

land Waterways, California, Pacific Northwest, or east coast, seem to have the most potential for accidents of this type. The recent capsizing of a 14-foot outboard boat on May 26, off the coast of Maine, with loss of eight lives, is an example of this type of accident. Should several accidents occur in such areas involving a number of small open boats, you may wish to consider convening marine boards to review them during the current boating season. Lessons learned from such accidents in small boats, extensively publicized, could serve a useful accident prevention and safety promotion purpose in the fast growing but hazardous sport.

Sincerely yours,

JOSEPH J. O'CONNELL, Jr., *Chairman.*

APRIL 3, 1968.

HON. A. SCHEFFER LANG,
*Administrator, Federal Railroad Administration,
Department of Transportation, Washington, D.C.*

DEAR MR. LANG: The National Transportation Safety Board's review of data covering the last several years for train accidents shows progressively worsening trends in rates, occurrences, deaths, and damage. Furthermore, and especially disturbing, many train accidents in recent years have involved hazardous or poisonous materials, resulting in fires, or the escape of poisonous or hazardous materials followed by evacuation of populated areas. The latter collateral factors, coupled with a rising accident rate, increase the probability of catastrophic occurrences.

Total train accidents¹ increased from 4,149 in 1961 to 6,793 in 1966, up 63.7 percent, and according to preliminary figures increased to 7,089 in 1967, up 71 percent over 1961. Train accidents per million train-miles increased from 7.09 in 1961 to 11.29 in 1966, up 59.2 percent. Deaths in train accidents increased from 158 to 214, or by 35.4 percent. Reported loss and damage to lading in train accidents (which excludes rough handling) increased from \$9.3 million to \$18.6 million during the 1961-66 period, or up 100 percent; such loss and damage was up from \$15,800 to \$30,900 per million train-miles, or up 95.6 percent. Track and equipment damage reported in train accidents increased from \$50.4 million to \$99.0 million, up almost 100 percent; such track and equipment damage was up from \$86,200 to \$164,500 per million train-miles, or up 90.9 percent.

Derailments, the single most important cause of train accidents, increased from 2,671 in 1961 to 4,447 in 1966, up 66.5 percent, and the rate of derailments per million train-miles increased from 4.57 in 1961 to 7.39 in 1966, up 61.7 percent. Derailments, as the largest single cause of the 6,793 train accidents in 1966, accounted for 4,447 or about 65 percent of all train accidents in 1966, and over 80 percent of the damage to track and equipment. Collisions, the next most frequent cause, accounted for 1,552 or 23 percent of 1966 train accidents.

The Interstate Commerce Commission's "Accident Bulletin," now under jurisdiction of the Federal Railroad Administration, reflects in detail the primary causes of derailments, comparing 1961 with 1966. (See exhibit A.) Defects in or improper maintenance of way and structures accounted for 21.6 percent of all derailments in 1961 and this increased to 31.2 percent in 1966. Further, both in numbers and in proportion of total derailments, those caused by defects in or improper maintenance of way and structures have become an increasingly significant factor in derailments, increasing by 140 percent and by 44.5 percent respectively. Defects in or failure of equipment, on the other hand, though still the largest group of causes of derailments, had declined as a proportion of derailment causes from 47.5 percent in 1961 to 34.9 percent in 1966. Derailments charged to negligence of employees accounted for 12.3 percent of all derailments in 1961 and 12.4 percent in 1966, almost the same proportion, although the number of derailments caused by employee negligence increased by 68.1 percent.

Statistics as to derailments resulting from defects in or improper maintenance of way and structures, which resulted in train accidents, are set forth in detail in exhibit B. It clearly shows how progressively deteriorating track conditions are causing derailments.

The railroad accident picture is extremely serious. Furthermore, higher speeds, longer and heavier trains, and the growing carriage of deadly and hazardous materials may well increase the already serious consequences of unsafe practices.

¹ Excludes train-service and nontrain accidents.