

H-223

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: March 12, 1980

Forwarded to:

Honorable John S. Hassell, Jr.
Deputy Administrator
Federal Highway Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

H-80-21 through -23

The Safety Board has concluded a special study ^{1/} which represents the first phase of our continuing safety objective to seek nationwide improvements in skid resistance standards. The study identified the magnitude, location, and characteristics of fatal accidents on wet pavement by analyzing national accident and weather data. The method used is unique on a nationwide basis, although similar approaches have been used statewide in California, Michigan, and Arizona. The data surprisingly indicated that fatal accidents on wet pavement occur about four times more often than might be expected. The data also identified States which had a significantly higher than expected percentage of fatal accidents on wet pavement compared to the percentage of time the pavement was wet.

The second phase of the safety objective included, in part, the survey of the highway/pavement skid-resistance programs in 10 States. The complete results of this survey are currently being analyzed. However, a few of the findings from this survey were used to highlight examples of how accident and weather data can be a valuable safety management tool. In this special study, the Safety Board determined that most States generally do not use hourly surface weather reports as a tool to identify areas in need of improvement. If these weather data were incorporated into State programs as a management tool, a more accurate benefit/cost analysis and before-and-after evaluation could be made. Some State highway officials said that they were not aware of wet-pavement accident problems within their States. However, our data indicate that most States have a high percentage of fatal accidents on wet pavement compared to the calculated approximate percentage of time the pavement is wet. The Safety Board believes that those States with a significantly higher rate of fatal accidents on wet pavement than might be expected should adopt more progressive programs to reduce the number of wet-pavement accidents.

^{1/} For more detailed information, read "Special Study--Fatal Highway Accidents on Wet Pavement--The Magnitude, Location, and Characteristics" (NTSB-HSS-80-1).

Finally, the study suggests that wet-pavement accidents may increase where low void ratio designs are used in mixing the roadway surface materials, and illustrates that wet-pavement accidents occur more often than expected within a particular belt of the country. The aggregates available for roadway surface materials in this region are within one geological formation that is known to have inferior aggregates. The statistics also noted that more accidents occur on wet pavement at night where artificial light is used.

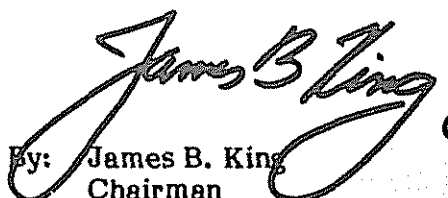
Therefore, the National Transportation Safety Board recommends that the Federal Highway Administration:

In conjunction with the National Oceanic and Atmospheric Administration, provide weather data to Federal, State, and local agencies, and promote and use these data to reduce accidents on wet pavement. (Class II, Priority Action) (H-80-21)

Promote further research into the relationship of wet-pavement accidents (1) to low void ratios in pavement surface mixes, (2) to highway construction materials, and (3) to artificial light conditions. (Class III, Longer Term Action) (H-80-22)

Test the use of the Wet Fatal Accident Index (WFAI) as an aid to identify and evaluate State programs aimed at reducing accidents on wet pavement. (Class III, Longer Term Action) (H-80-23)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and BURSLEY, Members, concurred in these recommendations. GOLDMAN, Member, did not participate.


By: James B. King
Chairman