

Executive Summary

The rapid progress of motorization has been an important factor in our country's economic development. However, a negative aspect of this has been the large number of traffic accidents. Traffic safety is one of the most serious challenges of our modern world. Road accidents can range from serious, life-threatening ones to less injurious ones, but the aftereffects tend to be serious. When we consider the adage that the human life is the most precious thing on Earth, the reduction of fatal accidents can be regarded as our most important challenge.

A prominent feature of the traffic accidents in Hokkaido is the high number of fatalities. This receives constant social attention. We at the Civil Engineering Research Institute for Cold Region have conducted detailed analyses of accidents in Hokkaido, toward developing effective countermeasures. One outcome of this is the development of rumble strips, the focus of this report. This document addresses the high number of serious accidents on the two-lane highways in Hokkaido that carry the bulk of traffic between cities which tend to be widely separated here. We propose countermeasures against inattentive driving, which is considered to be the main cause of head-on collisions and run-off-the-road accidents.

While drawing lessons from installations in the United States, we also consider the road traffic conditions of Japan (vehicle speeds, the prevalence of bicycle and motorcycle traffic, and the like). In light of these conditions, we have developed appropriate standards for rumble strips and low-cost methods for their installation.

The measures described herein have been reviewed with respect to human factors and have undergone pilot installation on test tracks and roads in service. They have already had an impact in Hokkaido and elsewhere in Japan and overseas, and they epitomize the social contributions our research has been achieving.

It is our sincere hope that the *Rumble Strip Installation Guidelines* will be used by ever-greater numbers of road administrators, and that the document will contribute to the reduction of road accidents within and beyond our country.

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