UNITED STATES OF AMERICA
NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: August 26, 1971

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D. C.
on the   18th   day of August, 1971

FORWARDED TO:)
)
Governor Milton Shapp   )
State of Pennsylvania   )
Harrisburg, Pennsylvania   )
)
)

SAFETY RECOMMENDATION NUMBER H-71-50 thru 53

On August 4, 1971, there was a series of four highway accidents,
involving five tractor-semitrailers and one automobile, on eastbound
Interstate 80 at Brookville, Pennsylvania. Since January 1, 1971, there
have been 16 other crashes at this same site. Of the 20 crashes this year,
13 occurred on wet pavement. One fatality has occurred.

The National Transportation Safety Board has the authority under the
Department of Transportation Act (49 USC 1654(b)(1)), to investigate se-
lected highway accidents, to determine their causes and to make recommenda-
tions to those agencies which can take the necessary action that will prevent
similar crashes in the future.

Preliminary investigation by the Safety Board of the August 4th ser-
ies of accidents has shown that:

1. The pavement at the accident site had a "skid number" (measure of
    its wet skid resistance), as found by the Federal Highway Administra-
    tion in skid tests made on August 10 and 11, 1971, to be below a safe
    level. This portion of the highway has been in use several years,
    but only since I-80 has been open all the way has traffic volume
    been significant. A large percentage of the traffic is trucks, which
    may accelerate the polishing of highway surfaces;

2. Other sections of Interstate 80, where similar accidents have been
    occurring, have been found to have similarly low skid numbers when
    wet;

3. The left (median) shoulder of the eastbound bridge approach is un-
    paved, and has a dropoff of some 3 inches in places. This condition

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can tend to initiate loss of control or to compromise the regaining
of control when vehicles stray off the pavement;

4. The 85-percentile speed of trucks on the bridge approach has been
    found recently to be about 64 miles per hour, which means that
    15 percent of the trucks are going over 64 miles per hour on this
    section. Such a speed must be considered unreasonably high in an
    area where the truck speed limit is 55 m.p.h., and where an advisory
    sign recommends a safe speed of 45 m.p.h. in wet weather. It was
    observed that trucks tend to build up speed on the downgrade ap-
    proaching the bridge in order to climb the 3 percent grade east of
    the bridge. A combination of turns, with the very low skid number,
    increases the likelihood of skidding and loss of control when braking
    (or other evasive action) occurs. On August 4, 1971, three of the
    four crashes occurred as a result of skidding in attempting to evade
    the crash or crashes ahead.

The National Transportation Safety Board, therefore, recommends that the
State of Pennsylvania take the following action:

1. Increase the skid resistance of the affected portion of Interstate
    80 to bring it up to a safe level;

2. Test the skid resistance along other suspected slippery portions of
    Interstate 80 (where a high incidence of wet-weather accidents has
    been noted);

3. Pave the left (median) shoulder on the approach curve to the south
    Brookville bridge;

4. Increase the enforcement of speed limits, and particularly on trucks
    exceeding the speed limit.

The Safety Board's action in this instance has been prompted by a desire
to bring official attention to bear on a highly hazardous situation which
could produce a major tragedy such as that involving the skidding of a char-
tered bus off Interstate I-78 (U. S. 22) near New Smithville, Pennsylvania,
on July 15, 1970.

This recommendation will be released to the public on the issue date
shown above. No public dissemination of the contents of this document should
be made prior to that date.

Reed, Chairman; McAdams, Thayer and Burgess, Members, concurred in the
above recommendations. Laurel, Member, was absent, not voting.

By: Isabel A. Burgess
     Acting Chairman