TRB Low-Volume Roads (LVR) Literature

Since the early 1970s, Transportation Research Board (TRB) has shown great interest in low-volume roads, which are generally unsealed, gravel-covered roads. These roads are the first links in the transportation network that bring products of farm to market, minerals and timber from remote areas to processing plants, and provide access to schools and medical facilities in rural areas. Recognizing this importance, TRB conducted the First International Conference on Low-Volume Roads in 1975. TRB has organized and conducted a conference in the TRB Low-Volume Roads Conference series every four years since then. The conferences in this series are sponsored by the TRB standing Committee on Low-Volume Roads and have financial support from the following federal agencies in the USA: Federal Highway Administration, Forest Service, Bureau of Indian Affairs, and Army Corps of Engineers. For the recent conferences, Environmental Protection Agency and Fish and Wild Life Services have come on board as financial sponsors.

This document provides a summary of published TRB literature related to low-volume roads in the past five years (2003 to 2008).

TRR 1819 - Eighth International Conference on Low-Volume Roads 2003

Transportation Research Record: Journal of the Transportation Research Board 1819 is a two-volume set that compiles the 94 papers presented at the Eighth International Conference on Low-Volume Roads in Reno, Nevada, June 22-25, 2003. Volume 1 includes papers addressing management and planning, technology transfer, erosion and safety training, and environmental and ecological issues. Volume 2 includes papers on soil stabilization, materials, pavements, structures, and drainage. [Also available in print, CD-ROM, and print/CD-ROM set]

TRR 1819: Volume 1
TRR 1819: Volume 2

TRR 1913, Geology and Properties of Earth Materials 2005
(includes low-volume roads 3 papers)

Development of Surfacing Criteria for Low-Volume Roads in South Dakota
Angela S. Wolters, Kathryn A. Zimmerman, David L. Huft and Paul A. Oien

Guidelines for Prime Coat Usage on Low-Volume Roads
Stephen A. Cross, Michael D. Voth and Pramen P. Shrestha

Can Spring Load Restrictions on Low-Volume Roads Be Shortened Without Increasing Road Damage?
Maureen A. Kestler, Richard L. Berg and John E. Haddock

TRR 1967, Geology and Properties of Earth Materials 2006
(includes low-volume roads 7 papers)

Implementation of Spring Load Restrictions Using a Deflection-Calibrated Thaw Index
Stephen N. Goodman

Estimating Thermal Conductivity of Pavement Granular Materials and Subgrade Soils
Jean Côté and Jean-Marie Konrad
TRB Low-Volume Roads (LVR) Literature

Hauling with Full Axle Weights and Reduced Tire Pressures on Weight-Restricted Roads in British Columbia
Allan H. Bradley

Duration of Spring Thaw Recovery for Aggregate-Surfaced Roads
Rebecca A. Embacher

Effectiveness of Open-Graded Base Layer on Subgrade Moisture Regime and Overall Pavement Performance
Hassan Salem, Fouad Bayomy, Robert Smith and Magdy Abdelrahman

Safety and Cost-Effectiveness of Approach Guardrail for Bridges on Low-Volume Roads
Tim J. Gates, David A. Noyce and Paul H. Stine

Safety Effectiveness of Stop Control at Ultralow-Volume Unpaved Intersections
Reginald R. Souleyrette, Ryan J. Tenges, Thomas McDonald, T. H. Maze and Alicia Carriquiry

TRB’s Transportation Research Record: Journal of the Transportation Research Board, No. 1989 is a two-volume set that includes more than 80 papers exploring various aspects of low-volume roads, including planning, asset management, environment, design, technology transfer and recycled and waste material, maintenance, dust control, structures, stabilization, geotechnology, geosynthetics, materials, pavement, and construction.

TRR 2016, Geology and Properties of Earth Materials 2007
(includes low-volume roads 2 papers)

Initial Findings on Skid Resistance of Unpaved Roads
Jeremy D. Lea and David J. Jones

Gravel Roads Surface Performance Modeling
George Huntington and Khaled Ksaibati

TRR 2053, Geology and Properties of Earth Materials 2008
(includes low-volume roads 3 papers)

Development of Frost and Thaw Depth Predictors for Decision Making About Variable Load Restrictions
Sarah Baïz, Susan L. Tighe, Carl T. Haas, Brian Mills, and Max Perchanok

Evaluating Climate Change Impact on Low-Volume Roads in Southern Canada
Susan L. Tighe, James Smith, Brian Mills, and Jean Andrey

Sensor Technology for Decision Support of Spring Load Restrictions
Xinbao Yu, Nina Liu, Xiong (Bill) Yu, and Ning Li

TRB's TRR Online service allows all visitors to identify papers of interest and review abstracts of those papers. Access to the full papers is available to service subscribers and employees of TRB sponsors. Papers may also be purchased on an individual basis.

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