regarding an agency’s pavement network. Pavement condition data are one of the key components of a pavement management system. Pavement condition data are used to model pavement performance, to trigger various actions ranging from maintenance to rehabilitation to reconstruction, to evaluate program effectiveness, and to satisfy many other purposes. While there are many different methodologies used for assessing pavement condition, ranging from manual surveys to fully automated procedures, the need for quality data remains the same. Agencies take a number of steps to ensure and verify data quality, including calibration of the data collection equipment or the inspection teams, incorporating quality control sections that are re-inspected to assess repeatability, and verifying reasonableness and completeness of the pavement condition survey. The ability to evaluate and determine the quality of pavement condition data is essential for establishing the accuracy and reliability of analyses made using pavement condition data. The Federal Highway Administration (FHWA) sponsored the development of a Practical Guide on Quality Management Procedures for network-level pavement condition data. The Practical Guide provides information related to the development and implementation of a QM program, incorporating
proven QM practices, and showcasing examples or case studies using pavement condition data from a variety of state DOTs.

Standard Guide for Pavement Management Implementation: Active Standard ASTM E1889 (Contact the library for the full text)
Authors: Subcommittee E17.42 on Pavement Management and Data Needs
Publication date: 2015: ASTM (American Society for Testing and Materials)

Abstract:
This guide covers basic procedures to follow in implementing an effective pavement management process. Pavement management includes activities and decisions related to providing and maintaining pavements, many of which must be made with supporting information that should be generated from a pavement management system (PMS). Implementation is considered complete when pavement management is a routine part of the management process, and the agency utilizes the pavement management process to make relevant decisions, including funding decisions.

A Pavement Management Primer
Author: Katie Zimmerman
Publication date: Undated: Applied Pavement Technology, Inc.

No abstract available.
This is a PowerPoint presentation presented to a Graduate Transportation Seminar

Local Agency Pavement Management Application Guide
Author: Margaret Broten
Publishing date: December 1996: The Northwest Technology Transfer Center

From the Introduction:
This guide should serve as a tool to assist local agencies in utilizing a pavement management system (PMS) to its fullest extent. It was developed to serve as a companion guide to the previously published A Guide for Local Agency Pavement Managers, which provides an excellent framework for implementing a PMS. This guide focuses on how to maximize the benefits of a PMS once it has been implemented.

A Guide for Local Agency Pavement Managers
Author: The Pavement Management System Guidebook Review Team
Publishing date: December 1994: The Northwest Technology Transfer Team

Introduction:
This guide is meant to serve as a tool to assist agencies in understanding how a pavement management system (PMS) functions and how to implement one. The guide combines an explanation of the various PMS components and other supporting materials to help local agencies understand and implement a system that will work for them. Many local agencies are implementing a PMS in an effort to maximize their effectiveness and efficiency in roadway management. PMS can be extremely helpful to engineers and technicians responsible for maintenance and rehabilitation of their roadways, and to public works directors, engineers, and managers who must know the costs and justify them.
GUIDE: Pavement Management – Lucity Support Center
Author: Jonathan Semones
Publication date: June 10, 2016

The Lucity Pavement Management Modules are designed to define road sections and groups for pavement maintenance, track pavement condition, model the future condition of the road, and identify needed repairs.

South Dakota City Street Needs Assessment. Final Report. (Contact the library for the full text)
Authors: CA Beckemeyer, DG Peshkin
Publication Date: 1994-7-18

Abstract:
This report identifies the current and forecasted 20-year funding needs necessary to maintain the State of South Dakota's existing Federal-aid non-state city streets. This study was sponsored by the South Dakota Department of Transportation (SDDOT) as a result of the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA) passed by the United States Congress in 1991. Included in this study were interviews with representatives from several South Dakota cities, the SDDOT, and the Federal Highway Administration. The development of a series of guidelines was also performed as part of this study. The guidelines consist of a "Pavement Condition Survey Guide", a "Pavement Design, Maintenance, and Rehabilitation Guide", and a "Pavement Management Guide". These guides are included in separate documents. The "Pavement Condition Survey Guide" was also utilized to survey a representative sample of South Dakota's city streets and obtain an indication of their current condition. The funding needs for South Dakota's city streets were determined using the results of the pavement condition surveys, the "Pavement Design, Maintenance, and Rehabilitation Guide", and the "Pavement Management Guide". The results of this study indicate that the State of South Dakota needs approximately $113,000,000 over the next 20 years to maintain its existing 414.6 miles (667.1 km) of Federal-aid non-state city streets.

Author: AASHTO
Publication Date: 2015

Note: Per AASHTO licensing agreement this digital publication is available only to MnDOT staff. Contact the library for assistance in accessing this publication.

Summary:
This web-based publication is meant to be a 'one-stop shop' for pavement engineering. An in-depth discourse on the structural pavement design analysis for each pavement type, with particular attention paid to Mechanistic-Empirical techniques, is discussed in Chapters 2 through 5. The impact of surface properties on friction, ride, and safety are also thoroughly explained. Chapter 6 focuses on pavement type selection strategies, including life-cycle costs. Methods of construction for various pavement types are covered in Chapter 7. Then Chapters 8 through 11 discuss the testing and evaluation of existing pavements, detail treatments for existing pavements, and summarize performance expectations for each treatment. Chapter 12 outlines methods of analysis and data collection used to help optimize a pavement's design life. Chapter 13 closes the Pavement Handbook with a thoughtful discussion of the pavement caretaker's role in selecting and re-using materials for environmentally sustainable design." -- publisher description.