SNOW AND ICE CONTROL MANUAL FOR TRANSPORTATION FACILITIES

Though there has been a low level of research into improved techniques and equipment for snow and ice control since the end of World War II in the United States, and to a greater extent in Europe and Scandinavia, it wasn’t until the last decade of the twentieth century was well advanced that a concerted effort to address this deficiency was initiated. Annual costs of snow and ice removal and control have been climbing for many years and now total well over $2 billion in the United States. With costs becoming an increasing burden, government agencies both large and small have realized that the lagging technology must be improved to cope with the increasing demands for more efficient operations. Research has now resulted in better designs of equipment for the removal task. New technologies have introduced new practices which are now reducing the deleterious environmental consequences of the massive amounts of chemicals once used for deicing. The technology of snow and ice control is not static. Therefore the emphasis of this book is on the fundamentals of snow and ice control, that is, the available technology and the scientific underpinnings of that technology, rather than a cookbook account of what actions to take or what procedures to follow. In our view, this will better prepare those most intimately involved with the critical task of ensuring the best performance of our transportation systems under adverse winter conditions. The goal is to provide the reader with a firm foundation that will enable him or her to assess the value of current and proposed equipment and techniques.

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Snow and ice control is performed as necessary to facilitate the safe, effective and efficient move-ment of people and goods in accordance with best management practices. What are best management practices for effective snow and ice control? Although many factors are involved, tim-ing is critical. The time and effort required to plow or clear roadways dramatically increases once snow and ice bond to the roadway. Operations u safety u training u weather forecasting. Snow and Ice Control Operations Manual. 1-5. TxDOT 01/2017. Yet, conventional anti-icing agents are not without shortfalls and are plagued by growing concerns over their corrosion effect on metals, destructive impact on concrete and asphalt, and toxicity to aquatic resources. Compared to deicing and sanding, anti-icing leads to an improved level of service, a reduced need for chemicals and associated cost savings, and safety and mobility benefits. Agencies are constantly seeking alternatives that maximize the benefits of acetates and agro-based products while minimizing their drawbacks. The exploration of biobased renewable additives for anti-icing applications would also add value to agricultural by-products and stimulate local economies. About This Project.