Sustainable Winter Road Operations
Xianming Shi (Editor), Liping Fu (Editor)

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DESCRIPTION

The first and only comprehensive guide to best practices in winter road operations

Winter maintenance operations are essential to ensure the safety, mobility, and productivity of transportation systems, especially in cold-weather climates, and responsible agencies are continually challenged to provide a high level of service in a fiscally and environmentally responsible manner.

*Sustainable Winter Road Operations* bridges the knowledge gaps, providing the first up-to-date, authoritative, single-source overview and guide to best practices in winter road operations that considers the triple bottom line of sustainability.

With contributions from experts in the field from around the world, this book takes a holistic approach to the subject. The authors address the many negative impacts on regional economies and the environment of poorly planned and inadequate winter road operations, and they make a strong case for the myriad benefits of environmentally sustainable concepts and practices. Best practice applications of materials, processes, equipment, and associated technologies and how they can improve the effectiveness and efficiency of winter operations, optimize materials usage, and minimize cost, corrosion, and environmental impacts are all covered in depth.

- Provides the first up-to-date, authoritative and comprehensive overview of best practices in sustainable winter road operations currently in use around the world
- Covers materials, processes, equipment, and associated technologies for sustainable winter road operations
• Brings together contributions by an international all-star team of experts with extensive experience in designing, implementing, and managing sustainable winter road operations

• Designed to bring professionals involved in transportation and highway maintenance and control up to speed with current best practice

*Sustainable Winter Road Operations* is essential reading for maintenance professionals dealing with snow and ice control operations on highways, motorways and local roads. It is a valuable source of information and guidance for decision makers, researchers, and engineers in transportation engineering involved in transportation and highway maintenance. And it is an ideal textbook for advanced-level courses in transportation engineering.

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**ABOUT THE AUTHOR**

The Editors

Xianming Shi, PhD, PE is an Associate Professor of Civil and Environmental Engineering at Washington State University, Pullman, Washington. He is an Associate Director at the Center for Environmentally Sustainable Transportation in Cold Climates (CESTiCC) and the Center for Advanced Multimodal Mobility Solutions and Education (CAMMSE). His research focuses on reducing the environmental footprint of infrastructure deterioration and enabling sustainable roadway maintenance and operations.

Liping Fu, PhD is a Professor in the Department of Civil and Environmental Engineering at the University of Waterloo, Waterloo, Ontario. He is also an Adjunct and Visiting Professor at Wuhan University of Technology and Southwest Jiaotong University. His research focuses on winter road maintenance, ITS, and road and rail safety and operations.

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