

Chapter 1. Basic Principles

1-1 Background of the Guidelines

In each of the 13 years leading up to 2004, Hokkaido had more traffic fatalities than any other prefecture in Japan. Fatal head-on collisions account for a particularly high share of road accidents in Hokkaido – about twice that for the rest of Japan. There has been a sense of urgency about finding ways to reduce fatalities.

Measures against head-on collisions include median strips, center poles and chatter bars. However, because of their high cost of installation, median strips are used only in specially designated locations, such as at sharp curves. Center poles and chatter bars hinder snow removal in Hokkaido. This means that the bars must be removed and reinstalled each season. For this reason, convex or otherwise protruding devices are not widely used for accident prevention. The Civil Engineering Research Institute for Cold Region (CERI) has been studying rumble strips, which are commonly used on U.S. highways to prevent cars from veering, as something that might overcome these problems and effectively prevent head-on collisions. As study results indicated that installation of rumble strips at centerlines and shoulders would effectively reduce head-on collisions and run-off-the-road accidents, it became necessary to develop appropriate guidelines for planning and installation.

This draft guideline provides the basic theory, specifications and methods for installation, as well as cautions for installation, toward popularizing rumble strips.

Explanation

● Traffic Accidents in Hokkaido

In Hokkaido, the population is widely dispersed and freeways are underdeveloped. Transportation of people and goods relies heavily on national highways. Drivers tend to speed on national highways in rural areas, which are often undivided two-lane roads. Accidents on such roads tend to be fatal. Most of the traffic fatalities in rural Hokkaido are from head-on collisions and run-off-the road accidents. In Hokkaido, 20% of traffic fatalities are from head-on collisions, a percentage that is almost twice that for the rest of Japan.

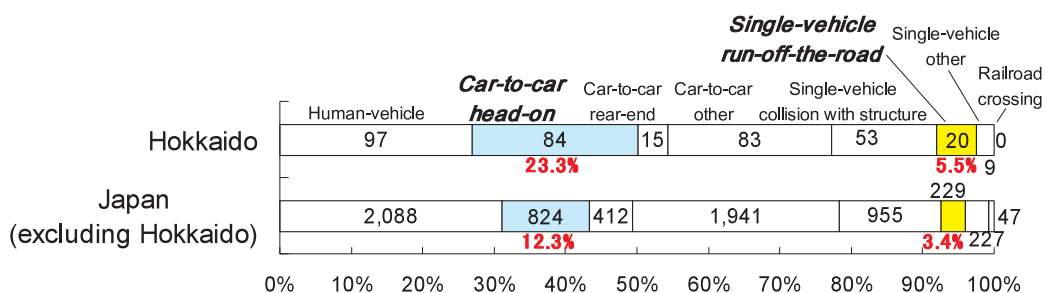


Figure 1-1: Fatalities by accident type: Hokkaido vs. the rest of Japan

Numbers are fatal accidents