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TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON

INTERSTATE AND FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

EIGHTY-SEVENTH CONGRESS

SECOND SESSION

ON

H.R. 133

A BILL TO AMEND TITLE III OF THE PUBLIC HEALTH SERVICE
ACT TO ESTABLISH A NATIONAL ACCIDENT
PREVENTION CENTER

FEBRUARY 6, 7, 8, 20, AND 21, 1962

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Committee on Interstate and Foreign Commerce



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TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

TUESDAY, FEBRUARY 6, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10:15 a.m., pursuant to notice, in room 1334, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

The CHAIRMAN. The committee will be in order.

The Subcommittee on Health and Safety is meeting today to begin hearings on H.R. 133, to establish a National Accident Prevention Center.

At this point, I want to insert in the record the bill and copies of agency reports.

(The bill referred to, H.R. 133, and agency reports follow:)

[H.R. 133, 87th Cong., 1st sess.]

A BILL To amend title III of the Public Health Service Act to establish a National Accident Prevention Center

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That title III of the Public Health Service Act is amended by adding at the end thereof the following new part:

"PART I—NATIONAL ACCIDENT PREVENTION CENTER

"PURPOSE AND ESTABLISHMENT OF CENTER

"SEC. 381. In order to assist in the advancement, dissemination, and exchange of knowledge relating to the cause and prevention of accidents, there is hereby established in the Public Health Service a National Accident Prevention Center (hereinafter referred to in this part as the 'Center').

"FUNCTIONS OF THE CENTER

"SEC. 382. In carrying out the purposes of this part the Surgeon General shall—

"(1) conduct, assist, and foster research, investigations, studies relating to the causes, and methods of prevention of accidents;

"(2) promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals;

"(3) make available research facilities of the Service to appropriate public authorities, and to health officials and scientists engaged in special studies related to the purposes of this part;

"(4) make grants-in-aid to universities, hospitals, laboratories and other public or private agencies and institutions for such research projects relating to the purposes of this part as are recommended by the Council, including grants to such agencies and institutions for the construction, acquisition, leasing, equipment, and maintenance of facilities necessary for such research;

"(5) establish an information center on causes and prevention of accidents, and collect and make available, through publications and other appropriate means, information as to, and the practical application of, activities carried on under this part;

"(6) secure from time to time, and for such periods as he deems advisable, the assistance and advice of persons from the United States or abroad who are experts in the field of accident prevention.

"ADMINISTRATION

"SEC. 383. (a) In carrying out the provisions of this part all appropriate provisions of section 301 shall be applicable to the authority of the Surgeon General and grants-in-aid for accident prevention and research and training projects shall be made only after review and recommendation of the Board made pursuant to section 384.

"(b) The Surgeon General shall recommend to the Secretary acceptance of conditional gifts, pursuant to section 501, for study, investigation, or research into the cause, prevention of accidents, or for the acquisition of grounds or for the erection, equipment, or maintenance of premises, buildings, or equipment necessary to carry out this part. Donations of \$50,000 or over for carrying out the purposes of this part may be acknowledged by suitable memorials to the donors.

"ACCIDENT PREVENTION ADVISORY BOARD

"SEC. 384. (a) (1) There is hereby established in the Public Health Service an Accident Prevention Advisory Board composed of the Surgeon General or an officer designated by him who shall be chairman, and twelve members appointed by the President none of whom shall be Federal officers or employees. The appointed members, having due regard for the purposes of this part, shall be selected from among representatives of various State, interstate, and local governmental agencies, of public or private interests affected by, or concerned with, accident prevention as well as other individuals who are expert in this field.

"(2) (A) Each member appointed by the President shall hold office for a term of four years, except that any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term. None of the members appointed by the President shall be eligible for reappointment within one year after the end of his preceding term.

"(B) Members of the Board who are not officers or employees of the United States, while attending conferences or meetings of the Board or while otherwise serving at the request of the Surgeon General, shall be entitled to receive compensation at a rate to be fixed by the Secretary of Health, Education, and Welfare but not exceeding \$50 per diem, including travel time and while away from their homes or regular places of business. They may be allowed travel expenses including per diem in lieu of subsistence as authorized by law for persons in the Government service employed intermittently.

"(b) The Board shall advise, consult with, and make recommendations to the Surgeon General on matters of policy relating to the activities and functions of the Surgeon General under this part.

"(c) Such clerical and technical assistance as may be necessary to discharge the duties of the Board shall be provided from the personnel of the Public Health Service.

"FUNCTIONS OF BOARD

"SEC. 385. The Board is authorized—

"(1) to review research projects or programs submitted to or initiated by it relating to the study of the cause and prevention of accidents, and certify approval to the Surgeon General, for prosecution under section 382, of any such projects which it believes show promise of making valuable contributions to human knowledge with respect to the cause and prevention of accident;

"(2) to collect information as to studies which are being carried on in the United States or any other country as to the cause and prevention of accidents, by correspondence or by personal investigation of such studies, and with the approval of the Surgeon General make available such information through the appropriate publications for the benefit of agencies and

organizations (public or private), or any other scientists, and for the information of the general public;

"(3) to review applications from any university, hospital, laboratory, or other institution, whether public or private, or from individuals, for grants-in-aid for research projects relating to the cause and prevention of accidents, and certify to the Surgeon General its approval of grants-in-aid in the cases of such projects which show promise of making valuable contributions to human knowledge with respect to the cause and prevention of accidents;

"(4) to recommend to the Surgeon General for acceptance conditional gifts pursuant to section 501 of this Act; and

"(5) to make recommendations to the Surgeon General with respect to carrying out the provisions of this part.

"APPROPRIATIONS

"SEC. 386. Appropriations to carry out the purposes of this part shall be available for the acquisition of land or the erection of buildings only if so specified, but in the absence of express limitation therein may be expended in the District of Columbia for personal services, stenographic recording and translating services, by contract if deemed necessary, without regard to section 3709 of the Revised Statutes; traveling expenses (including the expenses of attendance at meetings when specifically authorized by the Surgeon General); rental, supplies and equipment, purchase and exchange of medical books, books of reference, directories, periodicals, newspapers, and press clippings; purchase, operation, and maintenance of motor-propelled passenger-carrying vehicles; printing and binding (in addition to that otherwise provided by law); and for all other necessary expenses in carrying out the provisions of this part."

DEPARTMENT OF AGRICULTURE,
Washington, D.C., August 25, 1961.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. HARRIS: This is in reply to your request, received in the Department on February 9, for a report on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

The Department is interested in this matter and is devoting considerable effort to educational work on accident prevention. However, since H.R. 133 does not affect the activities of this Department, we have no recommendations regarding the passage of this bill.

The Bureau of the Budget advises that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

CHARLES S. MURPHY,
Acting Secretary.

DEPARTMENT OF THE AIR FORCE,
Washington, February 6, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the Department of Defense with respect to H.R. 133, 87th Congress, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center. The Secretary of Defense has delegated to this Department the responsibility for expressing the views of the Department of Defense.

The purpose of H.R. 133 is to establish in the Public Health Service a National Accident Prevention Center which would assist in the advancement, dissemination, and exchange of knowledge relating to the cause and prevention of accidents.

The Department of the Air Force is in no position to pronounce upon the necessity or even the desirability of creating a new bureau or division in the Public Health Service to carry on functions that will presumably duplicate, at

least in substantial part, certain functions now being performed in other Federal agencies, such as the Federal Aviation Agency, the Coast Guard, the Interstate Commerce Commission, or the Bureau of Mines. The Department of the Air Force, therefore, on behalf of the Department of Defense, respectfully refrains from expressing any opinion as to the merits on H.R. 133.

Enactment of H.R. 133 would not involve the expenditure of any Department of Defense appropriations.

This report has been coordinated within the Department of Defense in accordance with procedures prescribed by the Secretary of Defense.

The Bureau of the Budget has advised that there is no objection to the submission of this report.

Sincerely,

JOSEPH S. IMIRIE,
Acting Secretary of the Air Force.

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, D.C., February 3, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in reply to your request of February 9, 1961, for a report on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

The overall objective of H.R. 133, as we interpret its provisions, is to provide additional legislative authority to the Public Health Service to enable that agency to more effectively carry out its current accident prevention activities. This objective would be met by establishing a National Accident Prevention Center in the Public Health Service, by establishing an Accident Prevention Advisory Board, and by authorizing the Surgeon General, to carry out a broad range of research, control, promotional, coordinative, informational, and technical assistance functions.

The intent of the bill is not clear as to whether the National Accident Prevention Center is to be a specific organizational unit within the Public Health Service or whether a new facility is authorized for construction. The report you are receiving on this bill from the Department of Health, Education, and Welfare points out that the Public Health Service Act already provides broad authorization for establishment of organizational units and that the current flexibility thus afforded provides a better legislative basis for efficiently organizing service functions than would a specific statutory organizational unit.

With respect to authorizing the construction of a specific facility, the Public Health Service Act now provides broad authority for the construction of additional facilities when required to carry out Service programs, and therefore such specific authorization as may be intended by this bill would appear to be unnecessary.

Legislation now pending before your committee (H.R. 8398) provides for amending the Public Health Service Act by adding a new section 316 which would provide general authority for the Surgeon General to appoint such advisory committees as he deems desirable. Such authority could be used by the Surgeon General to meet the needs for expert advice in the accident prevention area, as well as in other program areas. We believe such general authority would be preferable to the specific statutory advisory committee provided for in H.R. 133.

With respect to the broad substantive program authorities for research, promotion, control, and other related activities which the bill would grant to the Public Health Service, the Department of Health, Education, and Welfare report points out that, with the possible exception of authority for training and special project grants, the existing statutory authority of the Public Health Service provides an adequate base for the development of Service programs in the field of accident prevention.

The activities of the Public Health Service in this field have expanded from a level of 5 employees and \$49,000 in 1957 to 146 employees and \$3.6 million in 1962 under the broad research and technical assistance authorities already available. In addition, the accident prevention program was raised to division status in the Bureau of State Services in 1961 and is headed by an Assistant Surgeon General. This substantial increase in the accident prevention activities

of the Public Health Service and the elevated organizational status of the program indicates that the Public Health Service has recognized the importance of the subject and has taken appropriate steps, as the principal Federal health agency, to make its proper contribution to the total Federal effort in accident prevention and safety.

Reports to your committee from a number of Federal agencies, including the Departments of Health, Education, and Welfare, Commerce, Labor and Interior, indicate serious concern that some parts of the bill raise questions of duplication and overlapping of authority and responsibility as between the Public Health Service and other Federal agencies. Without repeating the concerns detailed in the reports of other agencies, we would nevertheless agree in general that the bill, in its present form, appears to authorize the Public Health Service to engage in a number of activities now specifically authorized to be carried out by other Federal agencies, and also appears to authorize the Public Health Service to coordinate such activities. Such broad authority, by extending the role of the Public Health Service beyond its legitimate and particular concern in the field of accident prevention, would, in our opinion, be undesirable and would serve to unnecessarily complicate and burden the effective functioning of the overall Federal effort in accident prevention and safety.

Accordingly, while the Bureau of the Budget favors and has supported an effective Public Health Service program in accident prevention, we do not believe that any additional legislation is necessary at this time to enable the Service to develop and carry out its appropriate functions in this field. Further, we believe that the bill raises serious questions as to the relationships and responsibilities of the Public Health Service vis-a-vis other Federal agencies.

Sincerely yours,

PHILLIP S. HUGHES,
Assistant Director for Legislative Reference.

CIVIL AERONAUTICS BOARD,
Washington, D.C., February 20, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in further reply to your letter of February 9, 1961, asking the Board to comment on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

The proposed legislation would establish a new unit in the Public Health Service to be known as the National Accident Prevention Center. The functions of the center would be administered by the Surgeon General, who, among other things, would be authorized to conduct investigations and studies relating to causes and methods of preventing accidents.

It clearly appears that H.R. 133 proposes a very comprehensive program in relation to the cause and prevention of accidents. The Board looks with favor upon the general objective of the proposed legislation. While presumably not so intended, the coverage of the bill appears broad enough to include aircraft accidents which the Civil Aeronautics Board has the statutory responsibility of investigating under title VII of the Federal Aviation Act.

For this reason the Board would be opposed to the legislation in its present form. In order to preserve the jurisdiction of the Board and prevent undesirable duplication we recommend that a new section 387 be added to H.R. 133 reading substantially as follows:

"Sec 387. The provisions of this act shall not be deemed to modify or repeal any provisions of the Federal Aviation Act of 1958, or to limit in any way the functions of the Civil Aeronautics Board relating to accidents involving civil aircraft, or relating to studies and investigations on matters pertaining to safety in air navigation and the prevention of accidents. Nothing in this act shall authorize the Surgeon General or the Accident Prevention Advisory Board to perform any of the accident investigative functions which are the statutory responsibility of the Civil Aeronautics Board under the Federal Aviation Act of 1958 as now or hereafter amended."

Apart from the foregoing, we have no comment to make on the proposed legislation.

The Bureau of the Budget has advised that there is no objection to the submission of this report from the standpoint of the administration's program.

Sincerely yours,

ALAN S. BOYD, *Chairman.*

THE SECRETARY OF COMMERCE,
Washington, D.C., February 6, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in reply to your request for the views of this Department with respect to H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

The bill would establish in the Public Health Service a National Accident Prevention Center which would have certain powers and duties with respect to research and investigations relating to the causes and prevention of accidents. Our report is limited to the effect that enactment of the bill would have on traffic accident prevention.

Since legislation was first proposed to establish a National Accident Prevention Center within the Public Health Service, the need for such a center insofar as traffic accident prevention is concerned has been met by the establishment of the Interdepartmental Highway Safety Board and the Office of Highway Safety.

The Interdepartmental Highway Safety Board established by Executive Order 10898 on December 2, 1960, is composed of the Secretaries of Commerce, Defense, Labor, Health, Education, and Welfare, the Postmaster General, the Chairman of the Interstate Commerce Commission and the Administrator of General Services Administration. The functions and duties of the Board are to coordinate the traffic safety aspects of programs carried on by the departments and agencies of the Federal Government and to consult and cooperate with State and local officials having responsibility for traffic safety, national associations and the motor vehicle industry and others having any interest in safety standards, enforcement practices, accident records, traffic engineering, and safety education.

The Office of Highway Safety was established within the Bureau of Public Roads on December 6, 1961, to coordinate highway safety activities of Federal, State and private organizations and be responsible for a program to: gain public support of highway safety measures; coordinate the application of results of all public and private research in the highway safety field; establish and maintain highway safety promotional and advisory relations with State, local, industry, and allied groups; and promote the development and improvement of highway safety standards.

The functions of the proposed National Accident Prevention Center would, we believe, duplicate to a considerable extent the functions of the Interdepartmental Highway Safety Board and the Office of Highway Safety. In view of this, it appears unnecessary to establish such a center.

This Department believes that it is most appropriate that all Federal agencies principally concerned with safety participate in a combined attack on the problem of traffic accidents. However, this participation should be coordinated through one agency whose primary responsibility relates to highways and various aspects of motor vehicle traffic. The Office of Highway Safety is an organizational unit under the Bureau of Public Roads, which is responsible to the Secretary of Commerce. The Secretary of Commerce is also Chairman of the Interdepartmental Highway Safety Board. The Interdepartmental Highway Safety Board is in a position to improve the liaison among the units of the Federal Government that are engaged in closely related safety endeavors. It can develop a master plan for research on safety matters, for determining priorities, and recommending means for conducting needed programs. The Board, along with the President's Committee for Traffic Safety serving in an advisory capacity to the Board will have the necessary authority to develop a well-balanced, coordinated official program for highway safety.

For these reasons, the Department of Commerce does not favor the enactment of H.R. 133.

The Bureau of the Budget advised there would be no objection to the submission of this report from the standpoint of the administration's program.

Sincerely yours,

EDWARD GUDEMAN,
Acting Secretary of Commerce.

GENERAL SERVICES ADMINISTRATION,
Washington, D.C., February 6, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: Your letter of February 9, 1961, requests the views of the General Services Administration on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

GSA is currently represented on the Federal Safety Council established by Executive Order 10194 of December 19, 1950, to advise the Secretary of Labor on the development and maintenance of safety organizations and programs in the Federal Government. The Council also establishes criteria, standards, and procedures designed to eliminate work hazards and health risks, and to prevent injuries and accidents in Federal employment.

In addition to the activities of the Federal Safety Council, the Secretary of Labor is engaged currently in developing and promoting standards of industrial safety and health, and in asserting the several States in the preparation of industrial safety codes and development of statewide accident prevention programs.

The subject bill, H.R. 133, proposes to establish a National Accident Prevention Center in the Public Health Service of the Department of Health, Education, and Welfare. The functions of the proposed National Accident Prevention Center appear to overlap those already vested in the Secretary of Labor. It is the view of GSA that the functions prescribed by the subject bill are more closely related to conditions of employment than to problems of health.

Although GSA is in full accord with the objectives of H.R. 133, we do not favor enactment of this bill in its present form for the reasons stated above.

It is not anticipated that H.R. 133, if enacted, would have any financial effect upon GSA operations.

The Bureau of the Budget has advised that, from the standpoint of the administration's program, there is no objection to the submission of this report to your committee.

Sincerely yours,

ROBERT T. GRIFFIN,
Acting Administrator.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
Washington, February 6, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: This letter is in response to your request of February 9, 1961, for a report on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

The bill would establish a National Accident Prevention Center in the Public Health Service. It would authorize the Surgeon General to conduct and foster research in the causes and methods of preventing accidents; to promote the coordination of research and control programs conducted by public and private agencies and individuals; to make available the research facilities of the Service to others; to make grants-in-aid to universities, hospitals, laboratories, and other public or private agencies for research projects in accident prevention, including grants for constructing, acquiring, leasing equipping, and maintaining research facilities; to establish an information center and make available information on the causes and prevention of accidents; and to secure the assistance and advice of persons from the United States or abroad who are experts in the field of accident prevention.

The bill would also establish in the Public Health Service an Accident Prevention Advisory Board composed of the Surgeon General as Chairman and 12 members appointed by the President. The Board would have responsibility for advising the Surgeon General on matters of policy relating to the accident prevention activities of the Service; for reviewing and recommending action on applications for research grants; and for collecting and disseminating information on studies being carried out as to the cause and prevention of accidents.

The primary objective of H.R. 133, as we interpret its provisions, is to specify the role and responsibilities of the Public Health Service in the field of accident prevention. We are entirely in accord with this objective.

The toll of injuries, deaths, and economic loss resulting from accidents in the United States is one of the major health problems, affecting the American people today. Accidents are the leading cause of death among persons from 1 to 35 years of age. In the 15-to-25 age group, accidents account for more deaths than all other causes combined. It is therefore essential that the Public Health Service, as the principal health agency of the Federal Government, concern itself with this major health problem and, in cooperation with other Federal agencies with substantial interests in the problem, make full use of its resources in developing improved protection against this major cause of death and disability.

The activities of the Public Health Service in the field of accident prevention have been substantially increased during the last year under the existing broad research and technical assistance authorities in the Public Health Service Act. Much more remains to be done by the Public Health Service as well as by many other governmental and nongovernmental groups, however, in order to determine the causes and develop the preventive techniques which will be necessary for a fully effective national accident prevention program.

For the most part, the existing statutory authority of the Public Health Service provides an adequate base for the development of Service programs in the field of accident prevention. The only additional authorities which may be needed are for training grants and for special projects to stimulate the development or demonstration of new methods of accident prevention and control.

The present provisions of H.R. 133 would serve the useful purpose of highlighting the functions of the Service with specific reference to accident prevention. There are, however, a number of features of the bill which we believe should be modified or clarified.

It is not clear, for example, whether the intent of the bill is to establish an organizational unit in the Public Health Service called the National Accident Prevention Center or whether what is contemplated is to authorize the construction of a facility to be known by that name. The Public Health Service Act already provides broad authorization for the Surgeon General with the approval of the Secretary, to establish organizational units below the bureau level. The current flexibility of organizational arrangement provides, we feel, a better legislative basis for efficiently organizing the functions of the Service than would a requirement for the establishment of a statutory organizational unit. The act also now provides authority to construct facilities as they become needed to carry out Service programs.

We are also concerned that some parts of H.R. 133 are so broadly stated as to raise a possible issue of duplication of authority and responsibility of other Federal agencies. Accident prevention in its broadest sense is a legitimate and necessary concern of many Federal departments. The Public Health Service has a particular concern for the protection and promotion of health, of which accident prevention is an essential part. We feel, however, that it should be made clear in the legislation that the responsibilities assigned to the Public Health Service do not supersede or repeal the authorities of other Federal agencies for accident prevention activities within their own areas of responsibility. In this connection, it would also be preferable to authorize the Surgeon General to establish and appoint an advisory committee on accident prevention to advise him in the administration of the Public Health Service's accident prevention activities rather than to require the establishment of an Accident Prevention Advisory Board appointed by the President.

In summary, we are in accord with the overall objectives of H.R. 133. We shall be happy to provide such technical assistance as your committee may wish in developing legislation pertaining to the role and functions of the Public Health Service. We would defer to the views of other interested departments and agencies, however, with respect to their functions and responsibilities in the field of accident prevention.

We are advised by the Bureau of the Budget that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely,

ABE RUBICOFF, *Secretary.*

U.S. DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY,
Washington, D.C., February 7, 1962.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR MR. HARRIS: Your committee has requested a report on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

We make no recommendation regarding the enactment of the bill, but if it is favorably considered we recommend that it be amended to make it clear that it does not duplicate the functions of the Bureau of Mines.

The bill proposes to establish with the Public Health Service a National Accident Prevention Center. Its purpose would be to assist in the advancement, dissemination, and exchange of knowledge relating to the cause and prevention of accidents.

The concept of a National Accident Prevention Center may have merit, but we question the advisability of its establishment in the Public Health Service which deals primarily with environmental control of health problems. Much of the research activities connected with the cause and prevention of accidents appears to be more nearly associated with the field of engineering than with the medical profession.

In its present form the bill would duplicate activities conducted by our Bureau of Mines. The Bureau of Mines is charged under its organic act to function as follows: "To conduct inquiries and scientific and technologic investigations concerning mining, and the preparation, treatment, and utilization of mineral substances with a view to improving health conditions, and increasing safety * * * in the mining, quarrying, metallurgical, and other mineral industries; * * * and to disseminate information concerning these subjects * * * (37 Stat. 681, 30 U.S.C. 3).

Since its establishment in 1910, the advancement of health and safety, collection of data on causes of accidents, and the conduct of educational programs in accident prevention in the mineral and allied industries, and in mines in particular, have been responsibilities of major concern to the Bureau of Mines. The Bureau has built up and maintains a staff which is incomparably expert in these fields and which is not duplicated in any other agency. The success of the Bureau in collection of data on causes of accidents and in accident prevention training in the mineral industries, which is based on these data and on results of investigations and technical research by the Bureau has long been recognized by the Congress, by other agencies of the Federal and State Governments, and also by the mineral industries.

The accident prevention problems of the mineral industries in underground operations are peculiar to those industries and not susceptible to attack by techniques applicable in industries operating surface installations. This was recognized by the Congress in the legislation creating the Bureau of Mines and in subsequent legislation that conferred inspection and enforcement authority upon the Bureau in respect to its safety program in coal mines. See the Federal Coal Mine Safety Act, May 7, 1941 (55 Stat. 177; 30 U.S.C. 451), as amended July 16, 1952 (66 Stat. 692; 30 U.S.C. 471). This act provides that the Bureau shall collect and report data on accidents in coal mines that result in personal injury. The Public Health Service also recognizes these facts as demonstrated by a memorandum of understanding dated November 8, 1956, and still in effect, which provides that the Public Health Service shall conduct the medical phases of health studies in the mineral industries and the Bureau of Mines shall conduct the engineering phases of such health and safety studies.

The present health and safety activities of the Bureau of Mines require the efforts of about 700 employees and an annual expenditure of \$6,782,000 (fiscal year 1961). These activities embrace all the functions of the proposed National Accident Prevention Center with respect to the mineral industries, except for the authority to make grants-in-aid under section 382 (4) of H.R. 133. The Bureau has never found such authority necessary for the effective conduct of its programs for collection of data on accidents and for prevention of accidents, and

is not convinced that such grants would contribute significantly to the results of these programs.

In the circumstances, we believe the Bureau of Mines is in a superior position to continue to provide and evaluate Federal participation in accident prevention programs relating to the mineral industries, and we therefore strongly urge that if this bill is favorably considered by the committee the mineral industries should be expressly excepted.

The Bureau of the Budget has advised that there is no objection to the presentation of this report from the standpoint of the administration's program.

Sincerely yours,

JOHN M. KELLY,
Assistant Secretary of the Interior.

INTERSTATE COMMERCE COMMISSION,
Washington, D.C., March 24, 1961.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR CHAIRMAN HARRIS: Your letter of February 9, 1961, addressed to the Chairman of the Commission and requesting comments on a bill, H.R. 133, introduced by Congressman Roberts, to amend title III of the Public Health Service Act to establish a National Accident Prevention Center, has been referred to our Committee on Legislation. After consideration by that committee, I am authorized to submit the following comments in its behalf:

H.R. 133 would amend the above-mentioned act, so as to establish a National Accident Prevention Center in the Public Health Service. In brief, the functions of the proposed center would be to conduct, promote, and coordinate research and investigations into the causes and prevention of accidents; to make the research facilities of the Public Health Service available for such purposes; to make grants-in-aid to institutions and other private or public agencies engaged in such research projects; to establish an information center; and to secure the advice and assistance of experts in the field of accident prevention.

The bill also provides for the establishment in the Public Health Service of an Accident Prevention Advisory Board. The Board would be headed by the Surgeon General, as Chairman, or an officer designated by him for that purpose, and would consist of 12 additional members appointed by the President (none of whom are to be Federal employees), to be selected from among representatives of various State, interstate, and local governmental agencies; public and private interests concerned with or affected by accident prevention; and individual experts in the field. Besides its general function of advising, consulting with, and making recommendations to the Surgeon General with respect to his duties in the operation of the center, the Board would be specifically charged with the duties of reviewing accident prevention research projects and certifying its approval of those which it deems meritorious; collecting and making available information on studies of accident causes and prevention; and reviewing applications for grants-in-aid and certifying its approval of those projects which show promise of making valuable contributions to human knowledge in the field of accident prevention.

Determining the causes of, and finding the means of preventing, accidents has become a matter of serious concern in this country. Among the areas of human activity in which the accident prevention problem has received special attention are industrial, farm, home, mine, radiation, water carrier, aircraft, railway, and highway hazards. Each of these areas is now in some measure the subject of interest and responsibility of various departments or agencies of the Federal Government, including this Commission.

The area of most immediate concern to this Commission is, of course, that of promoting railroad and motor carrier safety. With respect to railroads, its responsibility includes the administration and enforcement of the several Safety Appliance Acts, the Hours of Service Act, and the Locomotive Inspection Act. As to motor carriers, the Commission is authorized to prescribe regulations governing the qualifications and maximum hours of service of employees and the safety of operation and equipment. With respect to common carriers,

whether by rail or highway, the Commission administers the so-called Transportation of Explosives Act.

We believe that the encouragement and coordination of research in the field of accident causes and prevention which the proposed center and Advisory Board would undertake would be of benefit to all of the Federal agencies concerned with accident prevention, and also to other agencies, organizations, and individuals. The proposed financial assistance to the research projects, in the form of grants-in-aid, would, of course, provide tangible encouragement in this important field. The results and findings of the researchers, duly published and made available to those interested and concerned, should be useful to all those charged with promoting safety and reducing accidents of all types. In addition, the making available of research facilities, the maintenance of an information center, and the advice and assistance of experts—all of which are contemplated by the bill—would be of material benefit.

Illustrative of the potential usefulness which the center could be to this Commission is the fact that in the discharge of its responsibilities in the field of motor carrier safety the Commission often needs the counsel and advice of experts on such matters as standards of eyesight, hearing, and the effects of organic, nervous, and functional diseases on the human body. It also needs information as to the effect of fatigue and drugs on driving ability. Research in such areas promoted and aided by the center and Advisory Board would undoubtedly be of benefit to this Commission in its task of prescribing motor carrier safety regulations.

While we favor the objectives of this proposed measure, we believe, at least insofar as this Commission is concerned, that it should be amended to make it clear that nothing contained therein should be construed as affecting its jurisdiction in the fields of railroad and motor carrier safety, or as requiring submission of proposed regulations, for which the Commission has statutory responsibility, to the Surgeon General, the center, or the Advisory Board, for prior approval.

Editorially, it is not clear what is intended by the reference made to "the Council," in line 19, page 2, of the bill. Elsewhere in the bill the duty of recommending the recipients of grants-in-aid is placed upon the proposed advisory board. It appears, therefore, that reference to "the Council" was inadvertent, and that a phrase such as "the Accident Prevention Advisory Board, hereinafter provided for," should be substituted in lieu thereof.

If amended as suggested above, we would have no objection to the enactment of H.R. 133.

Respectfully submitted.

EVERETT HUTCHINSON,
Chairman, Committee on Legislation.
HOWARD G. FREAS.
KENNETH H. TUGGLE.

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, April 3, 1961.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR CONGRESSMAN HARRIS: This is in further response to your request for the views of this Department on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a national accident prevention center.

The general objectives of H.R. 133 of preventing and reducing accidents are, of course, highly desirable. The bill, however, by centralizing in the Public Health Service broad authority and responsibility in the accident prevention field raises the most serious problems of shifting and overlapping responsibilities and functions now resting in many specialized Government agencies, including the Department of Labor. If it should be considered desirable to provide for coordination of the accident prevention work of the Federal Government, we are firmly convinced that not only should the present alinement of functions among specialized Government agencies be retained, but that the Public Health

Service is not the appropriate agency for any centralization for reasons discussed below.

This bill would authorize the Public Health Service to engage in every phase of accident prevention except the issuance and enforcement of safety regulations. Specifically, in section 382:

(1) The measure would authorize the PHS to "conduct, assist, and foster research, investigations, studies relating to the causes, and methods of prevention of accidents."

Under this authority the PHS could duplicate or possibly acquire control of the factfinding and analysis program relating to occupational accidents now conducted by the Department's Bureau of Labor Statistics, the Interstate Commerce Commission, the Bureau of Mines, and the Department of Agriculture. Similarly, PHS could duplicate, or possibly acquire control of, the factfinding and analysis of transportation accidents now conducted by the Interstate Commerce Commission, the Civil Aeronautics Board, the Bureau of Public Roads, and the Coast Guard. PHS could duplicate or possibly acquire control of the safety educational and promotional activities of the Bureau of Labor Standards of the Department of Labor, the Federal Safety Council, the National Bureau of Standards, the Bureau of Public Roads, and the Department of Agriculture.

(2) The measure would also authorize the PHS to "promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals."

The authority here is vague, but could be interpreted as conferring authority to exercise control over regulatory agencies such as the Interstate Commerce Commission, the Wage and Hour and Public Contracts Divisions, the Bureau of Labor Standards, and the Coast Guard.

The Department of Labor has given general direction and national leadership to the occupational safety program. Technical assistance is rendered to State safety officials in order to improve accident prevention methods. In cooperation with the States, surveys of high-hazard or otherwise significant industries are conducted, and data prepared on sources of injury and methods of hazard control. Organized labor's interest in safety is supported through the training of labor representatives in the fundamentals of occupational safety.

The Department's Bureau of Labor Standards services the President's Conference on Occupational Safety, which brings together the representatives of management and labor and other interested groups concerned with problems in this field and the development and application of methods to meet these problems. In addition, the Bureau furthers the work of the Federal Safety Council, which concerns itself with accident prevention and safety programs for Federal employees.

On the international level, the Bureau is recognized by the ILO and the International Committee on Radiation Protection as the responsible agency in the United States in matters of occupational safety. H.R. 133 could cause major duplication and confusion in the performance of these functions.

It should also be noted that, while accident prevention is indirectly related to the field of operations of the Public Health Service, the great majority of accidents result from mechanical or physical conditions which can best be identified and controlled by engineering principles. As a result, the prevention of accidents is firmly established as an engineering science rather than a medical activity. The inevitable emphasis which the bill would place upon the medical and psychological aspects of accident prevention would constitute a sharp re-adjustment in the recognized approach to accident prevention and would, in our opinion, result in a disruption of the safety movement.

The confusion which would result from enactment of this bill is further emphasized by the fact that in practically all States the responsibility of accident prevention both in Government and industry is centered in a safety, rather than a medical, division.

In view of the foregoing we would be opposed to the enactment of H.R. 133.

The Bureau of the Budget advises that there is no objection from the standpoint of the administration's program to the submission of this report to your committee.

Yours sincerely,

ARTHUR J. GOLDBERG,
Secretary of Labor.

OFFICE OF THE POSTMASTER GENERAL,
Washington, D.C., February 6, 1962.

HON. OREN HARRIS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: This Department has given consideration to the request for a report on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center.

This measure would establish within the Public Health Service a National Accident Prevention Center which would—

- (1) Conduct, assist, and foster research, investigations, studies relating to the causes, and methods of prevention of accidents;
- (2) Promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals;
- (3) Make available research facilities of the Service to appropriate public authorities, health officials, and scientists;
- (4) Make grants-in-aid to universities, hospitals, laboratories, and other agencies and institutions for such research projects;
- (5) Establish an information center on causes and prevention of accidents, and collect and make available such information; and
- (6) Secure the assistance and advice of persons who are experts in the field of accident prevention.

The bill would also establish an Accident Prevention Advisory Board with the Surgeon General, or an officer designated by him, as Chairman, and 12 non-Federal employee members who are concerned with the accident prevention field. The Board would review research projects or programs, review and make recommendations for grants-in-aid, and make recommendations to the Surgeon General with respect to carrying out the program.

This Department recognizes the need for positive action to reduce accidents and to eliminate the causes of accidents, and wholeheartedly agrees with the principles of the bill to coordinate research and control programs and assist in the advancement, dissemination, and exchange of knowledge concerning the causes and prevention of accidents as it relates not only to Federal agencies but to private agencies, organizations, and individuals as well.

However, H.R. 133 as presently drafted is not clear with respect to the following areas:

(1) The general language of the bill indicates that the fields of traffic and industrial accidents (where programing applies primarily to damage to equipment or property) are included, as well as those accidents posing medical problems. The placement of this program within the Public Health Service would appear to imply limited jurisdiction with respect to the health and medical areas only.

(2) It is understood that several departments and agencies of the Federal Government, such as the Department of Labor, Department of Interior, Interstate Commerce Commission, Federal Aviation Agency, and others already have statutory authority and responsibility in accident prevention with respect to the operation of the Federal Government, State governments, and private business. The responsibilities of these agencies involve many of the functions identified for the National Accident Prevention Center such as research, investigations, and studies relating to the causes and methods of accident prevention, the dissemination of information on all aspects of the prevention of accidents, and the like. It does not appear that the proposed legislation differentiates between those responsibilities which are already assigned to departments and agencies and those which would be assigned to the Public Health Service.

It is believed that unless the responsibilities of the agencies involved are clarified a situation could develop which would result in duplication of effort and consequent added expense in the operation of an accident prevention program. In addition, numerous administrative problems would be created among the various Federal agencies required by 5 U.S.C. 784(c) to operate a safety promotion program.

If amended as suggested, this Department would interpose no objection to the enactment of H.R. 133.

We have been advised by the Bureau of the Budget that from the standpoint of the administration's program there is no objection to the presentation of this report to the committee.

Sincerely yours,

J. EDWARD DAY,
Postmaster General.

The CHAIRMAN. This legislation is the outgrowth of the many hearings on highway safety problems held by this subcommittee and the Special Subcommittee on Traffic Safety.

As the special subcommittee study which started in 1956 progressed, it soon became apparent that research is one of the great needs in the traffic safety field. In 1958 we held special hearings on research needs in traffic safety.

But the need for research is not limited to traffic safety. Accidents of all kinds take a heavy toll of life and limb in this country. So this legislation was written to cover a much broader field.

We have a long list of witnesses and I am not going to take time now to explain the bill, which will be explained fully in the course of these hearings.

We have a list of distinguished witnesses, many of whom have come a long way at considerable personal sacrifice. We are very fortunate to have the advice and counsel of this distinguished group.

Our first witness this morning will be the Honorable John Carroll of Colorado. We are pleased to have your statement, Senator.

STATEMENT OF HON. JOHN A. CARROLL, A U.S. SENATOR FROM THE STATE OF COLORADO

Senator CARROLL. Thank you Mr. Chairman and members of the subcommittee on health and safety.

On December 15, 1961, 10 days before Christmas, 20 schoolchildren were killed and 15 hospitalized when the schoolbus in which they were riding was sliced in two by a passenger train. This grim and horrible accident in Weld County, Colo., stirred the hearts and minds of the citizens of my State.

This accident served to point out the staggering number of fatal accidents on our Nation's highways. Over 38,000 people were killed in the year 1960. One thousand one hundred of these deaths were caused by collisions with railroad trains. Nearly 1.5 million Americans received disabling injuries and an additional 2 million people received lesser injuries. In the last 20 years, more than 25 million American citizens have been killed or injured on our highways.

These figures of death and carnage on the highways are but a part of the toll taken by accidents each year. More than 90,000 people are killed and 46 million injured by accidents of all sorts every year. This means in terms of our national productivity at least 110 million work-days lost each year. This is a staggering cost, both in blood and money.

Accidents are the principal cause of death for all ages between 1 and 35. Sixty percent of all deaths of young men between the ages of 15 and 25 recorded are due to accidents.

Thousands of lives, millions of dollars, are lost each year, Mr. Chairman. It is about time that a concentrated and directed effort was made by our Nation and its citizens to reduce this frightful waste.

I am pleased therefore to discuss today the bill H.R. 133, introduced by you, Mr. Chairman, and currently under the study of your subcommittee, to establish a National Accident Prevention Center.

There are many divisions of government, at all levels, local, State and Federal, which have an active interest in accident prevention. There are many private foundations and councils which are doing much useful work in the use of safety devices and the mapping of safety campaigns. I do not in any way underrate the important work being done by these public spirited organizations.

It is, however, undeniably true that very little work is being done in the field of basic research into accident prevention.

A witness before your committee, Robert J. Schreiber, executive director of research of Public Service Research, Inc., has said:

Accident research is not a very respectable professional discipline; there are no degrees granted in it, no scholarly journals of it. It is, at best, a spare-time occupation for all but a few. At professional society meetings, it is difficult to find even a half a dozen scientists interested in discussing it.

This is not a happy situation.

Basic research pays: Yellow fever, smallpox, polio, diphtheria, tetanus, and whooping cough have been eliminated from the list of killers through the results of research and development.

In 1959, it was estimated by Dr. Alfred Moseley, Department of Legal Medicine, Harvard Medical School, that the amount of money going for polio research per polio death was \$40,000; the amount for cancer research per cancer death was \$360; the amount per heart death was \$87. The amount for preventive research per death through aviation accidents was \$500,000. And for automobile accident research we spend less than \$5 per death.

That research can be of value in reducing accidents is clearly demonstrated in the field of aviation. The CAB, the FAA, the Air Force, and private industry have done extensive research into the prevention of aircraft accidents. Work has been done in pilot reaction and training, instrument developments, fuselage construction, et cetera.

The results can be seen in the rapidly falling air accident rate. From an average of 7.8 deaths for every 100 million passenger-miles flown on American domestic scheduled airlines in the years 1933-37, the rate had dropped by 96 percent to 0.29, according to the CAB.

Our country—in both public and private efforts—is devoting many dollars each year to organized, directed research into the prevention and cure of cancer, tuberculosis, and mental illness. It is long past due that such an organized and directed attack be made upon the causes and prevention of accidents.

Accidents do not just happen. They are events which have causes—and scientists know very little about these causes. It has been generally agreed by the witnesses appearing before your subcommittee that the most important need in the area of accident prevention is for basic research. It has been agreed that scientists and personnel must be trained, that research be encouraged, that research results be applied in accident prevention.

It appears to me that H.R. 133 takes a sound approach toward filling this need for an organized program on research for accident prevention and control.

I am not an expert, Mr. Chairman, in the field of accident prevention or public health. I cannot comment upon the technical questions as to what form such a research center should take, as to how it should divide its funds between intramural and extramural research, as to where within the framework of HEW it should be placed.

Such questions as these I leave to the wisdom of the subcommittee. I know how much study and thought, over several years, you have devoted to this matter, and I would only wish to emphasize to your subcommittee the importance of seeing that there is no unnecessary expenditure, no overlapping of responsibility or division of authority.

Funds are needed for basic research; they are not needed for the construction of yet another expensive building or for the formulation of yet another bureaucratic hierarchy.

The people's money will be involved in this undertaking and it is necessary that there be no duplication of work undertaken by others and that full provision be made for the active encouragement of private research.

I am especially pleased, Mr. Chairman, to see that provision is made in H.R. 133 for the acceptance of private endowments from individuals and foundations. Such a program as is here proposed will surely attract the gifts of the public spirited.

I would also point out to the subcommittee that this measure has already received the support of the Denver Junior Chamber of Commerce, and I understand a resolution of support will be considered at the next jaycee national convention.

Mr. Chairman, I would close with a personal reference. For several years I have been concerned with the appalling tragedies which occur in accidents at railroad crossings in particular, and on our highways in general. I have given much time and thought to this problem. I have talked with many people. I have read much material. I have seen the perfection of warning signals and signs, crossbars and crosswalks, cloverleaves and crossovers; and yet the killing and carnage continue.

Accidents will never be eliminated but the number and severity of accidents can be reduced. They must be reduced.

Wholesale murder must be stopped and this, Mr. Chairman, is why I support the intent of H.R. 133.

The CHAIRMAN. Our next witness will be the Deputy Surgeon General of the U.S. Public Health Service, Dr. John Porterfield.

STATEMENT OF DR. JOHN D. PORTERFIELD, DEPUTY SURGEON GENERAL, PUBLIC HEALTH SERVICE, ACCOMPANIED BY DR. ALBERT L. CHAPMAN, CHIEF, DIVISION OF ACCIDENT PREVENTION, U.S. PUBLIC HEALTH SERVICE

Dr. PORTERFIELD. Mr. Chairman and members of the committee, thank you for this opportunity to present the views of the Department of Health, Education, and Welfare on H.R. 133, a bill which would amend title III of the Public Health Service Act to establish a National Accident Prevention Center in the Public Health Service.

First, let me convey the regret of Secretary Ribicoff that he could not be present to testify personally. I know you are aware of his keen interest in accident prevention activities. In fact, in testimony before

this subcommittee last April on a somewhat related proposal he stressed the importance of accident prevention research and indicated some of the ways in which the Public Health Service may be expected to contribute to the prevention of accidental injuries and deaths through scientific research.

The Public Health Service has a direct and immediate concern with accident prevention because accidents rank high among the causes of death and disability in the United States. Statistics reveal that more than 92,000 accidental deaths and about 46 million accidental injuries occur every year. Perhaps it would be useful to break these figures down into their component parts, so their national significance might be better comprehended.

First of all, let us look at the fatality figures. The 92,000 deaths include 15,000 children under 15 years of age—more than the total of deaths in this age group from the next four leading causes combined. In the next age group—from 15 through 35 years of age—accidents continue to be the principal killer—with over 24,000 deaths in 1959. In the same year over 28,000 Americans between the ages 35 and 65, and 24,000 aged 65 and older lost their lives by accidents. These individual tragedies in every age group and in all parts of the country are repeated year after year.

Now let us consider injuries. On the basis of statistics collected by the national health survey for 1959, we estimate that some 46 million American men, women, and children sustained accidental injuries severe enough to incapacitate them beyond the day of injury. Thousands of these suffered lifelong handicaps, including blindness, loss of limbs, and disfigurements. They filled over 50,000 hospital beds all year round and required a substantial portion of our critically short supply of medical and nursing skills.

Reliable estimates indicate that our Nation sustains an economic loss of over \$13 billion every year from accidents. Part of this loss is visible to everyone who drives along our country's streets and highways. Much of it is not, however, except to the victims, their families, and medical and hospital personnel. When you consider the toll that accidents inflict among our young people from whom the Nation must draw the bulk of its productive strength, you see a loss of life every year greater than the size of an Army division. When you consider the accidental casualties among our senior population, you see a loss of experience and mature judgment that no nation can long afford.

As the principal health agency of the Federal Government, the Public Health Service has long been concerned with this mounting toll of death and disability, and we have played an active role in the development of certain preventive measures.

It was not until recent years, however, that accident prevention per se was recognized as a major program interest of the Service, centered in the Division of Accident Prevention that was established just 1 year ago.

The reason for this new focus of Service interest and program activity is not that we have just recognized the health significance of accidents. Rather, it lies in a new awareness of the importance of scientific research as the basis for effective accident prevention—and particularly research relating to the "human factors" in accidents and in accident prevention.

I do not mean to imply that accident prevention research is an entirely new or recent concept. Much valuable work has been done in some fields for many years. For the most part, however, it has concentrated on studies relating to how things can be made relatively safe for humans to use. This includes research into the design of equipment and materials so as to reduce their inherent hazards for humans. Much less attention, relatively, has been given to why human beings behave in ways that cause or invite accidents to themselves or to others. Yet it is well accepted by those who have studied the problem of accident prevention that the principal cause of accidents is human behavior.

The importance of these human factors has long been recognized, of course, but this recognition has been reflected primarily in campaigns designed to make people "safety minded" through training and education. Many of these campaigns have had beneficial results, and there is no question that they will continue to be needed.

Unfortunately, there is a very limited base of scientific data at the present time on which effective campaigns or other preventive measures can be based. We need a great deal more research into the physiological, psychological, as well as environment factors that make people act as they do.

Some of the facts we need are already being uncovered by basic and applied research into the sciences related to health, but they need correlation and analysis from the standpoint of accident prevention requirements. In addition, we have recently begun to see the rich potential available in health and related research institutions for studies directed specifically toward major causes or forms of accidental death and injury.

In some instances the effective conduct of such research will require special equipment or facilities. This is particularly true in the case of research into the causes of accidents, where the researcher needs to observe human behavior in simulated situations which remove the element of risk so frequently present in actual performance situations. An example, which has previously been discussed with your committee, is the need for a high-fidelity driving simulator in research directed toward the causes of traffic accidents. With such a simulator we could put many drivers through identical tasks and individual drivers through a variety of tasks, without the hazards to themselves and others which would be unavoidable if this were attempted in actual traffic situations.

With such a device, it would be possible to analyze the effects of driving under varying conditions, such as the influence of drugs, alcohol, fatigue, and other physiological factors, thus substituting scientific facts for the subjective opinions which must govern our attitudes toward these factors today.

We could discover whatever actual limitations on driving ability might be imposed by various chronic or acute diseases or other physical disabilities. One could also test the effects of such physiological and psychological factors as attitudes, emotions, and other motivational factors and study intensively the interactions that take place between the driver, the vehicle, the roadway, and other aspects of the environment.

In addition to automotive safety, which has deservedly received a major share of public concern, there are many other fields of accident prevention which deserve increased attention and in which sound research could lead to the saving of many lives and the prevention of many crippling injuries.

In the almost equally important area of home safety, for example, it would be profitable to investigate physical factors which may be involved in such common mishaps as falls, electrical shock, burns, and wounds inflicted by knives, firearms, and utensils. Here, too, a variety of physiological factors appear to be involved which we have lacked the research capability to explore adequately.

We also need to investigate such lifesaving techniques as resuscitation, proper storage of household medicines and other substances, and safer occupancy of the various kinds of human habitation.

With the increasing amount of leisure time available to the average American, we have witnessed an increasing number of deaths and injuries among those who engage in skiing, skin and scuba diving, hunting and camping, swimming, and boating, amateur and professional sports like baseball and football, and even gymnastics. Investigation of the technique known as "drownproofing" could save many lives, among both swimmers and nonswimmers.

These are only a few illustrations of areas in which scientific research can open the way to progress in accident prevention. I hardly need add that such research—like research in other fields—must later be translated into programs of action before its full value can be realized. This will require such intervening mechanisms and procedures as the publication and dissemination of research findings, the conduct of experimental and demonstration programs, and the training of personnel in new accident prevention concepts and techniques.

This brief projection of the needs and opportunities for research in accident prevention indicates the primary focus of accident prevention interest and planning within the Public Health Service. It should not be inferred, however, that the Service itself can or should conduct all needed research, or that this is a field in which miraculous results can be quickly achieved. On the contrary, this is an area where the talents, resources, and interests of many agencies—both governmental and voluntary—can contribute to a common goal, and many years will pass before some of our most difficult accident prevention problems can be solved.

The interest and purpose of the Public Health Service is to make certain that our own intramural research potential—and the potential of our programs for the stimulation and support of research by non-Federal agencies and laboratories—will be fully utilized in a broad attack on accidental deaths and injuries.

Mr. Chairman, I have undertaken to define in general terms the interests, objectives, and purposes of the Service in the field of accident prevention because that—as we interpret it—is the principal purpose of H.R. 133. As was pointed out in our Department's report on the bill, H.R. 133 adds no substantial new program authority to that already available to the Service under existing statutory provisions. It would, however, add specificity to some general authorities, thus underscoring and focusing public attention—and the attention of research workers in the health sciences—on the particular needs

and objectives of accident prevention research. We believe that such action by the Congress could contribute in this field, as it has in other fields of research, to the further advancement of programs already authorized and established.

We have also pointed out in our report several provisions of H.R. 133, as introduced, which would require substantial revision. I see no need to reiterate all of these comments and suggestions here, but we shall be happy to explain them more fully at the convenience of your committee.

The only point that we believe requires reiteration and emphasis in this statement is the need for revision or clarification of those provisions of the bill which might be so construed as to limit or subordinate the accident prevention research interests and responsibilities of other Federal departments and agencies. As I indicated earlier in this statement, the field of accident prevention, including accident prevention research, is very broad and diversified.

It requires the resources of many agencies and individuals. No one organization or agency could possibly conduct an all-embracing program of its own or undertake the central planning in coordination of the efforts of other agencies. Therefore, while our own activities in this field could be strengthened through specific legislative emphasis along the lines of H.R. 133, any such legislation should give due recognition to the parallel interests and programs of other agencies in the field.

This concludes my general statement, Mr. Chairman. I shall be glad, however—with the assistance of Dr. A. L. Chapman, the Chief of our Division of Accident Prevention, to answer any questions your committee may have regarding our present and projected activities in this important field.

The CHAIRMAN. Thank you, Dr. Porterfield.

Dr. Chapman, would you care to make any supplementary statement?

Dr. CHAPMAN. I have no supplemental statement to offer at this time, Mr. Roberts.

The CHAIRMAN. I would like to ask you some very brief questions.

First of all, I want to thank you, Dr. Porterfield, for your appearance here. I know how busy you are at this time with appropriations and other important matters. I appreciate very much your being here.

I should like first of all to know a little bit about the beginning of the activity in the division which Dr. Chapman now heads, as to when you started in accident prevention, what you have been doing and what particular field you are engaged in, and how you go into these fields. Also, indicate what type of grants or other activities you are sponsoring at the present time.

Dr. PORTERFIELD. I think Dr. Chapman can best answer that, Mr. Roberts, if I preface it only with the point that we have been in accident prevention work for some years antedating the development of a division with this name. The Division was formed about a year ago as a result of a very thorough study of the new functions and the relative emphasis of programs in the Public Health Service which led to a fairly comprehensive reorganization of the Service and in that reorganization we had identified such important work in accident prevention in various divisions that a division for this purpose alone was created.

Dr. Chapman was made chief of this and I think can answer as to the development of work under that heading.

The CHAIRMAN. Dr. Chapman.

Dr. CHAPMAN. It was formed in 1947. Dr. Joseph Mountain, who was a pioneer in many of the Public Health Service programs, recognized the fact that home accidents were a problem which should concern State and local health departments. He had an engineer assigned to Michigan to develop competence in the field and try to establish a role for the public service. This interest continued generally along the lines of environmental control under engineering guidance until about 1956.

At that time, our annual budget was in the neighborhood of \$50,000 a year and supported four people. In 1956 the Surgeon General called a committee to determine whether there could be anything done that would increase the capability of the Public Health Service in accident prevention. It was their decision that this program should be transferred to a division of good medical leadership and should concentrate on the study of the human factors in accidents.

At that time, I became chief of the Division of Special Health Service and Dr. James Goddard who has appeared before your committee was named head of the accident prevention program.

Dr. Goddard was the one who developed the concept of the simulator, as we now know it, and has testified many times before your committee. The program then began to broaden out from its original base of home accidents to the concept that accidents have common bases, that if an individual is emotionally disturbed, if physiologically unfit, he may fall downstairs coming down to breakfast, he may drive his car into a tree going to work, he may have an accident at the bench when he is at work. This concept of research into the factors which precipitate accidents became broader than just home accidents.

We then became interested in traffic accidents, poison control, and of course, any accident having common roots. Since that time the State and local health departments have grasped this concept, have increased their potential by employing and training people, have increased their expenditures, and more than that the medical and health related sciences have shown a tremendous interest in this and, as a result, you will see before your committee this week many representatives of such agencies as the American Public Health Association, the American College of Surgeons, and so forth, and so on. So, in effect, with the entrance into the research phases of accident prevention, primarily focusing down on the human factors, the medical, clinical, biological behavioral aspects of the problem which many people say represents about 80 percent of the problem, we have seen a great recruitment of interest and effort on the parts of health groups and health related groups to this movement.

Our present budget, sir, is \$3.618 million for 1962.

The CHAIRMAN. Now, one of the best examples that comes to my mind with reference to home accidents has to do with poisoning of children. Would you discuss briefly the establishment of poison control centers throughout the country, what part your division had in that activity.

Dr. CHAPMAN. The American Academy of Pediatrics became interested in this problem because of the fact that poisoning among

children is a tremendous problem. It affects about a half million people a year. So they did a study to determine what role could be played by a national agency in bringing this problem under control.

As a result of their recommendations they approached the Secretary of HEW and asked that a national clearinghouse for poison control centers be established in the Public Health Service. He agreed with this and this was set up in 1957.

At that time, there were about 62 poison control centers in the United States. Today we have about 460. These centers are providing information to physicians who have to treat poison cases, information concerning the poisonous ingredients in substance that children have swallowed, information concerning antidotes that are prescribed in the case of these poisonings, and proper treatment.

In addition to that, research has been done to determine better methods of treatment. For example, if a child swallows kerosene, should he be lavaged—should his stomach be emptied out? Research was done which indicated certain facts which were presented to the medical profession. Now, we are attempting to use these poison control centers as nuclei of community prevention programs. Our first demonstration is in Charleston, S.C., where every available education resource in the community is being mobilized to get across to parents that 50 percent of child poisoning is due to medicine, that 70 percent of these poisons are not in the medicine chest, they are lying around where the child can reach them. By simply putting medicines out of the reach of children from 1 to 5 they can solve 70 percent of that part of the problem.

The CHAIRMAN. I certainly would like to congratulate you and your coworkers for the fine work you have done. I believe in the last Labeling Act that Congress passed you appeared with reference to that bill in which we attempted to bring up to date many thousands of new substances that had been introduced into our community lives, detergents and other things used by the home, many of them were packaged without adequate warnings to parents.

Now, with reference to the traffic safety field I would like you to discuss the simulator proposition and what you think could be accomplished in that field.

Dr. CHAPMAN. With your permission, might I use a diagram I have here?

The CHAIRMAN. Certainly.

Dr. CHAPMAN. This was produced to indicate the need for an interdisciplinary approach to all accident problems. We have used traffic accidents as an example. Here we label human factors. The health and medical sciences look at the traffic accidents problem primarily from the viewpoint of the driver, what is wrong with the driver.

The motor vehicle industry looks at the traffic accident problem from the viewpoint of the automobile. What kind of car shall be produced, what modification should be made? The roads and highways engineering group looks at the traffic problem from the point of view of the environment, how can they better improve our roads so that traffic accidents won't occur.

You see here in these circles where they overlap—when we talk about building a car, the limitations of man must be taken into account so that the automobile manufacturers have to cooperate and

work with the health and medical professions to determine how to build a car within the limitations of a man's capabilities. Here is another overlap between environment and agent. This means that the automobile manufacturer must work with the roadbuilders to build cars that can safely maneuver on the roads that they build.

Here again environment and man overlap. We have to build road signs in such a way that the man can see them within the capabilities of his vision, that the signaling devices are adequately provided. In the center all three overlap and that is why I brought this up—in connection with simulation.

In the case of simulation we bring together the capabilities or lack of capabilities of the man, the characteristics of the automobile which now exist, and the characteristics of the highway which now exist. Here all three groups and their satellites must work together in an interdisciplinary team to solve this problem, to learn new facts about the prevention of traffic accidents.

I just use that as an example which may have some bearing on the feeling of insecurity that has arisen among some people that any one group can or has a desire to take over primarily control of the traffic accident field, of the home accident field, or some other field. There is no such intention and such an intention would be aborted by these very facts—the need for interdisciplinary cooperation.

The CHAIRMAN. Now you have touched on two fields, that of highway accidents and that of home accidents. Now what part would the center which we seek to set up by H.R. 133 play in the field of industrial accidents?

Dr. CHAPMAN. At the present time, Mr. Chairman, we have avoided doing studies in the field of industrial safety in order to avoid any misunderstanding on the part of the Department of Labor who traditionally has carried on a very excellent safety program in industry.

But the cause of accidents I mentioned earlier, which may precipitate a traffic accident, are equally at work when a man is behind a bench. So that information developed about the cause of traffic accidents, home accidents, and recreation accidents are equally applicable by those involved in industrial safety in preventing industrial accidents.

The CHAIRMAN. In other words, what you would attempt to do would be to follow this, say, John C. Citizen through these three fields and you try to find out what physiological and psychological factors he carries with him as he moves from home to work and on highways?

Dr. CHAPMAN. Yes, sir.

The CHAIRMAN. Do you see any duplication of effort that would be brought about by this creation of a new center?

Dr. CHAPMAN. When you become intimately acquainted with the problem and the research available to solve, you are immediately aware that the size of the problem is so great and the research that is available is so relatively small that any duplication of effort would be nonsensical and certainly not warranted and has not existed up to this point and shall not exist in the future so far as we are concerned.

The CHAIRMAN. I would like to ask one other question.

What do you think would be the additional cost incurred by the provisions of this bill?

Dr. CHAPMAN. Since the bill would add little new statutory authority, it is difficult to say what the additional costs of the bill itself would

be. However, our Division has prepared some preliminary cost estimates and projections that may help to answer your question. The actual center requirements would involve a cost of about \$800,000, presumably during the fiscal year 1963; \$500,000 for the planning for construction, \$200,000 to begin tooling up for research programing, and \$100,000 for administrative costs.

Then, during the 1964 fiscal year when the construction actually began, and we had to absorb the cost of construction we estimate it would cost \$8 million.

Program operation would step up to \$300,000. Administrative cost would remain at \$100,000, making a total in 1964 of \$8,400,000.

Then, in 1965 with the cost of construction out of the way there would be no cost for construction. The research program operation would step up to a half million dollars, administrative costs, \$200,000, making a total of \$700,000 for 1965.

In 1966, the last projected year that we have here, there would be no cost for construction, \$2 million for research program operations, and \$500,000 for administrative cost.

Now you must realize, sir, that this does not involve only a simulator. This involves research facilities and interdisciplinary teams working in projects in all areas of accident prevention that we are talking about.

In other words, there probably should be a test track in which the simulated results could be tried out and are in an actual safe environment on the track.

The CHAIRMAN. Do you anticipate that living, as we do, in a nuclear age, that there will be need for some work in the field of radioactivity and how to protect the civilian population in the event of nuclear attack.

Dr. CHAPMAN. I would suggest that Dr. Porterfield fill in on this.

Dr. PORTERFIELD. This provides an example just within the Public Health Service, Mr. Chairman, of our feeling that coordination and interdisciplinary cooperation is essential.

In our Division of Radiologic Health we concern ourselves with just this sort of thing. I would expect if you raised the question of nuclear accidents or accidents involving radiation, that we would have to ask for some coordination between these two divisions to get the competence and resources on the one hand of our radiation specialists working with the competence of our accident prevention specialists on the other hand.

Even with the establishment of a division of accident prevention in the Public Health Service all activities of the Service that might be considered as helpful in accident prevention are not in that division. There is some research going on under the aegis of the National Institutes of Health that is useful in accident prevention. There is work being done in community health service which gives deference to this part of the program. In many other ways this is a coordinated effort even within the human factor, the health approach field. The radiation accidents I think would be one of these.

The CHAIRMAN. I believe you pointed out in your statement, Dr. Porterfield, that one of the biggest losses that we have is in the teenage group in accidents.

Dr. PORTERFIELD. That is correct, sir.

The CHAIRMAN. Now do you have or could you supply for the record the figures which would allow us to compare what we spend in the heart field and in the cancer field as against what we are spending in the safety field? Per capita?

Dr. PORTERFIELD. Yes, sir; I think we can supply such figures.

The CHAIRMAN. You might supply those for the record.

Dr. PORTERFIELD. Yes, sir.

(The information requested follows:)

Comparison of PHS appropriations for heart, cancer, and accident prevention, fiscal year 1962

	Total appro- priation	Per capita ¹
National Heart Institute.....	\$133,000,000	\$0.72
National Cancer Institute.....	138,000,000	.74
Division of Accident Prevention.....	3,600,000	.02

¹ Based on population as of Jan. 1, 1962 (midfiscal year population).

The CHAIRMAN. Mr. Dominick.

Mr. DOMINICK. Dr. Porterfield, recently in my district we had an extremely tragic accident in Greeley, Colo., involving collision of a bus and train at an unprotected intersection.

Do you know whether there are experimental programs now going on through the ICC or through local industry to determine whether safety devices can be created or installed which would have the effect of providing a warning for school buses of approaching trains without the expense of having either signalmen on the crossing or underpasses or overpasses?

Dr. PORTERFIELD. I think Dr. Chapman can answer your specific question better than I.

Dr. CHAPMAN. I have no knowledge of any specific studies that have been made or are being made. That does not mean that they have not been made by other agencies. However, we have let a contract, rather small in size, for a study of intersection railroad and traffic collisions. We feel our research department feels that these can be studied so that with some mathematical precision better methods of control can be worked out. But that is as far as we have gone, sir, with our researches.

The CHAIRMAN. If the gentleman will yield to me on that point. I have had some contact with ICC recently on that point. Our staff also investigated.

It seems to me that primarily this matter of warning devices at grade crossings is State responsibility. That is the answer I have. I am not satisfied with it yet but that is the answer I have been getting.

I just put that in for the information of the committee.

Mr. O'Brien?

Mr. O'BRIEN. I have only one question, Mr. Chairman.

I was interested in the cost breakdown given by Dr. Porterfield. Did that take into consideration the possibilities of gifts, as mentioned in the bill?

Dr. CHAPMAN. No, sir. I believe gifts over \$50,000 would be permitted to be accepted by the Federal Government and could be added to this cost of operation, to expand the operations of the program.

Mr. O'BRIEN. In other words, the gifts would not reduce the cost you mentioned but would make possible additional work.

Dr. CHAPMAN. Yes, sir.

Dr. PORTERFIELD. I should point out, if I may, sir, that the cost figure that we have given you is on the assumption that the word "center" in the bill refers to a physical facility center which would house research rather than defining the word as an organizational unit. We are not positive in the language of the bill which of these is meant but we have made the assumption in giving you these estimates, that this calls for a physical structure.

Mr. O'BRIEN. The thought I had in mind was if some large foundation wanted to make a substantial contribution toward the cost of such a building. Wouldn't there be a possibility that that would reduce the cost estimates you are giving or would it merely mean a bigger building.

Dr. PORTERFIELD. That is possible, if it were a sizable contribution it could.

I think that our figures have been as much as possible on the economy side to get the basic essential elements in such a structure. We would, I suppose, try to negotiate between more facilities and more special possibilities and the saving on the basic structure itself. It would depend on the term of the gift and the nature of interest.

Mr. O'BRIEN. I suppose, too, the appropriations committee might take that into consideration if there was a substantial gift from some foundation, they might decide that a smaller appropriation by the Government would be sufficient.

Dr. PORTERFIELD. I am sure they would.

Mr. DOMINICK. I have one more question on the expense angle. I understood from your testimony that in at least 2 years the administrative expenses will be almost 50 percent of the operating research program. What do you include by way of administrative expenses?

Dr. CHAPMAN. The administrative cost, sir, is the cost of clerical help, of engineering planning help, the housekeeping, the nonprofessional type of employment.

In other words, during the programing period there are many, many negotiations that have to be entered into. We have to contract with scientists to help us in our planning. We have to provide them with staff assistants. These are the types of expenses that are generally included under administrative costs.

When the facility is finally completed then you have your housekeeping and management such as any industrial corporation has in running a building, in running a plant, in maintaining and repairing equipment, and so forth.

Mr. O'BRIEN. Your administrative expenses when you get into your \$2 million level of your research programs are running approximately 25 percent of the cost of your research program.

Mr. DOMINICK. It seems to me that is awfully high from the management point of view.

Dr. CHAPMAN. It depends on the definition of administrative cost.

Dr. PORTERFIELD. The expenses that we have had in the scientific community in this country seems to indicate that indirect costs, costs not used just for the research in the highly technical professional ac-

tivities alone, but with all of these supplementary, ancillary and helpful costs, runs on the order of 25 percent.

The CHAIRMAN. Mr. Rogers.

Mr. ROGERS of Florida. Mr. Chairman, I have just a few questions.

Dr. PORTERFIELD, where is this Division of Accident Prevention presently housed?

Dr. PORTERFIELD. In the headquarters in Washington, in the HEW Building.

Mr. ROGERS of Florida. Do you have research facilities there?

Dr. CHAPMAN. No; we have no intramural research facilities. We had transferred to the Division of Accident Prevention, as of last February 1, the research grants operations formerly with the National Institutes of Health. We now have an extramural research capability. We conduct contract research of limited size. We can contract for research.

Mr. ROGERS of Florida. How will this bill affect the present program you have outlined for your Division of Accident Prevention?

Dr. CHAPMAN. This would give us the same balance for the research program that now exists in any of the National Institutes of Health where about one-third of their research funds is spent for intramural research, two-thirds for extramural research and additional funds for technical assistance and application.

Mr. ROGERS of Florida. This would bring about a center as you envision in the bill, the actual physical building where the research facility would be located?

Dr. CHAPMAN. Yes, sir.

Mr. ROGERS of Florida. You, yourself, with your personnel would conduct one-third of your research projects?

Dr. CHAPMAN. We would not anticipate reaching that level but the need for this is extremely important. If I might, I would like to explain it. At the present time, if we try to recruit a high-level research worker, he says, "Fine, where is your laboratory, I will move and I will go to work and you can use me throughout the Nation to advise and help others." We say, "We have a room over here and a table and a bench." He says, "Where is my laboratory? Where do I work?"

We don't have any. But with a center situated on a university campus, working with other researchers on the faculty, where research fellowships supply new research blood, you would have the type of facility and the type of atmosphere that would permit the recruitment of researchers. These research fellows, after they have spent 2 or 3 years working on applied research projects, would then go out into the universities, and be trained and capable of applying for extramural research grants. This is the thing we lack now. There is a very great dearth of qualified researchers who can work in the very complicated areas of accident prevention research.

Mr. ROGERS of Florida. Where are research projects being carried on presently under your program? Are there great numbers of them?

Dr. CHAPMAN. We have about 33, sir.

Mr. ROGERS of Florida. Will you submit that for the record?

Dr. CHAPMAN. Yes.

(The information requested follows:)

Research grants in the area of accident prevention

Grant No.	P.I., co-P.I., and institution	Title	Years of support	Amount
1. RG-2919.....	Velz and Hemphill, University of Michigan.	Investigation and Application of Home Injury Survey Data in Development of Prevention Procedures.	1951-52	\$55,512
2. M-790.....	Marcus, Tulane University.	Studies of Children Showing Injury Patterns.	1954-57	111,728
3. AC-47 (formerly RG-4367).	Moore, Kraft, Wolf, and Campbell, Cornell University.	Automotive Crash Injury Research.	1956-62	668,662
4. RG-5005.....	Cook, University of Michigan.	Effects of Carbon Monoxide as an Atmospheric Pollutant on Health as Indicated by Relationship to Auto Accidents in an Urban Area.	1957-58	59,110
5. M-1381.....	Ammons and Ellingson, University of North Dakota.	Laboratory Study of Accidents....	1957	1,812
6. M-1508.....	Mosel, Hunt, and Goldstein, George Washington University.	Human Behavioral Factors in Automobile Driving Safety, Phase I.	1957	18,245
7. AC-79 (formerly M-1928).	Titles and Waxman, Connecticut State Department of Health.	Family Injury Survey.....	1957-60	208,402
8. AC-48 (formerly RG-5343).	Bissell, McInnes, and Clark, San Jose, Calif, City Health Department.	Accidental Poisoning as a Case-finding Procedure.	1958-62	65,557
9. AC-78 (formerly M-2353).	Guilford and Schuster, University of Southern California.	California Accident Repeater Driver Scales.	1958-59	27,684
10. AC-61 (formerly RG-5359).	Baker, Northwestern University.	Experimental Case Studies of Traffic Accidents.	1958-60	188,100
11. RG-5361.....	Terrill and Steed, Georgia Department of Public Health.	Evaluation of Available Traffic Accident Records.	1958-59	24,608
12. AC-67 (formerly RG-5577).	Gallagher and Moore, Harvard University.	Causes of Auto Accidents of Adolescent Drivers.	1958-60	92,340
13. RG-5959.....	Vaughan and Clayton, National Sanitation Foundation, University of Michigan.	Carbon Monoxide and Its Relation to Traffic Accidents.	1958	21,400
14. AC-44 (formerly M-2407).	McNamara and Gadalla, University of Missouri.	Selected Environmental and Human Factors Associated With Incidence of Farm Accidents in Missouri.	1959-61	103,442
15. AC-68 (formerly RG-5786).	Merrill and Twyford, Michigan State University.	Evaluation of Highway Traffic Safety Motion Pictures.	1959-60	25,321
16. AC-19 (formerly RG-5937).	McCarroll, Cornell University Medical College.	Field Experimental Studies on Accidental Trauma.	1959-61	160,344
17. AC-1 (formerly RG-6073).	Schreiber, Dunlap, and Jacobs, Public Service Research, Inc.	Accident-Inducing Characteristics of Motor Vehicles.	1959-61	170,973
18. AC-49 (formerly RG-6084).	Moseley and Ford, Harvard University.	Research on Fatal Highway Collisions.	1959-63	809,820
19. AC-2 (formerly RG-6090).	Corsa and Manheimer, California State Department of Public Health.	Epidemiology of Childhood Accidents.	1959-62	328,986
20. AC-50 (formerly RG-6091).	Barch and Forbes, Michigan State University.	Skill Decrement in Continuous Driving.	1959-62	41,054
21. AC-69 (formerly RG-6284).	Ryan, University of Minnesota.	Safety Devices for Automotive Vehicles.	1959-60	97,750
22. AC-53 (formerly RG-6359).	Greenshields, University of Michigan.	Driving Behavior and Traffic Accidents.	1959-61	63,740
23. AC-54 (formerly RG-6384).	Lissner and Evans, Wayne State University.	Effects of Acceleration on the Human Skeleton.	1959-63	173,672
24. AC-3 (formerly RG-6506).	Hasbrook, Kraft, Turnbow, and Lederer, Flight Safety Foundation, Inc.	Aviation Crash Injury Research...	1959-60	97,446
25. M-2957.....	Preiss and Howell, Michigan State University.	Role Image of the State Police Trooper.	1959	18,112
26. AC-51 (formerly RG-6094).	Snively and Chichester, Snell Memorial Foundation, Inc.	Impact Attenuation in Protection Against Concussion.	1960-64	40,870

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Research grants in the area of accident prevention—Continued

Grant No.	P.I., co-P.I., and institution	Title	Years of support	Amount
27. AC-52 (formerly RG-6296).	Henderson and Plutchik, Drivers Safety Service, Inc.	Mass Communication and Group Discussion Techniques.	1960-64	\$17,754
28. AC-55 (formerly RG-6550).	Spicer, Hawaii Department of Health.	Human Factors in Traffic Accidents.	1960-62	79,060
29. AC-70 (formerly RG-6658).	Kraft and Lederer, Flight Safety Foundation, Inc.	Research in General Aviation Safety.	1960	77,622
30. AC-56 (formerly RG-6717).	Schlesinger and Dickson, Health Research, Inc.	Rockland County Child Injury Prevention Project.	1960-63	121,538
31. AC-77 (formerly RG-6763-A).	Whitelaw, Michigan State University.	Bibliography of Highway Traffic Safety Literature.	1960	2,300
32. AC-71 (formerly 6798-A).	Brody, New York University.	Critique of Needed Research on Child Accident Prevention.	1960	2,300
33. AC-57 (formerly RG-6819).	Mathewson and Hulbert, University of California, Los Angeles.	Transportation Human Factors: Part I. Physical Forces.	1960-62	115,287
34. AC-58 (formerly RG-7025).	Jacobs and Barmack, Public Service Research, Inc.	Relating Driver Education to Accident-Avoiding Behavior.	1960-61	144,786
35. AC-59 (formerly RG-7044).	Shumate, Crowther, and Smith, International Association of Chiefs of Police, Inc.	The Effect of Enforcement on Driving Behavior.	1960-61	161,774
36. AC-72 (formerly RG-7011).	Abercrombie and Key, National Education Association.	School-Age Accidents and Education.	1960-62	121,164
37. AC-18 (formerly RG-7051).	Shoben, Columbia University.	Development of a Criterion for Driver Behavior.	1960-61	52,846
38. AC-62 (formerly RG-7365).	Malfetti, Columbia University.	Measuring Teacher Effectiveness in Driver Education.	1960-61	35,938
39. AC-60 (formerly RG-7050).	Mathewson, Severy, and Slegel, University of California, Los Angeles.	Automobile Collision Injury Experiments: Side Impacts.	1961-62	49,984
40. AC-73 (formerly RG-7822).do.....	Automobile Accident and Injury Prevention Studies.	1961-65	648,842
41. AC-64 (formerly RG-7958).	Hunt and Schlesinger, George Washington University.	Group Dynamic Study of Driver Attitudes and Driving Behavior.	1961-63	270,000
42. AC-65 (formerly RG-8105).	Kovacic and Snively, University of California, Davis.	Protective Materials and Athletic Injury Prevention.	1961-64	48,079
43. AC-66 (formerly RG-8106).	Stover, Burnett, and Slivinske, Institute for Research, Inc.	Driver Decisions in Highway Accident.	1961-64	173,884
44. AC-46 (formerly M-4945-A).	York, American Institute for Research.	Visual Signal Conspicuity.....	1961	2,300
45. AC-9 (formerly RG-8771).	Baldwin, Sensory Systems Laboratory, Inc.	Automotive Accident Instrumentation Study.	1962	20,297
46. AC-8 (formerly RG-8742).	Shumate and Crowther, Indiana University.	Enforcement Effect on Traffic Accident Generation.	1962-63	152,398
47. AC-15.....	Mathewson and Burg, University of California, Los Angeles.	Relationship Between Vision Test Scores and Driving Record.	1962-64	174,970
48. AC-16.....	Borkenstein, Indiana University.	Role of the Drinking Driver in Traffic Accidents.	1962-63	71,863
49. AC-20.....	Forney and Hughes, Indiana University.	Driving Behavior as Affected by Alcohol.	1962-64	78,598
50. AC-25.....	McBain, San Jose State College.	Susceptibility to Monotony as an Accident Predictor.	1962-64	30,315
51. AC-29.....	Thorndike and Malfetti, Teachers College, Columbia University.	Driving and Connotative Meanings.	1962-64	118,898
52. AC-30.....	Allen, Michigan State University.	Multivariate Analysis of Traffic Accident Records.	1962	21,937
53. AC-33.....	Hahn, American Institute for Research.	Accident Prevention Through Observation of Drivers.	1962-62	85,595
54. AC-37.....	Manheimer and Mellinger, California State Department of Public Health.	Factors Affecting Public Acceptance of Seat Belts.	1962-63	131,171
55. AC-80.....	Shumate, Indiana University.	Simulation of Traffic Flow on a Digital Computer.	1962-64	(1)

¹ To be negotiated.

Mr. ROGERS of Florida. Where are your major research laboratories?

Dr. CHAPMAN. Speaking financially and programwise, we have a major study going on at Harvard. Dr. Mosely, the director of that program, will be a witness here and can discuss that in some detail. Another study is being performed in connection with Cornell University and Dr. Hadden, the director of several research projects, is also a witness here today. The Cornell crash injury studies which did so much for the development of improved safety devices was originally under the direction of Mr. Moore and he, if his voice comes back, will be available later on during the session to testify.

The Public Health Service has supported the UCLA simulation study which has resulted in the development of a prototype, an early embryonic form, of universal simulator, and has also supported UCLA collision experiments with Dr. Severy, which has resulted in the development of a great deal of information of value to the automobile industry.

Mr. ROGERS of Florida. You have no research centers?

Dr. CHAPMAN. No, sir; we have no research center as such. We support research being done in various parts of the country.

Mr. ROGERS of Florida. How many personnel do you have now in your Division of Accident Prevention?

Dr. CHAPMAN. 146 and we have a personnel complement of 147 permitted for fiscal 1963.

Mr. ROGERS of Florida. How many of these would you say are staff people, I mean experts or professional people?

Dr. CHAPMAN. About one-third.

Mr. ROGERS of Florida. About one-third professional?

Dr. CHAPMAN. Yes, sir.

Mr. ROGERS of Florida. Would this change under the new bill?

Dr. CHAPMAN. Yes, sir.

Mr. ROGERS of Florida. What would be your change in personnel?

Dr. CHAPMAN. We would have an increased number of professional, highly qualified personnel.

Mr. ROGERS of Florida. Could you give us some idea of the number?

Dr. CHAPMAN. It would run slightly over 50 percent.

Mr. ROGERS. An increase of 50 percent in professional people?

Dr. CHAPMAN. Yes, sir.

Mr. ROGERS of Florida. And would the staff people increase accordingly?

Dr. CHAPMAN. Yes, sir.

Mr. ROGERS of Florida. About 50 percent for the staff?

Dr. CHAPMAN. Yes.

Mr. ROGERS of Florida. Did I understand you to say your present budget is \$3.5 million?

Dr. PORTERFIELD. The budget for this year for accident prevention is \$3,462,000.

Mr. ROGERS of Florida. How much of that is for administrative work?

Dr. PORTERFIELD. In research grants about \$1,827,000 is earmarked and the rest is for those services including training, technical service, and consultations with State and others, dissemination of information and the administrative cost of the research.

Mr. ROGERS of Florida. What would be the administrative breakdown? I understand you have some programs for training?

Dr. PORTERFIELD. Yes, sir.

Mr. ROGERS of Florida. How much would be what you would term administrative cost?

Dr. CHAPMAN. Let me put it this way, sir. We have a total budget of \$3,460,000. Of this, \$1,827,000 is earmarked for research grants; \$1,633,000 is earmarked for research, applied research, training and technical assistance.

Now the administrative cost as you speak of it—

Mr. ROGERS of Florida. I thought you broke down in your projected program administrative costs as such.

Dr. CHAPMAN. Only relating to the center itself, sir.

Dr. PORTERFIELD. There would be a difference between our present figures and projected figures, sir, in that we don't have an intramural research program now. Our administrative costs really would be identified only by determining of our staff's time, how much of it is devoted to the development of contracts, the auditing of the research results and that sort of thing in contrast to the amount of time they spend on technical assistance and other types of consultation. We could attempt to identify that particular figure and supply it for the record if you would like.

Mr. ROGERS of Florida. That is all right. I just thought you had that breakdown.

What increase do you anticipate in the grant program under the projection of the proposal in this bill? Did I understand you to say you would get up to \$2 million?

Dr. PORTERFIELD. \$2 million by the fourth year.

Dr. CHAPMAN. Yes, that was \$2 million for the research program operations within the center.

Mr. ROGERS of Florida. That is within the center?

Dr. CHAPMAN. Within the center.

Mr. ROGERS of Florida. What would you project for those grant programs for research outside the center?

Dr. CHAPMAN. We have to go before the Appropriations Committee for these moneys, sir. We could give you the amounts of money that we will estimate could be used next year, e.g. we estimate that in 1963 we could absorb \$3,250,000 based on the present prospects. As new researchers come into the field this capability of doing research, which is what I am talking about, would increase at a rate, steady rate. But when you say how much will we get, that depends entirely on a series of factors over which we have no control.

Mr. ROGERS of Florida. I realize that. I am just trying to find out some of this for my own information because I am very much concerned—not particularly about this program but a number of programs which this committee has jurisdiction of—where we have turned over the authority to the Appropriations Committee and I may want to discuss with this committee the setting of authorization limitations, if I can't find out the information I want as to how these programs are going to go on. We want to cooperate with the Appropriations Committee, but I want to know as much about these programs as the Appropriations Committee does. I want to see us get this information, Mr. Chairman, for all of our programs.

Dr. CHAPMAN. I had additional figures which I didn't read to you because I didn't think they were applicable that relate to the grant programs that would parallel the development and operation of the center. Now in 1962, they have projected certain special project grants for which we don't now have authority. So I didn't give you that.

As to research fellowships, we don't have that authority, so I didn't give them to you.

Nor the training grants.

Now, what I would like to do to clarify this in your own mind is to relate two factors which will give you a clue.

The National Institutes of Health over a period of 10 years evolved from a very small base until a typical institute will have a budget of from \$50 to \$80 million, much of which is in research grants. The accident prevention program must be evaluated against the size of the problem, the number of deaths, and the number of injuries. And then an added factor, the capability of doing research and eventually control in this area.

Now, I believe that if research is done in the field of accident prevention of the type which has been done in the field of heart disease, cancer, and mental health, that we will come up with the same definitive answer that will permit the scientific prevention of accidents. It will then be your judgment as to the importance of preventing accident deaths and injuries versus preventing deaths from heart disease, cancer, and mental health.

So, to answer your question obliquely, I would say we have the same potential for definitive research as one of the National Institutes of Health over a period of years.

Mr. ROGERS of Florida. I have just a few more questions. Now, will you just tell me this. As I understand it under the bill the figures you have given are mainly for the operation of the center?

Dr. CHAPMAN. Yes, sir; only that.

Mr. ROGERS of Florida. That would go up to a budget of \$2 million as I understand it.

Dr. CHAPMAN. Yes.

Dr. PORTERFIELD. \$2.5 million.

Mr. ROGERS of Florida. \$2.5 million?

Dr. PORTERFIELD. Yes, sir.

Mr. ROGERS of Florida. Now, your regular research program will continue in addition to that?

Dr. PORTERFIELD. Yes, sir.

Mr. ROGERS of Florida. And approximately what will be that projection over those same number of years that you project this center?

Dr. PORTERFIELD. We can answer that, Mr. Rogers, only in terms of the potential that we think can be developed.

Mr. ROGERS of Florida. What you probably will recommend is what I was thinking of. I realize you may not be granted that by the Congress but I thought probably you have a similar projection on your research programs as you would on this particular program for a center here for intramural research.

Dr. PORTERFIELD. They are ethically, then we would foresee from our present knowledge a trajectory which would lead to a \$5 million extramural research program in 4 years. We would change this esti-

mate every year as we saw how this potential developed and how we were able to make it come true.

Mr. ROGERS of Florida. But you anticipate somewhere around \$8 million for research within 4 years?

Dr. PORTERFIELD. This is what we would estimate.

Mr. ROGERS of Florida. About \$8 million for the building here?

Dr. PORTERFIELD. Yes, sir, \$8.5 million including planning money.

Mr. ROGERS of Florida. I have just one question more. I was a little concerned, Dr. Porterfield, with your statement on page 9, that no one organization or agency could possibly conduct an all-embracing program of its own or undertake the central planning and coordination of the efforts of other agencies in this field.

Now it seems to me that one of the problems we have had is getting a little research going in accident prevention, and we have gone into this with the Department of Commerce, the Bureau of Public Roads and the program they have, is the fact that so much of it is uncoordinated and that one department has a tendency not to know exactly what the other department is doing. It was my hope this was the type of bill and type of legislation that would try to bring some coordination and some unified effort and direction in research in the field of accident prevention although I realize it is a very broad field.

I am somewhat disturbed by that statement that we have no possibility of tying these programs together.

Dr. PORTERFIELD. As you say, Mr. Rogers, the field of accident prevention is so extremely broad that we honestly do not believe that you could have one central point, at least not in one department of the Government, which would cover all phases of accident prevention, including accidents in the various fields of transportation, of housing, of recreation, of everything else, of devising and constructing and making safe all of the elements of the environment in which man lives, and finally of devising all of the factors which influence the human contribution to the accident or its prevention.

We believe that you can have a coordinated and centralized effort in one particular field or aspect and we think this is very desirable.

Or, at any given time, with a more or less single objective you could develop this type of coordination. But to create an overall continuing permanent coordination agency would seem to me even more than the creation of a new major department of government. I think that our hope lies rather in improving, as we have over the past several years, the methods of communication and the intent to coordinate and cooperate that we have seen in the Federal Government as between Housing, Interior, the Department of Defense, the Federal Aviation Agency, and many others.

Mr. ROGERS of Florida. How shall we draw the lines of authority as to which department should conduct what?

Dr. PORTERFIELD. This is one of the technical problems that I don't think we can answer in a flat statement but would be very happy to work with the committee on.

The problem of attempting to define an area in statutory language which would not preempt or stifle other efforts to help and at the same time to give a thrust and stimulus to that part of it which you want. We think this can be done, but it takes rather careful discussion of the language.

The CHAIRMAN. Will the gentleman yield?

Mr. ROGERS of Florida. Yes.

The CHAIRMAN. I want to clarify this one thing.

Actually, what we would be doing, Dr. Chapman, with this bill, it seems to me, would be to place the same emphasis on one of the three leading killers that we are placing on heart, cardiovascular disease, and on arthritis, cancer, mental health, and we would be recognizing for the first time that you have to use epidemiological approach to this epidemic just as we do any other epidemic that threatens our national existence. That is what you would attempt to do and you would confine yourself, as I intended to in the bill, to medical and clinical research. Does that make it any clearer?

Dr. PORTERFIELD. I think that is a fair statement; yes, sir.

Mr. ROGERS of Florida. Now what I am concerned with is the fact that I am not sure, for instance, just what research in Public Health would want to do on traffic accidents, and so forth, and what should be done in the Commerce Department.

Have you a definition of what you want to do in your Department?

Dr. PORTERFIELD. Yes, sir; we have some ideas on that.

Dr. CHAPMAN. May I add a preamble to my statement on this.

There are more than two. There are many ways in which scientists working in this field get together to make sure that they don't duplicate and overlap. The National Safety Council has a function in bringing together all of the people working in the safety field.

Mr. ROGERS of Florida. Do they try to coordinate?

Dr. CHAPMAN. Yes, sir. Then, there is as the interdepartmental Highway Safety Board established by Executive order. It has not met yet but I understand the Secretary of Commerce intends to call it together very shortly, which would have on its membership the Secretary of Commerce, Secretary of Defense, Post Master General, Secretary of HEW, Chairman of the ICC, and the Administrator of General Services.

Mr. ROGERS of Florida. May I say there that I have absolutely no confidence in the Board. We went through this last year. It was never formed last year. This is the great coordinating committee that never even comes together to coordinate. It has not even met, as you say.

Dr. CHAPMAN. I merely reported the fact. What I am getting at is that through various mechanisms—there is no one mechanism, there are many mechanisms. The people that we employ have certain competencies and the people that the Department of Commerce employs have certain competencies. Their funds are appropriated for certain purposes. Because of the appropriation language, because of their basic legislation, they are directed toward certain segments of the program.

As I pointed out, in what I hoped was an illuminating discussion earlier, there are areas of overlap, and in the areas of overlap through friendly understanding and objective interrelationships we do produce interdisciplinary attacks on the problem. These areas are very diverse. Of course, doctors, psychologists, and social workers are needed to understand the vagaries of the human mind and body and emotions. These will be brought to bear on studying the behavior of people that precipitates accidents. We have in Florida being developed now a

research activity in connection with the State and local health department in Pinellas County to study the accidents to older people. Why do accidents happen to older people so frequently? What types of accidents occur? After we lump all of these facts then we may be able to develop some ways of preventing these.

One of the current byproducts is a study in osteoporosis. We felt, hypothetically, that two-thirds of the cases that have broken hips involve people over 65 who fall down and suffer minor trauma or suffer serious injury. What is the answer to that?

Obviously, it is to go back to the metabolic researchers to find ways to postpone the onset of osteoporosis. It is the same way in traffic. We want to learn what is the correlation between drinking and driving. This has been estimated as high as 50 percent. This is approaching it from the driver point of view.

Now the roadbuilder wants to determine whether road fatigue will increase on a straight highway like the New Jersey Turnpike or be decreased by a winding highway such as the New Jersey Garden State Parkway.

The auto manufacturer wants to know how to improve his controls, his signaling devices, and so forth. As a matter of fact, there has not been overlap and duplication because of the existence of these many devices for getting together, talking to one another, learning what each other is doing.

Mr. ROGERS of Florida. This is the point I want to make. I think there can be coordination, I think there must be coordination—

Dr. CHAPMAN. There can be better coordination.

Mr. ROGERS of Florida (continuing). Rather than going off on tangents. I am hopeful that this could be your organization, perhaps be a coordinating organization to help in many areas of this research rather than saying you can't do anything and what they are doing we just don't know about and what we are doing, good, appropriate them a little money, give us a little. I would not want to support a program that is not a coordinated program but rather is just going off on tangents and throwing money away.

I think it must be coordinated. I believe it could be done.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Rogers.

Are there any further questions?

Thank you, Dr. Porterfield and Dr. Chapman.

Dr. PORTERFIELD. Thank you, Mr. Chairman.

The CHAIRMAN. Our next witness is Mr. W. G. Johnson, general manager of the National Safety Council, Chicago, Ill. Mr. Johnson has appeared before our subcommittee many times.

We are always glad to have you, Mr. Johnson. You may proceed.

STATEMENT OF W. G. JOHNSON, NATIONAL SAFETY COUNCIL REPRESENTATIVE, CHICAGO, ILL.

Mr. JOHNSON. Thank you, Mr. Chairman and members of the committee, I would like to inject one note of optimism into today's hearings. We are in the midst of accumulating our current tabulations for the year 1961 and our present figures indicate that accidental deaths went down about 2,000 last year and that this reduction ex-

tended to every major category of accidents. It is likely, then, that for the first time the accidental death rate will be about 50 per 100,000 population and the motor vehicle mileage death rate will drop again.

The National Safety Council is over 48 years old. Its role as the principal national mechanism for voluntary coordination of public and private safety activities was confirmed by the 83d Congress Federal incorporation of the council. The council's structure of conferences, sections, and committees has the active participation of 2,600 volunteers in 54 major bodies and a host of subcommittees.

At the last count, 120 Federal officers and employees occupied 150 positions in the council structure. Consequently the council is the principal means whereby the Federal Establishment maintains coordination with the safety movement as a whole. The council is also one mechanism for voluntary coordination of Federal safety activities themselves.

I listened with considerable interest to Congressman Rogers questions, and I could cite you some instances where the Federal Establishment is coordinating itself through the National Safety Council's various mechanisms.

Before approaching the various objections that the council has to this bill, I might come to the crux of the matter by saying that we concur in the recommendations for changes that were contained in the report of the Surgeon General. We concur in Dr. Porterfield's statement that most of the authority provided by this bill is already present in the U.S. Public Health Service. To be very specific I would say that, just from hearing Dr. Chapman's figures on the costs of the establishment of an intramural research center—and I heard them for the first time today—however, my impression from listening to them was that this is precisely what the National Safety Council endorses.

Since talking about the objections to certain features of the present bill is not altogether pleasant, I thought we might come to the part that we do actually agree on.

We object to certain provisions of H.R. 133 inasmuch as the language and some provisions unnecessarily duplicate the functions the Congress assigned to the council. Some other provisions of H.R. 133 are unnecessary inasmuch as the Public Health Service already has the authority provided.

Before detailing the objections, it would be well to point out that the council, as early as 1937, was urging public health authorities to accept greater responsibilities in safety. Although progress was slow, the present level of interest is gratifying to the council.

When groups initially become interested and active in safety, we commonly encounter some overemphasis on new approaches and underemphasis of proven techniques. Despite these problems, the National Safety Council has a fine day-to-day working relationship with the Accident Prevention Division of the Public Health Service. The council endorses the purposes of the Division's programs. The council commends the Division's avowed intent to coordinate its work with the safety movement as a whole primarily through the council's conference, committee, and section structure.

The National Safety Council's specific, strong objections to H.R. 133, as presently drafted, are three :

(1) The name "National Accident Prevention Center" implies a broader scope and competence than the Public Health Service, and overlaps the scope of a host of Federal and private agencies.

The name, as written, can be construed as a duplication of the council's name:

National Safety Council.

National Accident Prevention Center.

2. The function, "promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals," duplicates a function assigned to the National Safety Council.

Congressional Charter, S3(6) (36 U.S.C. 463 (6)):

The objects and purposes of the corporation shall be: * * * to cooperate with, enlist, and develop the cooperation of and between all persons, corporations, and other organizations and agencies, both public and private, engaged or interested in, or in any manner connected with, any or all of the foregoing purposes * * *

Congressional intent:

One of its (National Safety Council's) functions is to act as a national coordinating agency for all private and public bodies interested in matters of safety. * * * In view of the annual toll on life and property caused by accidents and the need for a national group to coordinate safety efforts in industry, on the farm, in the home, and on the road, the Committee recommends the Federal incorporation of the National Safety Council (House Judiciary Committee, Rept. No. 556, 83d Cong., 1st sess., on S. 11, pt. 5, pp. 2-3),

The coordinating function cannot be carried out on a voluntary basis, except by duplicating the comprehensive conference, section, and committee structure of the council and a number of other specialized safety organizations.

Because this got some attention in a previous discussion I might show you a chart—I realize you cannot see the details but you can see the amount of red on it. This is a chart of the basic organization of the National Safety Council, and the red indicates the points of participation, at the present time, of the U.S. Public Health Service.

In other words, the U.S. Public Health Service is actually participating in the Council's structure and a good deal of the desired coordination is effected through this mechanism. I would cite a few instances. Just a few weeks ago, January 15, we met in New York with the American College of Surgeons and American Association for the Surgery of Trauma. This is a joint committee of the council and these two medical groups. This is a joint committee which has stimulated interest in the study of the matter of transportation of injured persons. At that meeting the U.S. Public Health Service presented five important recommendations for further action to improve transportation of injured.

The surgeons took these under study. In short this committee was an excellent point of contact between the U.S. Public Health Service and the surgeons to bring about coordination and cooperation in the specific area of transportation of injured persons.

This same group has stimulated a study of transportation of injured in the rather unique San Francisco area. This study will be financed now with approximately \$100,000 of U.S. Public Health Service money. The idea for the study grew out of the activities of this joint National Safety Council-American College of Surgeons committee, and we have had full and friendly and constructive participa-

tion of the U.S. Public Health Service in that work. We heartily endorse and commend their support for the San Francisco study.

We have good relations with them in the field as well. We sponsored recently four regional meetings of field staff of all safety organizations around the country so that these field people, the ones with the "overalls," could see whether they were working on the same objectives in the States. The U.S. Public Health Service participated in those meetings and we have an excellent level of cooperation.

But I point out that this is being done through a comprehensive structure, and that many of the Federal agencies are also represented in these same groups.

I might cite one other instance. Our motor transportation conference has a research committee. The U.S. Public Health Service is represented on that conference, as is the ICC. At that same meeting then will be the American Medical Association and a wide variety of nongovernmental groups, all of them working together to outline research needs in the area of motor transportation and to set about independently and voluntarily to find support for those functions.

Returning to the statement: The function—

establish an information center on causes and prevention of accidents, and collect and make available, through publications and other appropriate means, information as to, and the practical application of, activities carried on under this part—

without appropriate qualification, duplicates a function assigned to the National Safety Council.

Congressional charter, S3(2), 36 U.S.C. 463(2) :

The objects and purposes of the corporation shall be: * * * to collect, correlate, publish, distribute, and disseminate educational and informative data, reports, and all other data relative to safety methods and procedures; * * *

Congressional intent :

The Council is presently engaged in a continuous and unified program of accident prevention which includes * * * dissemination of material on accident cause and prevention (House Judiciary Committee Report No. 556, 83d Cong., 1st sess., on S. 1105, p. 2).

The Council is now in its 40th year of service to the country in gathering and distributing information about causes of accidents and ways of preventing them. The National Safety Council is the hub of the safety movement (Senate Judiciary Committee Report No. 353, 83d Cong., 1st sess., on S. 1105, p. 6).

The Public Health Service already has appropriate authority to collect and disseminate information and is developing its concepts of appropriate services. Pending orderly development of nonduplicative services, special authorization is not only unnecessary but carries an implied authority to use tax funds to widely distribute publications which duplicate the self-supporting services of the Council and numerous other private agencies. Tax-supported programs carry the danger of destruction of private, voluntary, self-supporting efforts.

I would use some of the Council's publications by way of illustration. We publish four technical magazines. One goes to industry, 35,000 circulation, a farm magazine with 20,000 circulation, a 9,000 circulation school magazine, and Traffic Safety, with a circulation of 15,000 among the city and State traffic authorities throughout the country, and we are regularly reporting in that magazine research findings.

We publish annually Accident Facts with a circulation of 47,000. Now I would point out to you that this booklet could not exist if it were not for governmental safety activities. It is replete with compilations from the Federal Aviation Agency, the ICC, the Bureau of Public Roads, U.S. Public Health Service and so forth. The booklet could not exist without governmental statistical services.

However, if we consider for a moment the question, "How do we extend this type of information?" and it deserves to be extended, it would appear that the cost of one man beginning to duplicate this type of function could far better be spent in wider distribution of the existing publication.

I am now trying to sell this committee 40,000 copies of the book but I think we have to give some serious thought to the fact that the movement as now organized depends largely on voluntary self-supporting service to carry the momentum.

The Council points out that three functions assigned by H.R. 133 are unnecessary inasmuch as the Public Health Service already has such authority. Their repetition here seems to imply the creation of a Federal superagency. The three are:

1. To make research facilities available to others, S. 382(3).
2. To make grants-in-aid for research, S. 382(4).
3. To secure expert consultants, S. 382(6).

I would speak particularly to item 2, to make grants-in-aid research: The Public Health Service has this authority at the present time and is making grants-in-aid for research. We heard some of the figures a moment ago. The Council certainly supports the present level of expenditures on those grants-in-aid, and supports a constructive growth in that level so there is no conflict in intent here.

The simple question is whether we need a new device to carry out these activities.

The Council believes that the Accident Prevention Advisory Board proposed by H.R. 133 is an unnecessary and less effective mechanism than the research approval bodies and the Accident Prevention Advisory Committee as presently constituted within the Public Health Service.

More important than the above specific criticisms is what is not said or implied in the bill:

1. Only a voluntary, comprehensive structure can provide mechanisms of effective exchange of information, standards development, group planning, and coordination.
2. Only policies which recognize how and why accidents can be prevented in communities can be effective—a Federal centralization of safety will be expensive and ineffective.
3. Broadly agreed-upon action programs are a necessity for cooperative, voluntary action.
4. Only a careful analysis of Public Health Service capabilities for serving specific groups can produce efficient use of resources and be effective.

There is a great need to study and develop (1) the role of State and local health departments in safety, and (2) the services the Public Health Service can appropriately render in this regard. The Public Health Service is making encouraging progress in this area. The National Safety Council assisted by conducting a 1960 survey

of State medical services in traffic safety, and submitted its findings to the Association of State & Territorial Health Officers for study and recommendation.

I might at this point describe one current activity which illustrates both coordination and the matter of studying the role of the local and public health department. Our public safety committee will sponsor a meeting in Florida the latter part of this month in which we have drawn together a wide variety of people interested in recreational safety. The topic under discussion by these people is what should be the role of local health departments in recreational safety.

We are calling the meeting at the request of the U.S. Public Health Service. So we are able to bring together through our facilities a wide variety of voluntary and official agencies at the State and local level.

The task then of defining this local health department role will be followed by the task of defining what services should be given by the U.S. Public Health Service, because they are the authorized instrument to serve the local health departments.

Mr. ROGERS of Florida. May I interrupt?

Mr. JOHNSON. Yes.

Mr. ROGERS of Florida. Where is this to be held?

Mr. JOHNSON. I think it is Jacksonville, Fla.

On page 6 of the statement we listed some of the agreed-upon premises by which the Public Health Service and ourselves conduct our affairs. Under item 2 we urged coordination of Public Health Service programs with the safety movement as a whole through such organizations as the National Safety Council structure and the President's Committee for Traffic Safety. In the first draft of this statement we had "item C, the Interdepartmental Safety Board." I concluded, as did Mr. Rogers, that realism required its deletion from the list because it never met, which we deeply regret.

We have also shown other bases on which we coordinate our affairs and on which we have had a very constructive relationship. We believe the Accident Prevention Division is making excellent progress and creating a good basis for cooperation and mutual effort along the following lines:

- I. Definition of primary roles of Public Health Service, such as:
 - A. Services to State and local health officers.
 - B. Research into accident causes and remedies.
 - C. Stimulation of health and medical groups to become more active in safety.
- II. Coordination of Public Health Service programs with the safety movement as a whole through such organizations as:
 - A. National Safety Council structure, including the traffic, home, school, public, farm, motor transport, and other groups.
 - B. President's Committee on Traffic Safety.
- III. Statements of Public Health Service endorsement and support for:
 - A. NSC "Community Safety Organization—Principles, Policies, Programs," including the community program of the home conference.
 - B. "Action Program" of the President's Committee for Traffic Safety.
 - C. Inventories which measure items A and B above.
 - D. Recommendations of Joint Policy Committee of the National Safety Council, American College of Surgeons, and American Association for Surgery of Trauma with respect to transportation of injured.
- IV. Recognition and use by the Public Health Service of the same service chart and other systems of analysis used by the National Safety Council for determining priority needs in the field of safety. This is of value in the important job of building public support for expansion of constructive accident prevention activities in the Public Health Service and at State and local levels.

In 1956 and 1957, representatives of the National Safety Council appeared before a subcommittee of the House Committee on Interstate and Foreign Commerce, which was investigating highway traffic accidents.

Included in the testimony of the council representatives, and in the testimony of representatives of some other organizations, were statements on the need for basic research into the causes of accidents, particularly the human factors involved. It was also pointed out that efforts to obtain funds from private sources to conduct this type of research had been largely unsuccessful.

Several witnesses suggested that the appropriation of Federal funds for basic research into the causes of accidents would constitute an appropriate and significant contribution to the prevention of accidents by the National Government.

One element of the above presentation, a "Quantitative Analysis of Traffic Safety Services of National Organizations," was later used as an appendix in the "Federal Role in Highway Safety." This chart gives appropriate emphasis to research without underemphasizing the need to apply what is now known.

In reviewing this statement just yesterday it seemed to me we might have erred in its preparation in one respect. I did not consider it was necessary to further establish the need for research before this committee. I had thought that this need had been adequately established and that we were talking simply about a device for getting on with the job.

But if the committee feels that there is a need to establish the need for additional research, I would briefly give you this record, and I could supplement it with a written record.

In 1948 the President's Conference on Occupational Safety, issued a report on research needed. A study of that report will show that many of the same behavioral factors that run through other kinds of accidents are cited as needing study.

In 1954 to 1956 our own school and college conference defined needs for research in safety education.

In 1957 the Robert's committee, the special subcommittee of the Interstate and Foreign Commerce Committee, stated the need for basic research and mentioned the need for a research center in that 1957 report.

The public officials conference here in Washington, called by the White House in 1957, also underscored the need for research.

In 1958 we submitted a paper to this committee which included the economic justification for research in terms of accident cost. The Williamsburg conference, jointly sponsored by the President's Committee, the U.S. Public Health Service, Automotive Safety Foundation, National Safety Council was also held in 1958. There were 20 top scientists who underscored the need for additional research and laid down some constructive guidelines. In 1958 we also had a panel of research hearings before this committee.

Our own farm conference in 1959 conducted a farm research conference. The "Federal Role in Highway Safety" issued by the Secretary of Commerce in 1959 stated the need for research.

In 1961 the President's Committee for Traffic Safety revised its action program and everyone of those reports states the need for research.

On this basis, gentlemen, I had not thought it necessary to go into the need for research. It seems to me that on the record, both of this committee and in other places, it has been very well established. We are concerned with what devices would further the present task.

In 1958 a National Safety Council representative was a consultant for the preparation of a report entitled "Analysis of Responsibility and Capability of the Public Health Service in Accident Prevention." Happily we can say that the major programs therein suggested have been initiated, with one important exception, a program of intramural research.

In 1960 a National Safety Council representative; namely, myself, along with Dr. Barry King, participated in the preparation of the following statement. We were members of the Accident Prevention Committee of the Surgeon General.

Requirements for Public Health Service Accident Prevention activities, as defined by the National Health Advisory Council, consist of programs and services which include intramural research, research and training, education grants-in-aid, collection, analysis and reporting accident data; dissemination of information; development of accident prevention procedures; internal accident prevention programs; assistance to State public health organizations and safety groups; and collaboration and continuing liaison with national non-Federal organizations—the National Safety Council, American Red Cross, and American Medical Association.

In addition to extramural research supported by grants-in-aid, intramural research, conducted by members of the staff of the Public Health Service is essential. This inhouse research is necessary since it can be directed specifically toward the support and operation of the Public Health Service programs and services in accident prevention. The purpose of the grants-in-aid is to contribute to the support of a program of studies proposed by investigators in academic and other research organizations outside the Federal Government. The purpose of intramural research is to provide a program of applied research directed toward the development of solutions to specific problems in public health accident prevention activities; provide for program continuity and effectiveness; and develop and maintain the necessary high degree of professional proficiency of the staff.

Since there are currently no facilities or provisions for such a program of intramural research, the Accident Prevention Advisory Committee makes the following recommendation:

"That the U.S. Public Health Service develop and operate a U.S. Public Health Service Accident Prevention Research Center with adequate facilities and staff to conduct continuing intramural research in the basic medical, clinical, and behavioral sciences essential for support of PHS accident prevention programs and services.

"Specifically, it is the judgment of the Accident Prevention Advisory Committee that the facilities for applied research in accident prevention should provide for essential experimental studies such as are listed as examples below.

"(a) Laboratory research on: normal biological and disease mechanisms; physiological and psychological bases of behavior; physical and mental growth and maturation.

"(b) Clinical studies on: performance, behavior, physical condition, incapacitation, impairments, aging, and disease.

"(c) Feasibility or preliminary studies of various research approaches for program development and for validation of reported findings.

"(d) Measurement and description of human capabilities under the conditions they will be exercised, i.e., practical real life situations.

"(e) Computer studies of the influence of the variables in accident causation and prevention.

"(f) Simulator studies of the requirements, behavior, and performance in potentially hazardous tasks and situations, and of accident prevention measures.

"The center, with its research facilities and staff, would constitute an important part of an effective Accident Prevention Division in the Public Health

Service for its liaison and collaboration with non-Federal agencies and other Federal agencies, and for conducting State and other services which constitute its overall programs and services in public health accident prevention."

That same resolution was reviewed and again endorsed by the Surgeon General's Advisory Committee just a few weeks ago.

Very recently the National Safety Council representative voted affirmatively on the following Accident Prevention Advisory Committee resolution:

The Advisory Committee on Accident Prevention recommends the strongest possible Public Health Service and Budget Bureau support be given to budgetary requests in the area of farm safety research. It is particularly important to embark on research inasmuch as many facets of modern farming are unique and knowledge from other areas does not apply. These research efforts should be coordinated with those of organizations that have known achievements, interests, and skills in the field. Such organizations and groups would include: The Farm Department of the National Safety Council, Extension Service of the U.S. Department of Agriculture, the Agricultural Research Service of the U.S. Department of Agriculture, safety councils at the State and local level, accident prevention programs in State health departments, the American Association of Agricultural Engineers, the Farm Equipment Institute, National Association of Vocational Agricultural Teachers, program area committee of the American Public Health Association, and others.

The Council representative commented as follows:

The National Safety Council's farm conference sponsored a research conference, October 1 and 2, 1959. The research conference was fully representative of agricultural agencies and interests. The research conference concluded that there was great need for increased farm safety research, and listed many examples of needed research which are within the special competencies of the Public Health Service; namely, the medical, clinical, and behavioral sciences.

The National Safety Council believes that there is a great need for expanded accident prevention research, and that Public Health Service efforts to stimulate such research in the medical, clinical, and behavioral sciences can be a valuable contribution to accident prevention. Careful attention should also be given to promoting State, local, industrial, and other private research support.

Because the chairman of this committee has frequently expressed the hope that Federal expenditures for research would stimulate additional expenditures for research, I have included in this statement simply one negative finding.

In 1958 we conducted a survey of State traffic safety research activity. We asked each of the State governments what was going on in their State. This was the first time such a survey had been made.

Most of the research programs were being funded from Federal funds and very little research was receiving State support. We returned to each of the States a series of recommendations, the last two of which are:

State legislative appropriations are necessary if States are to guide their own destinies to solving local problems—

and:

More public information and education regarding the necessity for accelerated research programs is vital.

There are two current reports that are more encouraging. Just the other day we had word that California will do something to help remedy this situation this year. The government recently approved a \$100,000 research program to seek the cause and cures of dangerous

driving habits. We are informed that New York State is showing legislative support for expansion of its pioneering research efforts.

Prizes and recognition are always pleasant. The research project which in 1961 received the National Safety Council's Metropolitan Life Award for Research in Accident Prevention was supported, in part, by Public Health Service funds. This subcommittee can properly share in the satisfaction of this recognition.

From the foregoing it should be amply clear that the National Safety Council believes that a contribution to safety will be made by creating within the Accident Prevention Division a U.S. Public Health Service Accident Prevention Research Center devoted to intramural research programs in the medical, clinical, and behavioral sciences.

The CHAIRMAN. Thank you, Mr. Johnson.

I believe that when you and Mr. Kranl appeared before this subcommittee, I believe it was 3 years ago, perhaps 4, the committee placed in the record at that time information giving us the capital expenditure in the field of cancer, heart disease, and in the field of accident prevention. I believe it was limited at that time to the traffic safety field.

Do you happen to recall what those figures were? It seems to me we used polio; we spent at that time \$40,000 per death.

Mr. JOHNSON. I can't remember the figures. If you recall, they were not published due to an interruption in the committee's continuity of activities. I started to give you a figure but I am afraid to quote from memory. I would be glad to get for you the figures which we used at that time and attempt to bring them up to date if you so desire.

(The information requested is incorporated in the letter appearing on p. 47.)

The CHAIRMAN. If I recall correctly, in this particular field of traffic safety, we were spending \$2.50 per death and about \$0.70 per injury.

Yet the costs have been extensive. In 1956 the National Health survey we found instead of 1½ to 2 million people being injured every year we are now injuring at the rate of about 5 million a year. The cost is estimated by the insurance companies in the neighborhood of \$10 billion per year. Is that correct?

Mr. JOHNSON. I have never been able to find out what is in that insurance estimate. Our own estimate of economic cost is described in Accident Facts. It is approaching \$14 billion for all accidents.

The CHAIRMAN. You would agree, I believe that there should be an expanded attack in this field of accidents.

Mr. JOHNSON. Yes. The economic justification for research was cited in the paper that we provided on January 3, 1958, for the committee. We said then the costs of accidents were estimated at \$11,200 million for 1956. The costs of traffic congestion, a problem susceptible to the same organizational solutions, probably exceeded the cost of traffic accidents, which were then \$5 billion.

Thus research expenditures must be budgeted in relation to the many billions of dollars now spent or wasted.

The CHAIRMAN. Now, would some of your objections to H.R. 133 be removed if the word "National" was left out of the bill and we substituted what you suggested here, "U.S. Public Health Service Accident Prevention Research Center"?

Mr. JOHNSON. That is one of our suggestions.

The CHAIRMAN. Of course, you do not make any research grants from your organization to the universities and colleges, do you?

Mr. JOHNSON. That is right. We have no funds for that purpose. We conduct a very limited amount of internal research where we have the data internally from previous reports; for example, the annual inventory of traffic safety activities. We have a mass of data on what 1,200 cities and 50 States are doing. We do research with those data but we limit ourselves to the internal programs.

There is one other exception, that is, the winter driving tests which we have conducted on frozen lakes up in Wisconsin and Michigan for about 25 years. These have led to the redesign of chains and tires. History does not record how we got into this particular activity, but ordinarily we don't conduct direct research activities.

The CHAIRMAN. Now, at the present time I believe you testified that one of the research grants which is being used by the National Safety Council comes through, part of it at least, through the public service to the National Safety Council.

Mr. JOHNSON. Are you referring to the San Francisco story I mentioned?

The CHAIRMAN. No, sir; I think I was referring to the Metropolitan Life Insurance statement. You said at page 11, paragraph 2:

The research project which in 1961 received the National Safety Council's Metropolitan Life Award for research in accident prevention was supported in part by Public Health Service funds.

Mr. JOHNSON. The actual project was Stan Baker's intensive investigation of accidents at Northwestern University. That won our award. This project was supported in part by Public Health Service funds. The money did not come through the Council. I was simply recording the fact that our award had been given to a project funded in part by the Public Health Service, which would serve to express our high regard for the direction this research work has taken.

The CHAIRMAN. I think your most recent contribution was joining with the American Medical Association and Public Health Service in a joint letter to the automobile manufacturers trying to get them to put on a national education program and you succeeded.

I recall very distinctly that you made that contribution.

Mr. JOHNSON. That is part of the continuing program the three agencies started in 1958 with the education on seat belts.

The CHAIRMAN. You seem to have indicated briefly in your statement a knowledge of the need for research in the accident prevention field.

Now, would you state for the record what the Safety Council is doing to generate money and manpower for these jobs?

Mr. JOHNSON. Yes, sir. The stimulation of research comes about first through assessment of the needs that have to be filled. I would return to a specific example because they are many. The Research Committee of our Motor Transportation Conference, and this Conference consists of representatives of the large common carriers and private carriers, the Interstate Commerce Commission, bus companies, insurance companies, representatives of the medical profession, and the U.S. Public Health Service—this Research Committee will define the research needs and then the members of that conference through their

own channels endeavor to find support for those research needs. The support might be through the American Trucking Association Foundation or it might be a Public Health Service grant. It might be a grant—one was a Pure Oil Co. grant—it might be a study of the characteristics of drivers who had driven over 20 years without an accident which was conducted through Columbia and was supported by the Du Pont Co.

In other words, from each one of these conferences which has a research committee the effort fans out. The same thing would be true of our School and College Conference Research Committee, the Research Committee of our Industrial Conference and so forth.

In the area of traffic we made a decision some years ago to rely on the Research Committee of the President's Committee for Traffic Safety rather than trying to convene the same people in a duplicating effort. So we have no research committee on traffic safety for the simple reason that we work through the President's Committee. We are presently serving as the secretariat of the Research Committee and we are drafting its report for the President's action program.

The CHAIRMAN. You mentioned the Interstate Commerce Commission. I would like to interject one statement here from the report of the Interstate Commerce Commission which approved this bill and ask for your opinion on that statement.

This statement is as follows:

Illustrative of the potential usefulness which the center could be to this Commission is the fact that in the discharge of its responsibilities in the field of motor carrier safety the Commission often needs the counsel and advice of experts on such matters as standards of eyesight, hearing, and the effects of organic, nervous, and functional diseases on the human body. It also needs information as to the effect of fatigue and drugs on driving ability. Research in such areas promoted and aided by the center and Advisory Board would undoubtedly be of benefit to this Commission in its task of prescribing motor carrier safety regulations.

Mr. JOHNSON. I would endorse that statement if I understood it correctly. What they are saying is that we need additional research on these matters and certainly this is true.

I think the question of duplication of effort would take this form—I refer again to the research committee of our Motor Transportation Conference. A member of the committee is Dr. Brandaleone of the AMA. If the Public Health Service were endeavoring to answer a question from the ICC there is no reason under the sun why the U.S. Public Health Service could not assemble in the room the same group of people we already have and get the opinion of the medical profession, as well as the results of their intramural research.

There is no reason why this could not be done. I am simply pointing out to the committee that this would duplicate an existing body.

The CHAIRMAN. The committees that you speak of do not actually do research? Is that correct?

Mr. JOHNSON. That is right.

The CHAIRMAN. Therefore, in such a meeting as you refer to there would be actually no expert opinions. It would simply be their own personal opinion without being supported and backed up by intramural research such as is being done by the Public Health Service?

Mr. JOHNSON. The individual members of the committee do research but the committee does not as its function. It is simply a means of exchanging of information and coordination.

The CHAIRMAN. What I have reference to, Mr. Johnson, is the type of work which has been done, like the work at Cornell, the work by Colonel Stapp and others which come up in reports on the basis of actual experimentation and actual use of volunteers, human beings, and animals and such.

You do not conduct any such research as that?

MR. JOHNSON. No, sir. This is why we endorse this intramural research center because we believe this work should be done. I was speaking to the point of the coordinating mechanism.

The CHAIRMAN. That is all.

MR. O'Brien?

MR. O'BRIEN. Mr. Chairman, I realize that this accident field is much broader than the traffic problem but do you have any figures on how much the 50 States are spending in the field of accident prevention on highways. You mentioned in California \$100,000 as a notable exception. I would assume the others are not doing as well.

MR. JOHNSON. On the research aspect, I think this is correct, that they are not spending money at the present time on research in anything like the proportions they ought to.

If you go into a State motor vehicle department and there you see acres of clerks expensively processing records, and then you set that against the fact that there is no research expenditure within the State to improve the process, I think this is a sad state of affairs.

MR. O'BRIEN. Would you say the States collectively spend as much as \$6 million on accident research?

MR. JOHNSON. I'm quite sure it would not be that much. I can get you the figure as to the 1958 level from this survey that we conducted. But I pointed out that most of the money that they could identify as research money being spent in the State came from the Federal Government but I could provide the committee with a copy of that 1958 summary.

(The information requested is incorporated in the following letter:)

NATIONAL SAFETY COUNCIL,
Chicago, Ill., February 28, 1962.

HON. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety,
Committee on Interstate and Foreign Commerce,
U.S. House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: During the hearings I agreed to supply you with research expenditures per fatality for accidents and diseases. However, I noticed the next day they were supplied by one of the health people. Since we would have no data other than those supplied by the health groups, I will presume that the data you were given answer your needs, unless I hear from you to the contrary.

I also agreed to send you the State-by-State expenditures of State funds for research. However, I find in going back to the summary of our 1958 survey that we concluded it would not be possible to make an accurate State-by-State tabulation which would have any significance (see bottom of page 3 in the report).

Although the individual State figures don't mean much for one year, the synopsis on page 2 of the report explains the real situation—"Major sources of funds come from Federal budgets," and "State legislative appropriations are necessary if States are to guide their own destinies in solving local problems."

Best regards.

Sincerely,

W. G. JOHNSON, General Manager.

Mr. O'BRIEN. Still there are approximately 60 million automobiles in the United States, is that correct?

Mr. JOHNSON. More than that, 74 million now, I think.

Mr. O'BRIEN. Each State collects rather heavily for the registration of each one of these vehicles?

Mr. JOHNSON. Yes, sir, and gasoline taxes.

Mr. O'BRIEN. Of course, I realize that a large amount of that money goes into the construction of roads but from the figures, we have probably less than 2 cents per car at the State level, that is going into research.

Mr. JOHNSON. I would say substantially less than 2 cents per car. It would probably get down to mills. I think the best way to handle this type of question would be if I reviewed that 1958 summary and sent up the level then with some estimate as to what it is now.

Mr. O'BRIEN. Are the States waiting for the Federal Government to do it?

Mr. JOHNSON. Well, I can't ascribe the reasons. You are probably familiar with State legislatures and their responsiveness to factual information, which very often leaves something to be desired. They act from their personal experience. We have this problem in trying to get the uniform vehicle code passed.

I don't think you have research-minded people at these various points. I think this is only being gradually recognized now.

I might cite some exceptions. I believe the State highway departments have engaged in research in terms of road construction, alignment, and layout. You have research activities in the Agricultural Extension Service and the State college of agriculture directed to farm accidents. This is at a fair level. But when you get into relatively new administrative areas such as driver licensing the studies have been all too rare. There have been some.

Mr. O'BRIEN. I had in mind, e.g., in my State I pay \$27.50 registration every year. I pay several times that amount for insurance in case I am involved in an accident and damage someone else's property or person. Apparently not even 5 percent, not even 2 percent of what I pay for registration goes into any research activities which would make it safe for me to drive. I am wondering if this is not a pretty good field of exploration for the States.

Mr. JOHNSON. This was the tenor of our recommendations. I repeated these five recommendations in the body of my statement because we sent these back to the States. Traffic safety research at the State level is weak and uncoordinated except in a few cases.

There is a definite need for stronger State leadership.

Much more coordination of State research and National priorities is desirable.

Major sources of funds come from Federal budgets.

State legislative appropriations are necessary if States are to find their own destinies in solving local problems.

And we need more public information on this point.

This is what we sent to the 50 Governors.

Mr. O'BRIEN. There we have a case of where we have discovered the problem. The question is what are we doing about it. That is one of the things that concerns me. I believe this is a very great problem for which Congress has the responsibility. I am wondering

after we get through with all this information, after we get it all, I understand safety belts, better tires, and chains that you mentioned and so forth, what do we do, e.g., when we find out that people over 60 are more accident prone than other people? Do we deny them licenses? Do we give them limited licenses? Do we keep them off superhighways? Do we consider half the time when an older person gets in an accident he is run over by a younger person? I am wondering what do we do about legislation when we get the information. We go back to the same legislature for remedial action.

Mr. JOHNSON. I believe this committee would like to hear about my experience in Florida where the application of medical standards to older drivers was discussed on a television program a few years ago. Knowing that this question was very likely to occur, I had a very carefully phrased statement. I said that we needed periodic medical examinations, and I hastened to add that these were for the purpose of suggesting compensating factors in driving, as to how they drive, where they drive, making them aware of growing deficiencies, rather than for the purpose of taking people off the road. But everybody in Florida turned off his hearing aid after I finished the first sentence. The television station tells me that they got more mail and more phone calls on that statement than they ever had before. So when you begin to discuss any kind of administrative handling of older people dealing with a very precious thing, namely with a driver's license, you must be aware that reason very quickly leaves the room and not everybody listens.

Mr. O'BRIEN. I am not so sure that reason leaves the room. I think I would accept the periodic medical examination for older people if we had periodic psychiatric examinations for some of the younger people. I think 9 times out of 10 when we find an older person involved in an accident it is not an older person involved in the accident with him. It is some younger driver or careless driver who is tailgating, who ignores his flicker sign when he wants to move over in a throughway. Actually I think the older drivers are much more careful than the younger drivers. I would not have said that 20 years ago.

The CHAIRMAN. The gentleman from Florida.

Mr. ROGERS of Florida. Mr. Chairman, just a question or two.

What funds does the National Safety Council have at its disposal for research?

Mr. JOHNSON. For the funding of research?

Mr. ROGERS of Florida. Yes.

Mr. JOHNSON. Practically none except for the small amount of intramural research that we do. We derive about \$5 million of income from the distribution of publications. Most of this goes to pay printing bills. We have about a half million dollars in grants to conduct public service programs and about a half million dollars in contributions. We do not conduct a national fund raising campaign as do some of the other voluntary health agencies.

Mr. ROGERS of Florida. What is it that makes people come to you to coordinate that?

Mr. JOHNSON. I think historically, principally because we have the "meeting room." We call the meeting and we have the voluntary structure. I could tell you some stories about the fact that Federal people from different departments have on many occasions found out

what the other department was doing at a National Safety Council meeting.

Mr. ROGERS of Florida. I have no doubt about that.

Mr. JOHNSON. I testified once before a predecessor of this committee to the effect that Federal coordination was weak and inadequate and it deserved to be corrected. I was told afterwards that the only way to do this was to create another agency. So I have since then been hoping that the council structure would be a help in this direction but I still think you need more Federal coordination.

Mr. ROGERS of Florida. I am wondering, suppose someone comes to you with a problem, that they want to try to get a decision that research should be done on this particular project, would they come to you and then your panel would go over it and recommend research or what is your function?

Mr. JOHNSON. We have one staff man whose principal function is the correlation of research, the publication in Traffic Safety magazine of lists of projects that are going on, the collection of abstracts, and providing a service to researchers. For example, a man in a university conceives of a certain project and sometimes we can tell him that there is an investigation on parallel lines already underway, or we can tell him in a few instances where he might hope to get funds for this project.

Ours is an informational coordinating function, not in the sense of direction, but of providing information.

Mr. ROGERS of Florida. You make no decisions on what projects should be researched.

Mr. JOHNSON. Our committees and conferences do prepare lists of recommended research but they make no decision that this project will not be funded and this one will. They make no such decision.

Mr. ROGERS of Florida. Who makes those decisions?

Mr. JOHNSON. Whoever has the money.

Mr. ROGERS of Florida. You don't know whether those projects will be done or not?

Mr. JOHNSON. That is right. Unless there is more money available we know that some of them will not be done.

Mr. ROGERS of Florida. You may think some projects are good but unless someone has some money to do it then that project may never be done?

Mr. JOHNSON. Yes. If I may trace the mechanism there—in 1959 our farm conference conducted a special conference on research. This conference delineated a large number of lines of inquiry which it thought was productive. Just a few weeks ago the Accident Prevention Advisory Committee of the Public Health Service made a formal statement of the need for U.S. Public Health Service and Budget Bureau approval of more funds to investigate particularly the medical topics that were in this list which we had developed. This recommendation that Public Health Service funds be expended in this area and that they be increased was, incidentally, endorsed by the U.S. Department of Agriculture, which while it has certain research capacities does not have them in the medical, clinical, behavioral science areas.

So I think it could be said that the 1959 conference set in motion a train of events by which we may hope to get an orderly solution in the next few years, and get more money.

Mr. ROGERS of Florida. You would not be too willing to set this up as a coordinating agency, but you would be willing to have a research center?

Mr. JOHNSON. Yes.

Mr. ROGERS of Florida. Yet, don't you feel in thinking over the problem that where it appears from the testimony of the Health, Education, and Welfare, and from your testimony that in Government we have no real coordinating agency to place priorities, to see that projects are done that really need to be done, because even if they come to you they never get done unless someone just decides to do it, don't you think it might be a good idea to have such an agency and try to set up some priority and coordinate the necessary research projects?

Mr. JOHNSON. Yes, I think there should be coordination of research and other safety activities within the Federal establishment. However, our experience, particularly in State government, tells us that a coordinating agency located in a single department is never very effective. At the State level we seek the Governor's office, the Governor's coordinating committee. The parallel at the Federal level would be to raise a question as to whether within the Bureau of the Budget there should be a facility, a staff facility, for the coordination of Federal safety activities. I would be inclined to think we would think this is a good idea.

Mr. ROGERS of Florida. That would be a better approach rather than putting it in just one of the departments.

Mr. JOHNSON. I don't believe putting it in any one of the departments would work.

Mr. ROGERS of Florida. But you do see the need of some coordinating agency?

Mr. JOHNSON. Yes.

The CHAIRMAN. The Chair would like to announce at this time that the House will be in session shortly on a bill coming out of this committee.

We will take the next witness and try to go as far as we can. I am not sure that we can sit this afternoon. It may be that the committee will not be able to sit this afternoon and we may have to go over until tomorrow. We will go as far as we can.

I would like to take Judge Finesilver.

We welcome you to our subcommittee. I realize that you have come a great distance and at a sacrifice to be here with us.

You may proceed.

**STATEMENT OF MUNICIPAL JUDGE SHERMAN G. FINESILVER,
DIRECTOR, DENVER DRIVER IMPROVEMENT SCHOOL, DENVER,
COLO.**

Judge FINESILVER. Mr. Chairman, if it please the committee, initially I will state at the outset that it is a privilege for me, a member of the judiciary, to appear before this committee which is charged with the responsibility of conducting hearings in an area that is considered our No. 1 domestic problem.

The statement that I submit to the clerk is much more detailed. With your permission I would like to paraphrase and excerpt what I have included in the longer statement.

The CHAIRMAN. Without objection your complete statement will be placed in the record.

(The prepared statement of Municipal Judge Sherman G. Finesilver, director, Denver Driver Improvement School, Denver, Colo., follows:)

STATEMENT OF MUNICIPAL JUDGE SHERMAN G. FINESILVER, DIRECTOR, DENVER DRIVER IMPROVEMENT SCHOOL

Gentlemen, thank you for the privilege of appearing before a congressional committee charged with hearings on an area that is said to be our No. 1 domestic problem—accident prevention.

After almost 7 years as a Denver municipal judge, during which time I have withdrawn from the field of militant advocacy, I have looked forward to this hearing today because it affords a legitimate opportunity to once again become an advocate, defending that which I sincerely believe to be the truth.

Also bearing on my qualification to speak on the present subject is the fact that I was associated with the Denver city attorney's office for 5 years—my work almost exclusively that of a trial lawyer.

During my 7 years as a traffic judge, I have tried a myriad of traffic cases of all degrees of severity; founded the Denver Driver Improvement School, which has attracted considerable national recognition; and was the recipient of the 1960 Paul Gray Hoffman Award of the Automotive Safety Foundation here in Washington for outstanding contribution to traffic safety.

I am sincerely and enthusiastically in favor of this bill and feel that the well-being of the country would best be served by its enactment. However, I am not able to offer any philosophical approaches today, but I believe that my remarks and observations should be considered in light of my previous interest, activity, and responsibility in traffic safety and accident prevention.

It is frightening to realize that more American people have been killed in traffic accidents on the streets and highways of this Nation than have been killed in all the wars and armed conflicts of the United States during our entire history. Even though nearly 40,000 Americans are being killed each year in traffic accidents, very few of us become excited or concerned over this tragic situation. Unlike killing with guns, killing with automobiles has actually become a matter-of-fact occurrence in America. Murder by motor is tolerated; murder by other weapons of violence is not. In the 10-year period 1950-59, there were 375,000 people killed in traffic; there were 13,500,000 injuries. It doesn't take very much imagination to visualize the human misery, the suffering, the heartache and mental anguish tied up in those horribly grim statistics; and, for those who might be money conscious, it could be stated that the monetary loss was approximately \$45 billion. Consequently, the importance of accident prevention is apparent.

The local and national traffic scene is rapidly changing. There are more and more drivers of motor vehicles and operators of motor scooters. By 1968 we can expect 100 million cars and other vehicles to be whizzing along the Nation's highways and byways. There are more automobile registrations and more suburban living requiring more extensive use of the automobile. Because of retirements at earlier ages, there is more free time for more people. No longer is the automobile a luxury—it is now considered a real necessity of life.

One of the earliest cases I tried as a traffic judge involved a 16-year-old boy. He was charged with speeding 60 miles per hour in a 30-mile-per-hour zone and on a heavily traveled Denver street. It was his third citation within a year with convictions in the two preceding cases. When I inquired regarding the whereabouts of his parents, the young man replied that they were in Las Vegas but that before leaving they had given him a \$100 bill to pay any fine that might be imposed by the judge. Of course, the case was continued for plea and further proceedings until the boy's parents could attend with him in court. But, the shocking fact is that this case is not unusual. Money was the least of this young man's worries. Traffic judges throughout the country realize that all too often money is the least worry of most repeat offenders. Obviously, this incident has deep significance and points up and emphasizes the undeniable fact that, in order to achieve correction of driving habits in this type of case, we must look beyond the utilization of monetary penalties. It is questionable if a jail sentence was the proper answer in this case.

From reflection on this case, I realized that something more had to be done with this youngster other than a fine which his parents could readily pay.

I felt that an educational facility and corrective techniques must, of necessity, be correlated to the work of traffic court. However, what curriculum should be used in such a violators' or drivers' improvement school? What about financing, administration, methodology, etc.? More especially, how effective had these schools proven?

I immediately surveyed the research in this area and found that there were two principal research sources: (1) a 1938 publication by the U.S. Department of Commerce that was badly outdated, and (2) a summary of schools prepared by the National Safety Council. Little help for our purposes was realized in these publications. I was surprised to find that, in this crucial area, no thorough and painstaking research had been done as to effectiveness and methodology of driver improvement schools. Accordingly, it was necessary for me to undertake my own research even though—to say the least—this is not my training. The caseload of the average traffic judge also does not lend itself to research.

It took 2 years of extensive research to survey similar schools elsewhere, prepare the first report of its kind in the country, and develop the program in the Denver Driver Improvement School. The school opened in 1959. To show the interest throughout the country in this field, since 1959 over 100 cities and, in addition, countless judges and safety councils have requested copies of the report in addition to 75 libraries. Ten doctorate candidates used it as their main source of research.

The Denver Driver Improvement School has been exceptionally well received, and over 15,000 students—violators and volunteers—have attended its program. We have also conducted driver improvement seminars for cadets at the Air Force Academy, at area military installations, the Federal Correctional Institution (for teenage offenders of Federal laws) and before students from 50 Colorado public and parochial high schools.

In this connection, a statistical report indicates that over a 3-year span, 90 percent of the graduates of the school have enjoyed unblemished driving records; of the chronic or persistent violators, over 68 percent have not appeared again in the traffic court to answer a traffic citation.

The school is unique—it operates without a budget and without cost to the taxpayers. The success of our program indicates that driver-education programs will be accepted in the general community where they are established on an interesting, educational, and continuous basis.

This whole rehabilitation and retraining approach is crying out for added knowledge, research, and potential implementation in other communities. However, believe it or not, research and activity in this prime field is still noticeably lacking. Research in this area has been long neglected. I speak of well-defined research into effectiveness and methodology.

Traffic judges throughout the country are receptive to these rehabilitative innovations. Let us give to the traffic judge and, yes, legislators on all levels of government, the tools needed to be effective. Meaningful research can immeasurably aid in this regard. In my opinion, merely making our traffic courts more dignified, per se, will not aid the accident prevention program. Something more is needed to make this work effective.

To further indicate the need for research and additional development of training programs, I point out the fact that, after our driver improvement program had such wide acceptance by people of all ages in Colorado, several adult deaf drivers contacted me in regard to the possibility of a driver refresher program for adult deaf drivers. When I made inquiry in knowledgeable quarters throughout the country, I found that no training techniques had ever been developed for driver education for adult deaf drivers of out-of-school deaf youths. Yet, 250,000-300,000 deaf people are taxpaying citizens of our country.

Through our own efforts, and after an additional year of research, we developed a 7-week training program for deaf drivers and held a class for 125 deaf drivers last year and an additional 100 attended this year. The program has already become a prototype for deaf driver refresher courses in other cities.

These incidents should indicate my strong feeling of the necessity for research into all areas of accident prevention—for all segments of our community.

In addition, there must be increased activity at all levels in accident prevention research to keep pace with the tremendous upsurge in population. The current national census indicates that the population of the United States will increase from 180 to 208 million, up 28 million or 15 percent over the coming

decade. It is interesting to note that one out of every three people in the United States today was not born by 1946; by 1965 we will be funneling 4 million new drivers yearly into the vehicular driving population. This compares to about 2 million in 1960. The growth in the youthful population, it is said, results from a sharp increase in the birth rate during the early years of World War II and the immediate postwar period. Young drivers (under 24) will account for a major share of the changes in the driving population during the 1960's. There will be:

(a) Many more young drivers (parenthetically, last year's drivers under 25 were involved in nearly 30 percent of all fatal accidents. In future years the proportion of drivers under 25 will become steadily larger and, if their records do not improve, casualties are sure to increase).

(b) Relative small increase in the general accident-free age group of 35-54; many in this group were born during the depression of 1930's when birth rates were low.

(c) Larger numbers of older drivers, including earlier retirements.

Not only will the education and labor picture be affected by these far-reaching population changes, but they will create new challenges which must be met head on in the interests of traffic safety. In 1960 and 1961, the first bumper baby crop of the 1940's became of driving age and this is reflected already in accident statistics. The safety of our senior citizen has also been affected. As an example, last year most of the victims of fatal traffic accidents in Denver were under 25 or over 60 years old—23 of the 70 fatalities in 1961 were 60 years old or over and 22 were under 25 years of age—13 were between 25 and 40 years of age and 12 between 40 and 60 years of age.

While about 38 percent of potential drivers in our high schools receive a standard course of driver education, we seem to have given up on the adult driver. This is warped thinking which abandons, without a fight, a large segment of the driving public who could, beyond the shadow of a doubt, improve, by education, their driving habits. Most, if not all, of our senior drivers have received little or no valid driver education. In most instances, it has been years since they were exposed to current traffic laws, defensive driving techniques and safe-driving practices.

Failure to properly understand the population changes, which will appreciably occur by 1967 and 1968, and immediately prepare grassroots, traffic-safety educational programs by research and implementation, will inevitably mean some 58,000 deaths annually by 1967, and 3 million injuries yearly—not to mention the almost fantastic dollar consequences and economic loss to the Nation and its component parts, which will strike with crushing impact and which is certain to follow such failure.

There is no magic formula, no Pandora's box, no shortcut, no cure-all for prevention of traffic accidents. I am satisfied that the problem cannot be solved overnight.

We, in time, may be able to find cures and vaccines for polio, the common cold, flu, and dreaded cancer and many other man-killing diseases. We very well may launch an astronaut in space and return him to earth and miraculously so, but the analysis of what makes for accident-free driving and what makes a driver tick is vastly more difficult than other research, for we are clearly with an abstract that denies analytical description. Accident-prevention research, as proposed here, is a valid and essential approach to the great problem.

There is a vital and pressing need for research into all phases of traffic safety; i.e., licensing, accident prevention, psychological aspects of motorists, attitudinal factors, motivation, and minimal safety features in automobiles. However, I feel it is timely that we must recognize that automobile accidents are of such tragic consequences that traffic safety must be considered of equal severity as cancer, heart disease, tuberculosis, and other mankillers. For this reason, I feel it necessary that, in addition to the other facets and responsibilities of the U.S. Public Health Service, that a national accident prevention center be established. In this manner, an adequate working facility would be afforded to researchers who are delving into the mysteries of our No. 1 domestic problem. The establishment of such a center would not duplicate existing outstanding facilities and exemplary work being done both privately and under the auspices of colleges and universities. But more so, an accident prevention center would constitute an additional positive working force.

It should be observed that trained professionals and researchers in accident prevention are lacking. The creation of the center, in my opinion, will provide

the impetus for additional activity in this field, just as the creation of cancer and tuberculosis research by the Public Health Service and the activities of the National Institute of Mental Health have proven so marvelous and penetrating. It is also possible that the institution of the center would stimulate long-neglected research areas.

The accident-prevention movement in the United States has, over the past 25 years, proceeded slowly but steadily toward a greater reduction in accident rates. Much of this progress has been based on general educational approaches. In looking ahead, it is quite apparent that any significant decline in accidental deaths and injuries must depend upon an intensification of scientific research on many fronts—human behavior, physical environment, and machines. A Public Health Service accident research center would mark an important step in the direction of increased scientific analysis of accident causation and would pave the way for the development of more scientifically valid control measures.

Today, this country's best efforts are directed to science and the advancement of public welfare. We are bent on securing scientific proficiency. To train a scientific genius to peak performance is futile, however, if in a split second his productive life is lost because he or some other automobile driver lacked proper preparation or is apathetically careless in carrying out this universal activity of present-day life.

The fact that we are training scientific geniuses for the advancement of public welfare in our complex society warrants increased driving preparation and education.

Saving lives is the highest responsibility of government and communal life. We are a part of this great problem—more especially, we are a part of its solution. The responsibility is ours. Thank you for listening.

Judge FINESILVER. I have served as a municipal judge in Denver for the past 7 years and charged with the responsibility of hearing traffic cases on all areas of severity, from jaywalking cases to manslaughter cases. I had the pleasure several years ago of founding the Denver Driver Training School, a municipal facility for violators which incidentally is operating without a budget of any kind, has done so for the past 3 years.

I am sincerely enthusiastically in favor of this bill and I feel further that the well-being of the country would best be served by its enactment. I think this committee realizes perhaps more so than I that more people in this country have been killed in automobile accidents than have been killed in our combined U.S. wars.

In a like manner, I am sure this committee realizes that the local and national traffic scene is rapidly changing—more motor vehicles, motor scooters, younger drivers, more drivers, more cars per family, more superior highways. By 1968 we can well imagine and anticipate some 100 million cars and vehicles on our streets and highways. Because of more suburban living, early retirements, more recreation, I think we realize that no longer is an automobile a luxury in this country but more so a necessity.

One of the early cases I tried involved a 16-year-old boy who was charged with his third speeding violation in a year. He was charged with going down Main Street at 60 miles an hour on a Saturday afternoon before Christmas. He came into court and was readily willing to admit his guilt. When I inquired where his parents were, he said they were in Las Vegas but they gave him a \$100 bill to pay any traffic fine.

Now this is no reflection, of course, on people in Denver. I think this experience might be common to judges throughout the country.

Much of this hearing this morning has dealt with our roads, our licensing, seat belts, the aspects of research. However, an aspect that I am quite deeply interested in is corrective and rehabilitative efforts

in regard to the traffic violators as was done with this young man and educational techniques for senior drivers. Somehow in this whole program of traffic safety we have concentrated on the youthful driver. About 38 percent of all eligible school students are taking driver training. But the senior citizen, the older driver, those over 60, somehow are left out of this program. In like manner as an individual, because in my opinion no resource materials suitable for our purpose were available, I inquired into corrective rehabilitation techniques for violators, what type of techniques to use for senior drivers, dealing with human behavior aspects, their motivation, and so forth.

As a result of this research—and I point out I am not a trained researcher or professional, my background, of course, is dealing as an attorney—because in this country after inquiry we could find no ready materials to use in rehabilitative and corrective techniques we developed these materials ourselves.

Considering that the last report on traffic violator schools was by the Department of Commerce in 1938, of course, our understanding of these problems has changed quite a bit. The areas that I mentioned, education, reeducation, mass education techniques brought about perhaps by television are areas that presently need well-defined research into effectiveness and methodology. These would enable the judge, a traffic judge, to have the necessary working tools to undertake a responsibility that is imposed upon him. Merely by dressing up our courtrooms, making the judges better qualified in the law, in and of itself will not help the traffic safety problem and movement in this country.

I think also that we must reflect and do some considerable soul searching in regard to the changing population. Over the coming decade the population of this country will go up 15 percent. For the senior citizens this is about 30 percent. We are now beginning to see the effect of the bumper baby crop from the forties on our streets and highways. Just about now we will be funneling some 4 million new drivers into our driving population every year in comparison to about 2 million in 1960—almost double their numbers. I think we recognize the drivers under 25 make up about 14 to 15 percent of our driving population.

Year in and year out though, locally, nationally in most communities they are responsible for from 28 to 30 percent of all our fatalities. We are going to have more younger drivers. The relatively accident-free years from 30 to 50 are being compressed, this age level, more senior drivers.

Notwithstanding some statements to the contrary, we see already some reflections of the increase in fatalities for our senior drivers. In Denver last year we had 70 fatalities, 22 of which were under 25, 23 were over 60. This is out of all proportion to our population areas. This means about 66 percent of the people killed were in these two age levels.

I am sure that we are going to be confronted with this even all the more by 1966 and 1967. It has been stated and I haven't verified that nearly one out of every three Americans today was not born by 1946. We can anticipate what this might mean in the next several years. What is the answer? Well, I am sure that there is no magic formula, there is no Pandora's box that we can anticipate or use to prevent traf-

fic accidents. We are making headway with polio, with arthritis, perhaps even with cancer. However, here we are dealing with an area that defies analytical description because not all of us are afflicted with polio, nor will we be, nor heart disease, but every one of us drives. This is an area that is much different. We are having more people killed from accidents than we are from these other mankillers.

As was pointed out here today, our emphasis has not been in this area. I feel that accident prevention research as proposed in this bill is valid, essential, and I feel it is crucial. I think we must realize that now accident prevention must be raised to the stature of what we have done with these other areas of public health. I feel that the Public Health Service is the logical and the necessary facility to undertake this. To no degree am I underestimating or undervaluing the magnificent work of the National Safety Council who have done so much with the judges in this country together with the American bar. I am saying however, we need an additional working facility so that more impetus will be given toward accident prevention, toward research, toward developing research on individuals. The accident prevention movement in the United States over the past 25 years has progressed slowly. I think we are making some headway.

It is quite interesting to hear the remarks of Mr. Johnson, that the complexion for last year is quite healthy which indicates that even if we hold our own we are making the progress considering the additional miles driven, the additional drivers. I don't feel there is a duplication of effort. I feel that research as it is proposed here, with an accident prevention center, will aid immensely those involved in this field, whether they are legislators, whether they are traffic judges, or they are people in private industry who need some valuable information and they need it in an area in a meaningful manner that will help them in their areas of responsibility. I think we all know that this country's best efforts are directed to science, the advancement of public welfare. We are bent on securing scientific proficiency, however, in reflection, to train a scientific genius to peak performance is foolish if in a split second his productive life is taken away because some individual is apathetically careless or indifferent toward his everyday responsibility.

The fact that we are training scientific geniuses for the advancement of public welfare in our society warrants increased driver preparation and education in this everyday activity that we are undergoing.

As I mentioned before, I speak of corrective measures, rehabilitative measures, group therapy which has not been used to any degree in the country with problem drivers. I mentioned errant drivers. We know the secret of success of any traffic movement is how we get the message across to any individual. Saving lives is the highest responsibility of government in our communal life. I feel this is a legislative matter and proper exercise of our responsibility in saving lives. We are a part of this problem. I think no doubt we should realize we are a part of this solution. I also am authorized to state that the Denver Junior Chamber of Commerce is enthusiastically in support of this legislation and it will be proposed to the Colorado Junior Chamber of Commerce for their approval, in like manner to the National Junior Chamber of Commerce in Tulsa, to show the

interest of other people who are not professionals, that, however, they realize the need in this area.

Thank you very much for allowing me to testify and to appear to express these quite personal views in an area that I think so crucial.

The CHAIRMAN. Thank you, Judge, for a very fine statement. I appreciate very much your appearance. I believe you won the Paul Hoffman Award for traffic safety last year.

Judge FINESILVER. Two years ago.

The CHAIRMAN. I am a little too old to say that I am an active Jay-Cee. I used to be.

I certainly recognize the fine contribution that the Jay-Cee's throughout the country have made in this field of highway safety. I am pleased that the Denver chapter is in favor of this bill and it will be submitted to your State body for action at the proper time.

Judge FINESILVER. Thank you.

The CHAIRMAN. Do you feel that with the creation of such a center as envisioned by this bill that we would have a continuity of effort in many projects which suffer today by the more or less stop-and-go approach that has been used?

Judge FINESILVER. Mr. Chairman, this is one of the effective aspects that there will be some one Government organization charged with this effort, to have the staff and facilities to continue the work as they have done such marvelous work in heart and cancer, and so forth.

The CHAIRMAN. Some of the finest work which has been done in this country was done by Col. John Stapp. When we got into the astronaut field the knowledge of what the human frame could withstand, the number of g.'s that it would take, had been collected through a project of his which had been financed by the Air Force. He was using rebuilt cars donated by the industry. I think at a cost of less than \$30,000 a year. That was the—I wouldn't say the only body of information that we had, it was one body of information which proved very useful to us when we made the tremendous ascent by balloon which was done by Navy officers. Yet that project has been allowed to be abolished, dissipated. I think this type of center would provide a sort of beacon light, a place where these things could be properly evaluated and we could have continuity of effort in this field that we lack today.

I want to compliment you again on your statement.

Mr. O'Brien?

Mr. O'BRIEN. Mr. Chairman, I would like to join very strongly in your complimenting of the distinguished judge. He has answered some questions in my mind. I was thinking of research as being something of the upper level. I was wondering how it was going to get down to the work-a-day world. I am impressed with the fact that here is a judge who has devoted so much of his spare time to preventing accidents, establishing a school he has there and then he comes with his practical experience and tells us that if we have this research program he can do a more effective job at the Denver level. Certainly that affects my judgment on this bill to a considerable degree.

I am very grateful to you.

Judge FINESILVER. Thank you for your kind remarks.

The CHAIRMAN. Our next witness will be Mr. David Klein, who is staff associate with the Association for the Aid of Crippled Children, 345 East 46th Street, New York.

This group has done outstanding work in aiding crippled children and we are happy to have Mr. Klein.

You may proceed with your statement.

**STATEMENT OF DAVID KLEIN, STAFF ASSOCIATE, ASSOCIATION
FOR THE AID OF CRIPPLED CHILDREN, NEW YORK**

Mr. KLEIN. Mr. Chairman, the interest of the Association for the Aid of Crippled Children in research on accidents can be explained in a simple sentence: Accidents are now the leading cause of death in children of all age groups—from age 1 to 21 years. They are also responsible for a substantial though undocumented proportion of all permanently disabling injuries to children.

The association is an endowed foundation which devotes its entire income to the support of biological and social research into the causes and consequences of fatal and handicapping conditions. During the past 20 years improvements in medical care, the widespread use of antibiotics, the general rise in the standard of living in the United States, and other medical and social factors have, as we all know, led to a very sharp reduction in deaths and disabilities due to disease and congenital malformation.

As a result, on a relative basis, accidents, especially in children, have begun to loom very large as a cause of death and disability and are likely to loom larger with further advances against disease. Whether or not accidents have increased absolutely in number and severity cannot be determined—and this lack of adequate data is a problem to which we shall return later in this statement.

The association's efforts in stimulating accident research have been various. They include the organization of conferences among experts, the establishment of interdisciplinary study groups, the support of research publications, and the funding of studies in the causes and prevention of accidents. Viewed more broadly, these efforts have attempted (1) to increase both the quantity and the quality of current accident research (and let me emphasize that we feel the quality needs every bit as much improvement as the quantity); (2) to enlist in accident research well-trained scientists from several disciplines which can make essential contributions toward an understanding of accidents; and (3) to improve the status of accident research as a profession so that it will attract the promising young investigator who now finds other areas of research considerably more attractive.

It should be emphasized that in the course of all these activities, the association has in no way developed a vested interest in accident research. On the contrary, the general mandate of the association enables it to initiate work in any unpopular or neglected area of investigation, such as accident research, but encourages it to relinquish its work to larger organizations as soon as these become available to take it on.

To put this more bluntly, our endorsement of this bill neither particularly promotes our welfare as an organization nor does it threaten it. It is for this reason that the association goes on record as being very strongly in favor of the establishment of a national accident prevention center.

In view of the association's interest in and experience with accident research, some of its views about current needs in the field may serve

to document its strong endorsement of the establishment of a national center.

Perhaps the greatest need in the study of accidents is a broadening of the research base; that is, the involvement of investigators with backgrounds in biostatistics, biology, medicine, sociology, anthropology, psychology, economics, and other medical and behavioral areas to supplement the skills and knowledge provided by the safety engineer and by those who identify themselves professionally with safety education.

The reason for this involvement of various disciplines is fairly clear. In the past, the greatest successes in accident reduction have been brought about by the installation of mechanical safety devices, such as machinery guards, or by some sort of compulsion, whether it be legislation, the establishment of factory regulations, or the setting up of rules in a military installation or other totally controllable community.

Through these efforts we have witnessed dramatic reductions in industrial and mining accidents, fireworks fatalities and injuries, and military aviation accidents, to cite but a few examples. Most of the accidents that occur today, by contrast, cannot be prevented by anything so simple as a mechanical device or a socially acceptable piece of legislation. Instead, their prevention involves an understanding of human behavior, values, and motives as well as an understanding of physical capacities, tolerances, and limitations. It is unlikely, for example, that a major further reduction in the current number of accidental deaths by fire, drowning, or shooting would be achievable by a mechanical safety device or a piece of acceptable restrictive legislation. They are the result of extremely complex human behavior that is not easily changed by simple or unilateral means.

This broader research base is particularly necessary for a careful evaluation of a wide variety of publishing, teaching, advertising, and other action programs carried on under the general rubric of "safety education."

Action programs in safety education consume a very considerable proportion of the money we spend each year on accident prevention; nevertheless, there has been virtually no acceptable research that indicates whether they are to any degree effective. We do not know with any degree of certainty, for example, whether the countless highway billboards urging the motorist to "Slow Down and Live" have prevented a single accident—or whether, indeed, there is any causal relationship between speed and the occurrence of automobile accidents—or, in fact, whether these billboards do not distract the motorist sufficiently to produce an accident.

Similarly, there is no evidence that the time and effort and money devoted to the teaching of safety in the elementary schools has saved the life of a single child.

Indeed, there is some evidence to indicate that, in certain important categories of accidents, the individuals who are most liable to become victims are those who are least reachable by—or most resistant to—the usual channels of safety education.

Perhaps one reason why the evaluation of safety education is not popular lies in the recognition of the complexity and difficulty of such evaluation. It requires the involvement of extremely thoughtful,

well-trained, and highly sophisticated investigators, and such men are even scarcer in accident research today than in other fields of investigation. It is our hope that the establishment of a national center will help to attract or train such qualified people.

One of the greatest difficulties in attracting competent personnel—and here I think I am talking about something that a number of the witnesses have mentioned and that is certainly as crucial as the expenditure of large amounts of money because these amounts cannot be expended until we have the right people to expend them on, particularly those who come with the requisite training from another discipline—is the ambiguous status of accident prevention as a professional career.

The well-trained investigator, whether he be statistician, anthropologist, psychiatrist, or physiologist, who chooses to leave an established career line to engage in research in accident prevention, finds that he has forsaken one well-defined professional atmosphere with its clearly structured employment possibilities, professional journals, scholarly meetings, and other appurtenances for one which has not yet developed these essential amenities.

This is why the sociologist who is quite willing to devote his career to criminology, for example, or the anthropologist who is quite ready to study industrial organization, is extremely loath to divert his career to the study of accident causation and prevention. The establishment of a national center offers the possibility of providing such desirable investigators with a professional environment and a career line as attractive as those that are available to them in their own disciplines.

Still another strong argument in support of the establishment of a national center relates to the attitudes of the general public toward accidents. Although very few laymen regard themselves as experts in such fields as medicine, physics, or law, it is rather difficult to find a layman who does not regard himself as something of an expert on accident causation and prevention.

There is hardly a holder of a driving license who will not, upon the slightest provocation, offer one or several panaceas for the traffic accident problem, and there are few laymen in general who do not have a ready supply of easy answers to the difficult questions of accident prevention.

The establishment of a national center may be highly effective in persuading the public that accidents, like all of our other physical and social pathologies, require scientific investigation and do not lend themselves to commonsense solutions. If commonsense could, indeed, provide us with solutions, the accident problem would not continue to be one of the greatest threats to our health and welfare.

I would like to add one point that came out of the interchange this morning and that is that we tend to judge research activity in terms of the amount spent. I think this can be a somewhat misleading thing. The very word "research" has become a rather muddy one over the past 5 or 10 years. Anybody counting cars on a corner in order to establish the number of cars that go by the corner can call himself a research person and although he is not in fact necessarily doing research.

A great deal of the money that is spent for research, whether in the traffic field or elsewhere, is going to people who are not trained for

it or are not doing particularly useful or analytical research that involves a hypothesis and comes up with an answer. They are doing counting instead and, although the study of the magnitude of the problem is certainly an essential first step, this in itself is not going to produce anything in the way of solutions.

The other question I would like to address myself to very briefly is another one that came up this morning and that is, How much coordination should a Government agency do? How much should it control? How authoritative can it be or should it be? This is a question that we have had a good deal of experience with because the association, which went into research actively and with fair size some 15 years ago, has now had the experience of seeing the National Institutes of Health grow up to be very much larger, many, many times larger than the association, and interested in very much the same kind of thing.

Once again, we have never regarded ourselves as either threatened or particularly advanced by the growth of the National Institutes. Our regulationship with them is an extremely good one. They have more money than we have and they can support more research, but because they are Government agencies there are certain kinds of research which they cannot support.

One kind is the preliminary investigation which must be undertaken, and which does cost money, before one can get the thing into project shape for submission to a larger group. This is one area in which the association has served a very useful purpose and I cite the association merely as an example of a wide variety of voluntary agencies which can do the same thing—that is, support career lines, support preliminary investigations, get a project to the point at which it is at last feasibly fundable by a Federal agency and then pass it on to them.

This is enough to do if one does not want all the glory.

Thank you.

The CHAIRMAN. Thank you, Mr. Klein.

I regret that circumstances have prevented more members of the subcommittee from hearing your statement. I think it is one of the best statements we have had. I take it that you believe that if the center simply succeeds in expanding the number of investigators and the people who are competent in this field that it will be well worth while on that score alone.

Mr. KLEIN. Completely. If the center merely became sufficiently prominent so that it was visible to all the potential investigators and if it had sufficient status to be able to offer the potential investigator either a partial career or in some cases a whole career, this alone, we feel, would justify its existence.

On the other hand, there is another very important point. I would like to stress again that the quality of what is called research is rather low. I think that the existence of a center properly staffed would do a very great deal either to restrict the word "research" to its real meaning and to a more productive connotation than it has now or, if this is impossible, and it may well be, then at least to act as a strongly corrective factor in the quality of accident research that is now going on.

The CHAIRMAN. Thank you, Mr. Klein.

I appreciate the splendid contribution that you have made. I would just like to say one other thing. Going back to the very excellent statement that Dr. Chapman made this morning I believe he pointed out in this Division of Accident Prevention he has approximately 122 people, which is a very small number it seems to me to try to handle this tremendous program so important to our communal life. As you pointed out, if we did nothing more than to expand the number of people in this field we would be making a very fine contribution.

Thank you very much.

Mr. KLEIN. I thank you.

The CHAIRMAN. Before I receive the next witness, I see two gentlemen from Alabama's fourth district, Sheriff Jim Clark, from Selma, Ala., and Mr. Green, from Dallas County. We are glad to have you in this committee room. We operate with more personnel usually earlier in the day.

Next is Dr. Samuel R. Gerber, M.D., who is here representing the Greater Cleveland Safety Council, 1021 Euclid Avenue, Cleveland, Ohio.

You may proceed with your statement, Doctor.

STATEMENT OF DR. SAMUEL R. GERBER, CORONER OF CUYAHOGA COUNTY, OHIO, PRESIDENT, ACADEMY OF FORENSIC SCIENCES, CLEVELAND, OHIO

Dr. GERBER. Thank you, Mr. Chairman.

Mr. Chairman, I appear here in support of H.R. 133. My reasons for this I will read in my statement.

The Blueprint for Life safety campaign and its sponsor, the Greater Cleveland Safety Council, are deeply indebted to the U.S. Public Health Service.

Without the encouragement, leadership, and support of the Public Health Service, it is doubtful the Blueprint campaign ever would have been undertaken.

Certainly, Blueprint never could have attained its scope, intensity, and impact without the materials, services, and counsel provided by PHS.

The Public Health Service has provided Blueprint with materials, safety films, and other special services costing more than \$200,000. And while this investment by PHS did not bring cash into the Blueprint funds, it did bring to the campaign a strength, vitality, and sustenance that lifted the project far above the level it otherwise could have reached.

Later, the seven 15-minute safety films produced by PHS and now in wide use throughout Greater Cleveland, along with other materials, will be made available to every community in the Nation that desires them.

Blueprint for Life is a pilot run for the Nation—a laboratory test in accident prevention, an exciting exploration into the vast and uncharted potentials of organized safety.

Nothing comparable to Blueprint in scope and size has ever been attempted before in this country or elsewhere. This is a sustained, continuing, all-out attack by all segments of a community of 1,700,000

persons—not on accidents of one type, but on fires and accidents of all types, regardless of where and when they occur.

It has a specific goal—the saving of 100 lives and the prevention of 12,000 disabling injuries in 1 year.

Equally and perhaps even more important, it proposes to actively continue this life-saving effort as part of the Safety Council's program after the actual 12-month campaign period has ended.

If the campaign succeeds, it will mark a dramatic and major breakthrough in accident prevention. If it fails it will have struck organized safety a body blow.

In the first 4 months of the campaign—September 1961 to January 1962—the death toll from fires and accidents of all kinds of Greater Cleveland came down by 30 from the same period a year before.

This indicates that with equal or increasing activity in the campaign, the goal of saving 100 lives can and will be realized.

This campaign, it is true, could not be waged as effectively without the facilities of the U.S. Public Health Service and the task force of statisticians and other specialists PHS has provided.

But it is also true that it could be waged with infinitely more ease, precision and efficiency if the U.S. Public Health Service and the Research Center proposed in H.R. 133. And similar campaigns throughout the United States can be conducted—and doubtless will be conducted—with much greater chance of success if such a Research Center is created.

Definite, specific and accurate facts and figures as to just where fires and accidents of all kinds are occurring, to whom they are occurring, and precisely why they are occurring, are tragically unavailable in Greater Cleveland, and elsewhere.

Through the help of PHS, the Blueprint campaign is uncovering such facts in Greater Cleveland—but slowly and laboriously. Had we had such facts when the campaign began, we could have pinpointed our attack instead of scattering it.

A research center in USPHS, serving as a clearinghouse for accident facts and figures from all over the Nation, and stimulating more and more research on local, State, and National levels would provide every community with a source of vital information essential to any real success in reducing the fire and accident toll.

We know from firsthand experience in the Blueprint campaign that such a research center is a “must” for successful accident prevention efforts. We cannot urge too strongly that it be made possible through passage of H.R. 133.

Mr. Chairman, I would also like to say that I am in agreement and in sympathy with Dr. Porterfield and Dr. Chapman in their desire for the formation of this center.

I am sure that if this is developed that the accident total and the death toll as a result of accidents will be greatly reduced to a very, very minimum.

Mr. ROGERS of Florida. I want to thank you very much, Doctor, for your statement. I know that you are recognized as one of the best experts in the world in the field of medical-legal problems and the committee is very fortunate in having you come here today and make your views known to this committee.

I would hope that you might make your talents available not only to Cleveland but elsewhere because you certainly have made a fine contribution.

I was in your great State a few years ago; one of the first hearings the subcommittee held was in Dayton, Ohio. We did not have the opportunity of visiting Cleveland at that time. Your very able Congressman, Mr. Vanik, came down and gave our subcommittee a statement. As you know, he has been quite interested in this field. He is a former judge of your municipal court there and he has been interested in the activities of our committee ever since its inception.

I found that in our travels in Ohio, and the hearings that we had at that time, they were making some great strides, particularly in the field of highway accident prevention.

If my information is correct, Ohio still has a fine record in that field. We had the opportunity at that time of hearing Dr. Zipf who has contributed a lot.

We learned at that time the Dayton, Ohio, community group had a very active program, and I am sure yours in Cleveland has also been active in accomplishing results, as in your statement.

Again it is a pleasure to have you before our committee.

Dr. GERBER. Thank you, Mr. Chairman. I would like to say Congressman Vanik was a judge of the municipal court and he was very active in traffic safety during the time he was there. He is continuing his activities. I am sorry he is not a member of this committee.

The CHAIRMAN. Well, we would be glad to have him because he has maintained his interest throughout his time here as a Representative of your great State.

(A prepared statement of Dr. Samuel R. Gerber, presented in addition to his oral statement, follows:)

PREPARED STATEMENT OF DR. SAMUEL R. GERBER

The Blueprint for Life safety campaign is a year-long project of the Greater Cleveland Safety Council.

It is an all-out attack on fires and accidents of all kinds.

A pilot run for the Nation and a laboratory test for proven accident prevention techniques, the Blueprint campaign began September 8, 1961, and will continue at full speed until September 8, 1962.

After that, the campaign will become part of the regular and continuing program of the Greater Cleveland Safety Council. It will not be allowed to fade away.

All activity in the Blueprint for Life campaign is designed—

1. To reduce the all-accident and fire toll in Cleveland and Cuyahoga County by 100 deaths and 12,000 disabling injuries in the year ending September 8, 1962.

2. To increase public awareness of the size and severity of the accident problem.

3. To bring about interest and participation in safety activities by people and organizations not now engaged in such activities, and to coordinate the activities of established safety groups.

4. To increase public knowledge of ways to prevent accidents.

5. To make this community more safety minded and thus increase public acceptance and use of accident prevention techniques.

To achieve Blueprint goals, all efforts are being directed along three lines—organization, action, and public education.

The aim is to reach as many people and organizations as possible, give them something specific to do in the Blueprint campaign, and through public information channels and other means of communications, keep them interested and active.

To achieve this, the Blueprint campaign is directed by the following organization:

General chairman: Dr. Samuel R. Gerber, coroner of Cuyahoga County for 30 years.

Executive committee: Composed of Dr. Gerber as chairman; Paul J. Hoover, vice president of the Halle Bros. Co. and president of the Greater Cleveland Safety Council; Allan J. Lowe, general manager of the Sheraton-Cleveland Hotel and treasurer of the safety council; Federal Judge James C. Connell, first vice president of the safety council; Robert H. Ferguson, assistant director of industrial relations, Republic Steel Corp.; William E. Billings, executive vice president of the safety council; and Paul Jones, administrator of the Blueprint for Life campaign.

Trustees: A group of 37 top business and industrial leaders of Greater Cleveland. Chairman is Charles F. McCahill, retired senior vice president of the Forest City Publishing Co. Cochairmen are Ralph M. Besse, president of the Cleveland Electric Illuminating Co., and Charles E. Spahr, president of the Standard Oil Co. (Ohio).

Chairman, women's division: Mrs. H. Chapman Rose, wife of the former Undersecretary of the Treasury and widely known as a leader in women's activities in Greater Cleveland and throughout the Nation.

Chairman, advisory board: Louis B. Seltzer, editor of the Cleveland Press, who through his newspaper and his personal services has made a great contribution to the Blueprint campaign.

Administrator: Paul Jones, for 23 years director of public information for the National Safety Council.

Staff: Four full-time and one part-time personnel, assigned to organizing a women's division of Blueprint, handling public relations and public information, and secretarial and clerical work.

Special staff: In addition to the administrative staff assembled in Cleveland, the U.S. Public Health Service has provided the services of—

William C. James, statistician, and three assistants to make the most thorough study of accidental deaths and injuries ever attempted in this county.

Dr. Irmagene Holloway, nationally known safety consultant and specialist.

Dudley Anderson, safety specialist who is serving full time on the Blueprint staff as community organizer and assistant to the administrator.

Of all those listed above, only the administrative staff and the specialists provided by the U.S. Public Health Service receive pay for their services. All other services are contributed on a volunteer basis as a public service.

1. *Funds.*—Administrative and operating expenses of the Blueprint for Life campaign are estimated at \$85,000. This covers a 20-month period—8 months of planning and organization and 12 months of the actual action campaign.

This amount—contributed by the Cuyahoga County Commissioners, the Beaumont and Cleveland Foundations, and by local business and industry—includes the cost of all educational material produced locally in Cleveland—leaflets, graphics, newspaper, and magazine stories, radio, and television spots, checklists, displays, awards, etc.

In addition to these funds for the actual operating costs of the campaign, more than \$200,000 has been spent by the U.S. Public Health Service for seven 15-minute safety films and statistical and other specialized services provided the Blueprint campaign—all designed first for use in Greater Cleveland and then for nationwide use.

2. *Community organization.*—More than 1,000 organizations or companies of one type or another already are participating in the Blueprint campaign, with others joining in daily. These include:

Civic, professional, fraternal, and patriotic groups	Mayor's Committee for Traffic Safety Education
Churches	Cuyahoga County Commissioners
Industrial and business concerns	Real property inventory
Schools—public, private, and parochial	Cleveland Hospital Council
Women's organizations	Public utilities
Police and fire departments	Cuyahoga County coroner's office
Community safety councils	Mayors and other public officials of 55 communities in Cuyahoga County
Neighborhood groups	Boy Scouts
Nationality groups	Girl Scouts
Newspapers	Campfire girls
Radio and television stations	
Cleveland Automobile Club	

Communitywide organization is being based on block-by-block group meetings of neighbors, to discuss accidents and accident problems over the coffee cup, under the theme of "Each One Save One." Special emphasis is being placed on nationality and low-income groups.

3. *Speaker's bureau.*—Services of approximately 75 speakers are being enlisted to bring Blueprint to industries, churches, civic groups, and others. The administrator and members of the executive committee alone have spoken at luncheons, dinners, and meetings with audiences totaling 10,000 persons.

4. *Off-the-job safety.*—Management of industrial concerns is addressing personal appeals to hundreds of thousands of employees to step up their off-the-job safety and, with their families and friends, participate in Blueprint for Life.

5. *Women's division.*—An active women's division of Blueprint and the Greater Cleveland Safety Council has been formed under the leadership of Mrs. H. Chapman Rose, chairman. On September 28, this division gave a luncheon at which Mrs. Clare Boothe Luce spoke. Dr. Theodore Bauer of the U.S. Public Health Service was special guest and speaker. More than 400 women attended.

6. *Campaign kickoff luncheon.*—The Blueprint campaign was formally launched September 8 with a luncheon sponsored by the Cleveland Chamber of Commerce as a salute to the campaign. An overflow crowd of more than 500 business, civic, and professional leaders packed the big ballroom to hear Dr. A. L. Chapman, Director of the Division of Accident Prevention of the Public Health Service and an Assistant Surgeon General, and Raymond Burr, television's famed Perry Mason, who was responsible for bringing the Blueprint campaign into existence. Television, radio, and press coverage of the luncheon was all-inclusive.

7. *Blueprint weekend.*—On the Saturday and Sunday following the kickoff luncheon, prayers for the success of the Blueprint campaign were offered from hundreds of churches and synagogues in Greater Cleveland.

8. *Safety films.*—The "No Defense" film, produced by the U.S. Public Health Service, along with six other 15-minute safety films for the Blueprint campaign and later nationwide distribution, was shown by all three Cleveland television stations on prime time Sunday, September 10. Dozens of programs dedicated to Blueprint were carried by the city's eight radio stations.

Since the campaign kickoff the safety films produced by the U.S. Public Health Service have been shown in hundreds of industrial plants and schools and at safety, civic, and P-TA meetings throughout Cleveland and Cuyahoga County.

9. *Living Blueprint signs.*—On Monday afternoon, September 11, 250,000 people leaving the downtown district for their homes saw at the side of the 21 highways leading out of the downtown district Blueprint signs held aloft by Boy Scouts in the Burma Shave manner.

10. *Kiwanis Blueprint thermometer.*—The Cleveland Kiwanis Club arranged for, financed, built and erected a huge thermometer on Cleveland's public square to show month-by-month progress of the Blueprint campaign in terms of the current accident and fire death toll as compared with the same month last year. Other Kiwanis clubs throughout the county are preparing to erect similar thermometers in other communities.

11. *News and radio-TV coverage.*—Under the direction of a volunteer public information committee composed of 22 representatives of all forms of the media, Blueprint has received more than 5,000 mentions on radio and television, more than 100 programs specifically dedicated to the campaign, and a total time of more than 2,500 minutes of airtime which would be valued commercially at \$400,000.

In addition Raymond Burr, Lawrence Welk, Jimmy Stewart, Mary Pickford, Buddy Rogers, Mrs. Clare Boothe Luce, members of the Cleveland Indians and Cleveland Browns have contributed their services to personal appearances and radio-TV programs at an estimated value of more than \$25,000.

Public officials, business and industrial leaders and other local dignitaries also have contributed their services for Blueprint radio-TV plugs.

Blueprint has received more than 500 news stories, features, editorials and cartoons in the two daily and 35 weekly newspapers in Cuyahoga County. The Cleveland Press contributed a full-page ad to Blueprint, while the Plain Dealer reproduced a Blueprint poster in a four-column, four-color display.

We are especially gratified that the 37 nationality radio programs and 35 nationality newspapers in Greater Cleveland are solidly behind Blueprint and are carrying regular announcements of the campaign to their readers and listeners.

At advertising rates, this newspaper space devoted to Blueprint is estimated to be worth at least \$250,000.

Half a million windshield and home door stickers, envelope stickers, and similar materials are being distributed through inserts in tax bills, auto license plates, driver licenses, industrial mailings, etc.

It is estimated that through all means of communications, Blueprint has reached at least three-fourths of the 1,800,000 residents of Cleveland and Cuyahoga County—some as many as 25 times.

12. *Statistical evaluation.*—Bill James and his staff are providing invaluable statistical information, limited only by the amount of funds available. This is the most extensive analysis of accidental injuries and deaths ever made in this country, and it not only provides an accurate statistical yardstick with which to measure Blueprint progress, but it pinpoints where, how, and why accidents are happening, enabling safety specialists to apply specific pressure where it is needed most.

Mr. James and his staff are working with the Cleveland Hospital Council and the Real Property Inventory in making this study.

The CHAIRMAN. We have three other witnesses listed.

Dr. WOODWARD. Mr. Halsey, and Dr. Wilbar, secretary of the Department of Health, Commonwealth of Pennsylvania. I would like to know if you gentlemen will find it convenient to appear before the subcommittee tomorrow or will it be impossible for any one of you to be here tomorrow.

Mr. HALSEY. I have to go back at 4 this afternoon.

Dr. WILBAR. I will not be able to stay for tomorrow. I have two meetings scheduled.

The CHAIRMAN. I am going to try to go ahead.

Dr. Woodward, you will be the next witness. We will go as far as we can. In anticipate I will get a floor call in a minute.

Dr. Gerber, it has been a pleasure to have had you. I know during the years I have served as a member of this subcommittee you have been most helpful, have been willing to come almost at a moment's notice. We are thankful for the fine work you have done with the Committee on Trauma of the American Medical Association.

We are very happy to have you with us today.

STATEMENT OF DR. FLETCHER WOODWARD, CHARLOTTESVILLE, VA.

Dr. WOODWARD. Mr. Chairman, I thank you for the privilege of coming. I am always delighted to help any way I can. I am particularly delighted to help to promote this particular bill. I will take a very few moments to present my position. I am talking primarily as a clinical physician, a man who is actively engaged in the repair of people who have been injured in these accidents.

I became interested in this field a good many years ago, some 15 or 20, when in the University of Virginia Hospital we took care of fractured faces and jaws. At that time we saw more or less a static number of people that came in, often kicked by a horse, butted by a cow, or they ran into brass knuckles or ran into a beer bottle on a Saturday night or things of that kind but as the new highways began to appear and new cars and greater speeds, we began to see a greater number of injuries to jaws and faces occasioned by the automobile. So we became concerned and began an investigation as to where this person was sitting, how he happened to get hurt, and that led us into an intense interest in this problem.

We soon came to the conclusion that there was something we could do from a medical standpoint which would prevent many of these accidents. Then through the years, although we exhausted every possible source of information, we found it very difficult to get information. As the years went by we found our information in research centers. We tried at one time to get the Ford Motor Co. interested in establishing a foundation similar to the Polio Foundation for the accumulation and dissemination of knowledge along this line. They were mildly interested for a while but they soon abandoned the idea.

Then my good friend, Dr. Goddard, who served on my AMA committee, and I talked a good deal about having the Public Health Service taking over this function. They were very sympathetic to that and so were all the doctors we discussed it with. I am delighted to see at last this proposal is being made.

Now, I have worked through some 15 years as best I could from a clinical standpoint, I have distilled out of that time and from this mass of information certain proposals which I have submitted to our Albemarle County Medical Society only last Thursday night.

Our Albemarle County Medical Society unanimously approved these proposals by which we feel, if employed, we could reduce the toll of deaths and injuries by perhaps 50 percent. Now, we also feel that that is about as far as we can go at this time. If these recommendations are carried out we can perhaps improve our situation one-half. But in order to advance further we must have more basic research, more facts, more figures, and we would particularly like to see such a center established here in Washington which would not only accumulate data, reprints, books, films, all kinds of published things in regard to safety, but they would help to correlate, and stimulate research throughout the country as well as carrying on research themselves.

We have to have this basic research in order to advance any further than we are now doing.

I would like to append to my report this report to the Albemarle County Medical Society which I think will explain in more detail as to the limits that we feel that we have been able to go and we are very anxious to get considerable help in the future and we feel that this particular research center established here in Washington will be the answer to our needs.

(The report presented by Dr. Fletcher Woodward follows:)

DR. EDWARD P. CAWLEY,
*President, Albemarle County Medical Society, University of Virginia Hospital,
Charlottesville, Va.*

DEAR DR. CAWLEY: Your Committee on the Prevention of Automobile Deaths and Injuries wishes to make the following proposals which we feel will substantially reduce today's tragic highway toll, perhaps by 50 percent or more. We hope that the Albemarle County Medical Society will approve these proposals and forward them to the Virginia Academy of General Practice and to the Virginia State Medical Society.

Our reasons for making these proposals were initiated by the following facts:

(1) Deaths last year on our highways were approximately 40,000. In other words, more people died on our highways last year than live in our city of Charlottesville. The injured numbered approximately 5 million. In other words, more people were injured on our highways last year than live in our State of Virginia.

(2) The Armed Forces reported 2,000 deaths last year. In all our wars less than 1 million men have died. The automobile counted its 1 millionth victim more than 5 years ago.

(3) The leading cause of death in this country is cardiovascular disease. Next comes cancer. But, if figured on man-years of life lost the automobile ranks third for the first two take their greatest toll in the older age groups whereas the automobile takes its greatest toll among our youth.

(4) Many epidemics have visited this world in former years and in each instance they were combated and controlled with the tools and remedies available at that time. We recognize the fact that much basic research needs to be done before we have definite answers to this complex problem. But, we also recognize the fact that we now have tools and remedies which, if used, are adequate to reduce this traffic toll perhaps by 50 percent or more. So, why not let's start applying the remedies we now have as outlined in the appended proposals?

(5) Since there are approximately 70 million cars on our highways today and since this number is increasing rapidly along with higher speed limits and more complex traffic patterns the number of deaths and injuries can also be expected to increase in the same proportion in the future.

(6) The medical profession is proud of its definitive care of the injured but it does not feel that its duty as physicians and citizens has been fully discharged until preventive measures have become facts and are reflected in the gruesome daily automotive statistics. Then we will be able to answer Cain's query and say: "Yes; I am my brother's keeper."

Respectfully submitted.

JAMES C. ANDREWS, M.D.
FRANK D. DANIEL, M.D.
CHARLES J. FRANKEL, M.D.
JAMES H. GAMBLE, M.D.
FLETCHER D. WOODWARD, M.D.,
Chairman.

THE ALBEMARLE COUNTY MEDICAL SOCIETY PROPOSALS TO THE VIRGINIA STATE MEDICAL SOCIETY AND THE VIRGINIA ACADEMY OF GENERAL PRACTICE FOR THE REDUCTION OF AUTOMOBILE INJURIES AND DEATHS

Proposal 1. Education

Discussion.—A driver training course approved by the Virginia State Board of Education given by approved instructors should be provided in all public, private, and parochial schools. Similar courses should be provided for adults, especially those applying for driving permits for the first time and for those whose permits have been revoked by the court and who have been ordered to complete such a course before a new permit will be issued. A certificate from such a course should be one requisite for driving licensure and if additional funds are needed for such courses in our schools they can be provided by a higher application fee which amount would be compensated for later by lower insurance company rates. In school curricula now overcrowded time and space could be furnished by omission of many courses now offered which are of doubtful value. In addition to the didactic lectures with particular stress on drinking and driving, recklessness, and the use of seat belts and shoulder straps, behind the wheel instruction should also be provided. A youngster having successfully completed such a course could apply for licensure at age 16. Otherwise, 18 years should be the minimum legal age for licensure.

Proposal 2. Licensure

Discussion.—All applicants for licensure should be required to present a certificate from an approved driver training course and a certificate from his family physician or from a medical referral committee certifying as to his physical fitness to drive a vehicle. A guide as to the determination of his fitness could be furnished by the "Medical Guide for Physicians in Determining Fitness to Drive a Motor Vehicle" published by the American Medical Association, March 14, 1959, volume 169, page 1195. These two certificates would free the State police from a tremendous responsibility which they should never have been asked to assume and would permit them to confine their examination to the applicant's knowledge of traffic signs, laws, and signals and the ability to drive in traffic and to park. The medical certification and police testing should be required every 3 years before a permit is reissued. For drivers of passenger-carrying vehicles and for those 70 years of age or older a yearly medical and

Proposal 3. Medical referral committee

Discussion.—A medical referral committee should be established by all medical component societies of the State society. This committee should be staffed by three or more general practitioners or internists with consultants available in psychology, psychiatry, ophthalmology, otology, and orthopedics. Their duties would be to pass on the physical fitness to drive of those referred by the police, the courts—such as repeat offenders, and those referred by other physicians. All applicants suffering from convulsive disorders, diabetics taking insulin, emotional or mental disorders, those who have been paroled or discharged from mental institutions, and those with prosthetic appliances would be passed on by these committees.

Proposal 4. Permits to drive

Discussion.—There should be three classes of driving permits issued; one for private vehicles, two for commercial vehicles, and three for passenger-carrying vehicles. A booklet type of driving permit should be provided so that court convictions could be entered and space provided for blood types, diabetics taking insulin, known allergies—especially to drugs, those on anticoagulant or anti-convulsive medication. This information would be of great value when unconscious patients are brought into the emergency rooms of hospitals.

Those with bilateral deafness should not be prohibited from driving a private vehicle but to drive a commercial vehicle the applicant should have normal hearing, either aided or unaided, at least in one ear and a driver of a passenger-carrying vehicle should have hearing within the normal range in both ears. Also, a driver of a commercial or passenger-carrying vehicle should be reexamined every year, those for private vehicles every third year except for those 70 years or more in age.

Many other physical disorders enter into the decision as to whether a permit to drive can be granted. Although we estimate that approximately only 2 percent of all accidents are caused by physical disabilities still 2 percent represents a large number of deaths and injuries and no one is better able to determine the relationship of these physical disorders to driving than the family physician or a medical referral committee. To drive a car is a privilege and not a right and to drive a schoolbus certainly is a much more responsible undertaking than to drive one's private vehicle.

The point or demerit system employed by many States which covers many types of offenses should be seriously considered by the State of Virginia for adoption.

Proposal 5. The drinking driver

Discussion.—A drinking driver is involved in one-third of all accidents and in from 50 to 55 percent of those in which a death occurred. Since the average individual suffers impairment of his driving skill with a blood alcohol level of 0.05 percent let us make this the critical level for conviction of driving while drinking rather than the 0.15 percent, a far too generous figure. The average individual under average conditions can take two bottles of beer or 2 ounces of whisky and his alcohol blood level will remain under 0.05 percent. Four bottles of beer or 4 ounces of whisky will produce a blood level of 0.1 percent and at this level we all will fail the driver test of skill and judgment. However, although physicians feel that 0.05 percent would be the ideal level for conviction of driving while drinking we are willing to accept 0.1 percent as the critical level because this figure leaves no element of doubt about one's ability to drive. Of course, the present day figure of 0.15 percent, which represents 6 bottles of beer or three 2-ounce drinks of whisky, is ridiculous. A chemical test of the breath or blood should be mandatory in all cases in which driving while drinking is suspected. The breath test is scientifically accurate and would free the innocent as well as help to convict the guilty. It should be administered by a properly qualified testing officer who has been trained both in the care of his equipment and in the technique of its use or by a physician. The alternative to such a law is the implied consent law which has been so widely used in other States. The results of the chemical breath test should be accepted as prima facie evidence. If the case goes to a jury its verdict should be limited to "guilty" or "not guilty" provided mandatory laws have been enacted.

The present laws exonerating a driver of drinking while driving with a blood level of 0.05 percent or less are proper (0.10 percent alternate). The present

laws punishing those with a blood level of 0.15 percent or higher are often proper but not enforced. The greatest problem is in the twilight zone of intoxication from 0.05 percent to 0.15 percent. For this zone a new set of laws should be enacted, mandatory and tough enough to control the average drinker for this is the range of the social drinker who thinks he is perfectly capable of handling a car in our modern high-speed traffic. The results consistently prove him wrong. In answer to the many arguments pro and con in this complex problem the physician is not interested in whether the degree of intoxication was reached on an ascending or descending curve of intoxication. He is not concerned with the type or rapidity of consumption of the alcoholic beverage or whether consumed on a full or fasting stomach. He is not concerned with whether the individual is a beginner or an experienced drinker. He is only concerned with the fact that no one should operate an automobile in our modern high-speed and complex traffic patterns with an alcohol blood level higher than 0.05 percent but in order to get proper laws passed he is willing to set the figure at 0.10 percent which represents four bottles of beer or two 2-ounce drinks of whisky in the average case. The interpretation of the laws concerning the punishing of these offenders should not be left to the discretion of the judge or consulting physician for they have both failed miserably in the past. As citizens and physicians, we urge that full time traffic court judges be appointed with a salary commensurate with the importance of their function. Also, proper and dignified quarters should be provided for this most important court in which the public and the law usually meet for the first time.

We feel that mandatory laws should be provided for each degree of intoxication. Those with an alcohol blood level of 0.05 percent (0.10 percent as an alternate figure) should go free of the charge of driving while drinking. Those with a blood level of 0.10 percent or higher are to be severely punished by revocation of their license, a fine that hurts and a jail sentence which cannot be suspended even if only a few hours. Repeat offenders should be dealt with even more harshly. What these mandatory laws should be must be determined by bar associations and the State legislature.

Proposal 6. Speed and reckless driving

Discussion.—Since speed and reckless driving are causative of some 30 percent or more of deaths resulting from crashes we suggest that more State police be utilized, that the public be educated again to support them and to cease playing "cops and robbers" on the highways and that proper laws again be enacted and made mandatory. We should endorse and enforce uniform adoption of the speed limits suggested by the National Safety Council. These limits are 60 miles per hour for the day, 55 miles per hour at night and 35 miles per hour in urban zones, all with a 5-mile-per-hour tolerance. Dual lane and other modern highways should likewise have a minimum limit of 40 miles per hour. These limits may seem somewhat low to many but until the manufacturers provide us with safer machines from the standpoint of human engineering we believe that these limits should be considered the maximum under present conditions. If, and when, the day comes that the manufacturers provide cars employing the many safety suggestions previously offered by the medical profession then these limits can be raised accordingly. Again, the laws governing speed and reckless driving should also be mandatory and strict enough to deter those individuals from excessive speed and recklessness for the public must realize that driving a motor vehicle today is a privilege and not a right. Nor should sympathy be wasted on the so-called hardship case for you may be his next victim. He knows the wages of each offense, whether set by mandatory law or as a result of the point or demerit system, and no deviation can be allowed if the number of deaths and injuries is to be curtailed. The present-day unequal sentences imposed by the courts and suspension of fines and jail sentences with minimum punishment for serious offenses must cease.

Proposal 7. Automotive design

Discussion.—Since some crashes are unavoidable and others inevitable it is important that the machine itself be designed and safety features provided to protect the occupants. At the present time the destiny of thousands rests in the hands of a comparative handful of men, the designers and engineers who plan next year's cars without benefit of medical advice or consultation. It is also astounding as to how little money is spent on research for safety features compared to the large sums received from the sale of their products.

The Committee on Trauma of the American College of Surgeons has been concerned with the importance of safety design of the vehicle and provision of

safety features as standard rather than optional equipment. Their efforts have the wholehearted support of all physicians, particularly of the American Medical Association Committee on Medical Aspects of Automobile Injuries and Deaths. Although this committee is primarily interested in the medical aspects of the problem their studies and reports of research groups, such as the Cornell Study Group, have convinced them that design should occupy a high place on the list of objectives. For instance, the three leading sources of injury according to the Cornell figures are (1) steering assembly, (2) ejection from the vehicle, and (3) impact against the dash or windshield. These injuries can occur on impacts of 12 miles per hour which seems to be the critical speed for at this point the average steering wheel collapses, leaving the steering post as a lethal projection, and no one can protect himself from death or injury. If thrown out of the car the chances of getting killed or hurt are five times greater than if one had remained inside the protective shell of the vehicle. Of course, safety door latches are important, too. The seat belt or, preferably, the shoulder harness is the best safety feature that can be provided at this time and, if worn, will prevent some 60 percent or more of deaths and injuries. The belt should be anchored to the floor of the car and must meet the safety specifications of the Society of Automotive Engineers. If belts are not provided as standard equipment provision should at least be made for their attachment and an intensive campaign carried out to educate the public as to their importance in the prevention of death and injury.

Many suggestions have been made which would contribute to passenger safety at little extra cost to the manufacturer. Among these suggestions are: a collapsible steering assembly, Ford's deep-dish steering wheel with a broad steering post covered with protective crash padding, the same type of padding over the dashboard, the back of the front seat and other dangerous areas in the car, seating the passenger in the front seat farther away from the dashboard, firm anchorage of seats, visual or audible speed signals and additional small red lights on the top of the car to flash when speeds of 70 miles per hour have been reached. The latter would serve as a warning to the police as well as to other motorists that a car is driving at excessive speeds. In addition to these signals the following devices are recommended: safety door locks, polarized headlight lenses and an oppositely polarized spot on the windshield to prevent headlight glare and blinding at night, better designed windshields from an optical standpoint, high extensions of seatbacks to prevent whiplash injury to neck, a recessed shelf behind the back seat to prevent injury from secondary missiles, less chrome and other reflecting surfaces to eliminate glare especially in night driving, elimination of projecting knobs and buttons and levers, shock absorbers for bumpers or energy absorbing material in front end and many other features. If the front seats are firmly anchored to the floor and if the backs of these seats will not tip forward then small accessory seats for children can be made to hook over the top of the seat and secondary belt extensions will go around the waists of the very small youngsters. Older children should be made to ride standing back of the front seat or, if riding in the front seat, in cases of impending crash they should be instructed to dive to the floor with their backs to the front floor area or back of the front seat wherever they may be. Most of this extra cost could be compensated for by less chrome, the omission of hood ornaments, clocks and radios and many other accessories as standard equipment. As I have previously said, one is astounded as to how little has been spent on safety research by the manufacturers compared to the vast sums which have been received from the sale of their products.

We are sure that consultation with the medical profession on the aspects of human engineering as related to automotive engineering would soon establish many related facts. These would bear fruit by reducing deaths and injuries at the time of a crash and converting many of the potentially severe-to-critical injuries to those of a relatively minor nature.

Proposal 8. A liaison committee

Discussion.—A liaison committee should be appointed by our State medical society to consult with the Virginia State Society Traffic Safety Committee under the chairmanship of Dr. Francis McGovern and the various other related agencies of both groups.

For, in spite of all the slogans, police patrols, vehicle and highway improvements and the indefatigable work of the many fine local, regional, State, and National safety organizations, the traffic toll will continue until these fundamental proposals are adopted. For the public is not yet interested enough

in highway accidents and injuries to demand their employment. Their legislative representatives are certainly not going to do anything until an aroused public makes this demand. When this time will come is, of course, unknown. In the meantime, since they really do not want to solve the traffic problem their favorite way out of such a predicament is to attack it in a manner that insures minimum results. Until such a time comes as the public will demand this and the legislators will provide the laws necessary the medical profession must continue to work on a plan that will be available when that day comes and the public demand requires action.

Dr. James P. King, of Radford, Va., a former president of our State society, is eminently qualified to direct this liaison work between the society and its committees, the public, and the legislature. We feel that adequate funds should be provided by the State society to carry out this public relations work. As Dr. King has said in a letter recently: "An all-out program for preventive medicine in the field of automobile deaths and injuries sponsored by the Medical Society of Virginia would have a tremendous impact upon the public." Every news media, newspapers, radio, TV, and others would acclaim our efforts. Every public official, educator, businessman and all organizations within the State would endorse our program. For, who could be against saving lives? The State society should consider newspaper advertising in all newspapers within our borders as well as spot radio announcements and TV paid programs. Then, in due time if we have a proper plan and have presented it properly to the people of this State and to the legislators we feel that the time will not be too far distant until many of these proposals are adopted and, in spite of the rapidly increasing number of motor vehicles on our highways, there will be a reduction both in the total number of deaths and injuries and in the death rate per 100 million miles traveled.

To implement the proposed requirements for licensure of certificates from a driver training course and from a physician, it would be required at present only for new applicants and for those applying for a new license after revocation of their old license.

Respectfully submitted.

JAMES C. ANDREWS, M.D.,
FRANK D. DANIEL, M.D.,
CHARLES J. FRANKEL, M.D.,
JAMES H. GAMBLE, M.D.,
FLETCHER D. WOODWARD, M.D.,
Chairman.

February 1, 1962.

Dr. WOODWARD. Mr. Chairman, that is a very brief statement but that is the way I feel. We have gone as far as we can go and to go any further we must have some help on basic research. I thank you.

The CHAIRMAN. Thank you, Dr. Woodward. I again would like to say you have been most helpful throughout the years to our committee. Your contribution has been very valuable to us. We appreciate very much the fact that you took time out of your schedule to come before us today and I appreciate your support of this bill.

Dr. WOODWARD. Thank you, sir.

The CHAIRMAN. Our next witness is Mr. Maxwell N. Halsey; will you come around please, sir. We are pleased to have you before our subcommittee.

STATEMENT OF MAXWELL N. HALSEY, TRAFFIC SAFETY CONSULTANT, EAST NORWALK, CONN.

Mr. HALSEY. Mr. Chairman, I am increasingly convinced of the imperative need to add more basic approaches to traffic-accident prevention. These can come only through the adoption of such fundamental proposals as H.R. 133 which would provide research, research personnel, and training. I strongly urge the adoption of this bill

with the modifications suggested by the Division of Accident Prevention of the U.S. Public Health Service.

WE ARE BARELY HOLDING OUR OWN IN THE WAR AGAINST TRAFFIC ACCIDENTS

A glance at any set of curves showing the number of drivers, cars, and miles traveled since the war indicates a steady increase. This continuous gain in exposure has naturally pulled deaths, and especially injuries, up with it. Even the death rate which had been coming down has leveled off during the last few years so that improvements are fractional. Certainly no one is willing to settle for the present status in our "safety war," which virtually guarantees more dead and injured each year ahead, even though some improvements may be made in the rate.

PRESENT SAFETY APPROACHES INSUFFICIENT

The national traffic safety inventory will show that each year high schools train more students in driving, police arrest more violators, courts punish more guilty, motor vehicle departments take more serious action to improve drivers and suspend or revoke more licenses, public education efforts are greater, and of course safer, new roads are being built while we are gaining in uniformity of laws.

These are the direct-action safety activities largely responsible for holding our own. They have been increasing each year, but barely enough to offset annual increases of exposure.

It seems reasonable that merely doing a little more of the same—teach, arrest, punish, suspend, revoke, build—cannot be expected to bend the accident, injury, and death curves down sharply. Obviously, new prevention tools and new and better use of existing ones must be discovered.

Many professionals have been greatly encouraged by the development of the seat-belt program, the safer designs of the Interstate Highway System, and the creation of the new Division of Accident Prevention, which has brought the U.S. Public Health Service's long history of thorough research and practical application to the field of safety. But it will be some years before their potentials can be realized.

ACCIDENT PREVENTION RESOURCES INADEQUATE

The gap between rising exposure and the rate of increase in prevention resources represents the long-range chances of holding our own, winning or losing the battle. Private resources underwriting private safety organizations, which help State, county, and local governments and build public support for their activities, appear to have leveled off and may be approaching a practical ceiling. States, counties, and cities cannot be expected to make more than modest annual budget increases for the types of prevention activities now underway. Certainly no one State, county, or big city is in a position to provide an additional sum of the necessary magnitude for large-scale research to develop "breakthroughs."

Logic should tell us that if we cannot increase prevention resources financed from the old sources at a faster rate than increases in exposure, we are certain to lose ground in the long run.

PREOCCUPATION WITH TRYING TO STOP TRAFFIC ACCIDENTS TOMORROW

One of the greatest weaknesses in traffic-safety thinking has been a preoccupation with trying to stop traffic accidents this year. By its very nature, it does not lend itself to quick, easy cure-alls. Motorists and pedestrians are not only complicated human beings—they are also the taxpayers and the voters and, in these latter roles, do not take naturally to restrictions. Much more scientific data will be needed to convince them of the validity of and necessity for restrictions which may be needed in the future.

As in other fundamental human problems, we try to hold our own by applying what we know, but always realizing that only long-range research can give us better solutions.

DRIVER AREA HAS HIGHEST POTENTIAL

Most safety experts agree that prevention approaches through the driver have a higher long-range potential than approaches through the car or the highway, although it is important that work must be done on all three to have a balanced program. When the human mind does not apply itself to safe driving, due to lack of skill, alcohol, drugs, illness, and many other factors we do not yet understand, drivers seem capable of "outsmarting" the safety features of the safest cars and the safest highways.

H.R. 133 WOULD FULFILL BASIC NEED

The provision of a national research center coincides with the reasoning previously presented:

(1) It recognizes the overriding importance of a more fundamental approach; provides a major source of scientific data.

(2) It fits the needs of a long-range program.

(3) It aims primarily at studying the driver, the approach that has the highest potential gain in safety.

(4) It locates the operation in an agency with a long experience in studying the human being—the U.S. Public Health Service.

(5) It concentrates on research, the only approach for discovering new tools and improving old ones.

(6) It provides a permanent organization, with continuity to attract researchers with a high potential.

(7) It offers a training ground for researchers.

(8) It provides a university campus setting and proper equipment to enhance success in research.

(9) It can provide leadership which will bring coordination and reduce costly duplication.

(10) It gives special values, through simultaneous study of the human being in relation to all types of accidents and the interrelationships of causative factors.

It is hard to grasp the magnitude of this subject. When traffic planners project cautiously a possible saving of several thousand lives annually from such an approach as seat belts or through the safer design of the Interstate Highway System (not to be completed until 1972), they realize that even such figures are but a small fraction of last year's 38,000, or the projected 47,000 dead for the year 1966, if

present trends are maintained. Massive problems can only yield to fundamental attacks in depth, H.R. 133 represents this kind of attack.

The CHAIRMAN. Thank you, Mr. Halsey. I again say that I regret there are no more members of the subcommittee present to hear your statement. There is business on the House floor. I know you understand we have to be there. When you get to the role of the chairman, the chairman has to be both places. It is a pleasure to have you and I appreciate the contribution you have made to our subcommittee.

Our next witness will be Dr. C. L. Wilbar, Jr., secretary of the Department of Health, Commonwealth of Pennsylvania, Harrisburg, Pa.

It is a real pleasure to have you. I think it is generally agreed that your great State has made tremendous strides in the field of safety. I believe that Pennsylvania is the only State so far that has physical examinations for renewal of drivers' licenses.

I might say, too, that I had a call yesterday from Mr. Shipley, the commissioner of vehicles, I believe, in your State who is quite interested in this subject.

We are delighted that you can be with us today. We appreciate very much the sacrifice you have made to come and you may proceed with your statement.

STATEMENT OF C. L. WILBAR, JR., M.D., SECRETARY, DEPARTMENT OF HEALTH, COMMONWEALTH OF PENNSYLVANIA, HARRISBURG, PA.

Dr. WILBAR. Thank you, Mr. Chairman.

I am Dr. Charles L. Wilbar, Jr., secretary of health of the Commonwealth of Pennsylvania.

This year I am also chairman of the health officers section of the American Public Health Association, chairman of the Program Area Committee on Public Health Administration of the American Public Health Association and vice president of the Association of State and Territorial Health Officers.

I appreciate the opportunity to appear before you to testify in favor of the enactment of H.R. 133, with some possible modifications.

In Pennsylvania, accidents have been the fourth leading cause of death since 1900 and remain firmly established in this position. As in the rest of the Nation, they constitute the leading cause of death from the end of the 1st to the 35th year of life. In our State health department, we have 13 full-time persons working in the field of environmental safety and, in addition, have a physician and his secretary working in a unit called traffic epidemiology. This latter unit has been in existence for nearly 4 years and is unusual among State health departments.

You are undoubtedly having repeated to you a phrase such as "accidents are caused—they do not just happen." This is true, but it means that those of us who are working in the accident prevention field must know the causes, know how to prevent such causation, and be able to convince the public to effectuate the necessary preventive measures.

Adequate research is badly needed as to the causation factors of accidents, particularly the human element. What makes certain types of individuals, particularly at certain times of their lives, es-

pecially liable to have accidents? How can a proclivity for having accidents be prevented by educational measures among the groups most apt to have certain types of accidents, such as traffic accidents by the young adult male?

Looking over the printed reports of studies in accident control, I am impressed with the large percentage of these studies which are concerned with manufacturing, engineering, and construction in connection with accidents, whether they be at home, at work, or on the highway, and the relatively few careful studies being made in connection with human beings and their behavior in this field. Yet it is the human being, much more than the inanimate object—be it an automobile, traffic sign, stepladder, scatter rug, sharp instrument, or other dangerous inanimate object—which is the primary cause of the accident.

Certain accident prevention programs where the human element has been involved have been successful in reducing mortality and morbidity. Last year, Pennsylvania's highway fatality rate was the lowest in its history. The rate was 3.7 deaths per 100 million miles compared with 4 in 1960 and 8.6 in 1946.

Gov. David L. Lawrence inaugurated a 13-point traffic safety program in February of 1960. Education is an integral part of this program. One portion in which the health department has been involved, and which is unique in Pennsylvania, is a periodic physical examination of drivers, whereby drivers with severe disabilities which make them unfit to drive are discovered and removed from behind the steering wheel.

In the State of Michigan about a decade ago, with the expenditure of private foundation money, a concentrated accident prevention educational program aimed at reducing home accidents in certain towns and counties was remarkably successful. In Kalamazoo, for instance, the home accident rate was brought down by a 2-year concentrated program from 30 per 100,000 to 6 per 100,000, an 80 percent reduction.

In our environmental safety program we have been attempting to ascertain some of the personal factors which have an important impact on accident rates. Nearly a hundred hospitals in the State are reporting data to the health department on the accidents treated in these institutions.

We find a considerable variation in accident rates in different age groups. Most fatal injuries occur among persons in the very young and very old age groups, whereas most nonfatal accidents occur in the age group of 15 through 24. Males have a much higher accident rate than females.

As would be expected, physical shortcomings which interfere with coordination, balance, and locomotion predispose individuals having these shortcomings to accidents. So do certain visual and auditory abnormalities and conditions which prevent the individual from having mental control of his activities, such as fainting, convulsions, heart attacks, cerebral hemorrhage and such. It is clear that the mental and emotional makeup of the individual is a major factor concerning his accident proneness.

It is not entirely clear when the person becomes accident prone, although it is clear that certain psychological characteristics cause individuals having them to be unusually likely to have accidents. An

individual who is apt to give himself over without much restraint to worry or grief, predisposes himself to inattentiveness. An individual who is quick to anger is apt to lose the cautions which help prevent accidents. Fatigue causes slowing of the reaction time, so that the chronically fatigued individual is more subject to accidents than other persons. The quality of judgment is difficult to measure, but certainly some individuals do better at judging their own skills and capabilities than others.

There are, of course, those who have psychoses or neuroses, some of which render individuals exceedingly accident prone. Accident proneness is often not constant; it is apt to occur for limited periods when acute physical or emotional conditions are present, predisposing to accident causation. Accidents are prevented by the correction or modification of either environment or attitudes.

These sparse generalized findings concerned with the human factor in accident causation and indicating some roads to prevention which have met with some success point out, the need for more careful substantive research and investigation in the accident control area on a national scale by a unit which has adequate physical facilities and competent personnel. Unfortunately, very few individuals in the Nation seem to be both competent and interested in working full-time in this important area of the human aspects of accident causation and prevention.

It seems to me that an accident prevention center stressing research is most urgently needed for the Nation. Here a number of qualified persons in this field could be gathered together with proper working facilities and sufficient funds to begin to tackle the problem in something of an adequate manner.

There is indication that some of the projects now in existence are duplicating other studies already in progress or completed. This Federal center, under the Public Health Service, could serve as a national clearinghouse for information on research and to some extent for information on available educational materials. This, of course, would not mean that all research would be done in this center to the exclusion of having some done by other organizations. The center should encourage and strengthen additional research elsewhere, but the waste of duplication of preliminary investigative efforts might be avoided to a considerable degree.

Inasmuch as accident prevention has been generally accepted as a major public health problem, the placement of such a center in the U.S. Public Health Service seems highly desirable, and H.R. 133, if enacted, would fill an important need in public health practice in the Nation.

There is some question in my mind about the desirability of setting up an accident prevention advisory board in the manner in which it is now contemplated by H.R. 133. Having a board appointed by the President and passing upon every project or program makes it a high level administrative board, superseding to a degree the usual administrative functions of the Surgeon General.

There are a number of other advisory boards in the Public Health Service which are appointed by the Surgeon General and carefully advise him on necessary matters, but do not supersede his authority. Generally speaking, splintering of Government authority into boards and commissions is not advisable.

It would seem, therefore, that it would be better to have the accident prevention advisory board appointed by the Surgeon General in the same manner as other advisory boards are appointed by him, and that the function of this board be spelled out in less detail in the law but consist generally of advising the Surgeon General in regards to all aspects of administering the provisions of the act.

Thus, I should like to recommend to your committee and to the Congress that H.R. 133 be acted upon favorably, after some modification to particularly stress research activities and to have an accident prevention advisory board appointed by the Surgeon General with a responsibility to advise the Surgeon General on the various aspects of administering the act once it becomes law.

Mr. ROBERTS. Thank you very much, Dr. Wilbar. We appreciate your statement and especially in view of your work with not only your own State but the work which you do in the Association of State and Territorial Health Officers, also your work with the American Public Health Association.

I think that the suggestion you make as to the advisory board certainly should come in for some consideration by the subcommittee and I am sure that it will.

I might say to you that it has been my hope for some time that the subcommittee visit your State as a way of paying tribute to what your State is doing in this field and also to see if our subcommittee might not be able to generate more interest on the part of the other States in the Union. I hope that when we come out we will have the pleasure of seeing you in Harrisburg.

Dr. WILBAR. I hope so, Mr. Chairman.

The CHAIRMAN. That you again.

I want to thank all of you who have come before the committee and the press and those in attendance at this session. We are very grateful for your presence and for your attention.

I have one statement by Rev. Howard Harper who had to leave and asked that his statement be placed in the record.

(The prepared statement of the Reverend Howard Harper, D.D. follows:)

STATEMENT OF REV. HOWARD HARPER, D.D.

I wish to speak in favor of the establishment of a national accident prevention center.

While I do not at this hearing officially represent either organization, I cannot help speaking from the point of view of an officer of the National Council of the Protestant Episcopal Church and a member of the National Committee of Religious Leaders for Safety (of the National Safety Council).

To anyone who believes in man's worth as the image of God, it is difficult to see how this bill could be opposed. The preservation of human life is a religious matter. To prevent the destruction of life is our duty to God, and failure to use every means within our power to prevent such destruction is of the nature of sacrilege.

It is probably true that some—even many—accidents are not preventable, and will continue in the face of all our efforts.

But I know it is also true that many can be prevented through the improvement of mechanical safety devices, and I believe it is true that many more can be prevented through psychological studies of the human factors involved.

In both the mechanical and the psychological areas activities are, of course, now going on—uncoordinated, piecemeal, local. A national center would perform the double service of bringing together already existing knowledge and of further advancing our understandings on a total national scale.

I would be strongly in favor of this bill even if I were not concerned about the religious values involved. Having also the religious concern, I am doubly in favor of it.

I earnestly urge the establishment of a national accident prevention center.

The CHAIRMAN. The subcommittee will be in recess until 10 tomorrow morning in the same room.

(Whereupon, at 1:30 p.m., the hearing recessed, to reconvene at 10 a.m., Wednesday, February 7, 1962.)

TO THE HONORABLE SENATE OF THE STATE OF TEXAS,
IN SENATE COMMISSIONERS REPORT,
FOR THE YEAR 1880.
BY
J. W. HARRIS,
COMMISSIONER OF THE LAND OFFICE.

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

WEDNESDAY, FEBRUARY 7, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10:15 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

The CHAIRMAN. The subcommittee will please be in order.

Our first witness today is Mr. Harold Russell, past National Commander of the AMVETS National Service Foundation, 1710 Rhode Island Avenue, N.W., Washington, D.C.

It is a pleasure, Mr. Russell, to welcome you to these hearings. We know, of course, of your fine work in the field of rehabilitation and veterans affairs, and we welcome you to our hearings.

You may proceed with your statement.

Would you like to identify the gentleman with you?

STATEMENT OF HAROLD RUSSELL, PAST NATIONAL COMMANDER, AMVETS NATIONAL SERVICE FOUNDATION, WASHINGTON, D.C.

Mr. RUSSELL. Mr. Norman Carroll, our service foundation administrator.

Thank you very much, Mr. Chairman, and members of the subcommittee.

I am delighted to have this privilege of being here today.

As you know, my name is Harold Russell and I appear here today as the representative of the American Veterans of World War II and Korea (AMVETS) which was chartered by Congress in 1947. I have served the organization as national commander during three separate terms since 1950. I do not claim this makes me an expert witness but if I say so myself, I think I know something about accidents.

As an organization we are very much concerned with the problem that confronts this committee.

First, I think I would like to thank the honorable members of the subcommittee and the chairman for this privilege of appearing on behalf of AMVETS throughout the United States. As an organization we are most grateful for the opportunity to be heard and we welcome the opportunity to testify on behalf of H.R. 133. AMVETS feel it is fitting for us to support this measure, not only on its merits, but also because it parallels and in fact expands upon one of our own major objectives.

As an organization we are concerned not only with the program of physical restoration for disabled veterans and nonveterans alike, but with any program that can be utilized to prevent crippling injuries. We believe the best rehabilitation program in the world is one that makes physical restoration unnecessary.

Perhaps it will sound strange that a veterans group like ours, composed of men and women who served in World War II and Korea, should be placing organizational emphasis on the subject of accident prevention—a subject which may seem somewhat remote from the immediate concerns of ex-servicemen. But I am proud of the fact that from their earliest days, AMVETS have regarded their citizens' responsibilities as transcending any rights which they may retain as veterans.

As evidence of this viewpoint, and this comment is really quite relevant to the legislation now under consideration, I should like to state that our present national commander at this very moment is touring the United States with a motorized survival caravan designed to alert our fellow Americans to one of our deadliest enemies: highway hazard.

Comdr. Edwin P. Fifielski, of Chicago, a successful attorney, is devoting his entire year in office to this demanding tour—in fulfillment, I am proud to report, of a mandate unanimously adopted by the delegates to our last national convention calling upon our organization to organize a concerted attack on the highway accident enemy.

We adopted this broad program of action upon the recommendation of one of our convention speakers, Mr. Byron Nichols, general manager of the Dodge Division of Chrysler Corp. The support and cooperation of Dodge in helping us implement this ambitious project as a public service activity is merely another one of many public service credits earned by this outstanding representative of the motor industry.

I should like to return in a moment to the relationship between the AMVETS program and the objectives of H.R. 133. We are not unmindful, however, that the proposed legislation covers not merely one phase of the accident problem but would embrace the whole area of accident prevention in the home, in the office, in the factory and, indeed, into every facet of life in America today.

We heartily endorse the concept that any governmental approach to this general problem must concern itself with the spectrum of accident prevention in its broadest terms as a matter of equity to the taxpayers who will be asked to foot the bill.

You will hear from other witnesses better qualified than I in terms of familiarity with facts and figures. But it must be evident to the least initiated among us that the fantastic cost of accidents in the United States, accidents of all kinds, under all conditions, in all sorts of places, cries out for the creation of a National Accident Prevention Center within the U.S. Public Health Service.

For only through such a center as this bill envisions, carrying the prestige of governmental influence and concern, can the many separate efforts of both public and private enterprise, such as our own program in AMVETS, be properly and effectively coordinated and spurred on to greater effort through promotion, encouragement, guidance, and intelligent development of all our many and varied resources.

I intimated a moment ago that I was not an expert statistical witness. Yet, as a result of AMVETS efforts in the area of high-

way accident prevention I have been exposed to some startling facts and comparisons which may be interesting to this honorable subcommittee. I should like to examine them, as befits a veterans group, in a somewhat military context.

During the first 4 bloody days of the Normandy landings in 1944 twice as many Americans were killed and injured on our highways at home than were felled on the French coast. And since the Pearl Harbor attack on December 7, 1941, more than 25 million Americans have been killed or injured on the highways and byways of our peace-loving land as compared to the total casualties in both World War II and the Korean conflict.

These are incredible figures but I am assured they are true, just as true as the fact that the cost of automobile accidents alone runs to more than \$6 billion a year, enough money to build 12 nuclear-powered aircraft carriers like the new *Enterprise* which itself is 3 times bigger than our largest wartime carrier and will be able to circle the globe more than 20 times without refueling.

The American people and the American Congress have never hesitated to act in the face of direct challenges to our security and our lives.

In 1770 we declared war when three Colonials died on Boston Common.

In 1836 our Nation was ready to fight when 187 Americans fell at the Alamo.

In 1898 Congress declared war when 266 Americans went down with the battleship *Maine*.

In 1917 Congress acted after the death of 124 Americans on the *Lusitania*.

In 1941 it was war when 3,883 Americans perished at Pearl Harbor.

Today, our streets and highways alone are 25 times more dangerous than were the frontlines in World War II and our fellow Americans behind the wheel are apparently more deadly in terms of highway carnage than were our enemies behind their guns.

In the face of such facts, can the American people and the American Congress do less than declare war again? War on the threat to our lives and to our property posed by the ascending curve of accident rates not only on the highway but in virtually every aspect of our daily lives.

H.R. 133 is an answer to that question and the answer to the deadly daily challenges we face as individual citizens.

We construe this bill to represent, in a very real sense, a declaration of war by Congress in the name of the American people against the ravages of accidental injury and death.

We see in this bill an effort by Congress to help place the responsibility for action where it properly belongs: on the people themselves, using our Federal resources only as an instrument to put the problem in focus, to centralize organization of facts, to collect, analyze, and report on pertinent data from every conceivable source and to generate, through State and community government as well as at the Federal level, and in cooperation with private and public agencies, a coordinated initiative with but one objective: a systematic solution to the many urgent problems involved in reducing the terrible cost of accidents to you and me, our neighbors, and our fellow Americans.

In a modest but nonetheless determined way and with our limited resources, under the general heading of highway safety, AMVETS

seek uniform motor vehicle inspection laws throughout the country; we suggest periodic physical examination of licensed vehicle operators, and we encourage general utilization of auto safety belts. Yet great as the need for action is, this area is but a segment of the overall problem. Federal action along the coordinating lines established by H.R. 133 is the obvious answer to an equally obvious problem. We respectfully urge a favorable report by this subcommittee.

If the chairman will permit, I ask permission at this time to submit as an addendum to these remarks the text of an AMVETS document, entitled "Survival," prepared by our national headquarters in Washington, and outlining the objectives and activities through which we are implementing our own highway safety project.

Thank you very much for your courtesy.

The CHAIRMAN. Thank you, Mr. Russell.

Without objection the addendum will be placed in the record along with your statement.

(The document referred to is as follows:)

SURVIVAL

The AMVETS highway safety project is one aspect of the theme "Survival" which is the descriptive title adopted as the organization's 1961-62 public service program.

THE PROBLEM

The deaths of nearly 40,000 people a year, the disabling injuries of nearly 1.5 million and the lesser injuries of an additional 2 million other Americans in traffic accidents are pure waste of our most precious national asset: people.

Suggestions that the answer is to "crack down on teenagers," "get drunks off the road," or "set a national speed limit" indicate a lack of understanding of the complexity of the problem of the many basic things that must be done if it is to be solved. Gimmicks, shortcuts, and cure-alls are not the solutions.

RESPONSIBILITY OF THE CITIZEN

Every citizen has the right to expect that his public officials, at each level of government, will faithfully and efficiently discharge their responsibilities for safe and efficient traffic control. It is the duty of these officials to study the needs and to develop and execute sound programs.

In a free country, however, officials can and will discharge their duties only to the limit the public will accept and support.

Because citizens generally are inadequately informed on traffic problems and their remedies, they will often oppose official actions simply through lack of understanding. Official explanations of the need for these actions are usually not enough. The influence of organized citizens and their leaders is necessary to obtain public acceptance of official measures.

Unless citizens give their active cooperation and support to officials who are working to prevent accidents, even the best safety programs cannot be fully effective. Experience has shown that this support can best be provided through an organized group.

A fully representative citizen organization is best able to study the total traffic problems, and to speak out in a strong voice to inform the public, to help develop positive attitudes, and to provide support for sound official measures.

More than half of the cities participating in the annual inventory of traffic safety activities report that they have some form of citizen traffic safety council, committee, commission, board, or other group.

These groups vary all the way from fully staffed metropolitan organizations to volunteer committees in small cities. They show a wide range also in the degree of their effectiveness.

Of the cities of more than 100,000 population, more than 50 percent have safety councils or corresponding citizen organizations with full-time staffs operating either locally or on a metropolitan-area basis. Activities of these groups reach more than a third of the U.S. population.

More than half of the States have statewide organizations with full-time staffs, serving an additional third of the Nation's population not covered by the city or metropolitan organizations.

Together these two groups service in excess of two-thirds of our total population.

THE RECOMMENDATIONS OF THE PRESIDENT'S COMMITTEE FOR TRAFFIC SAFETY

In part these include:

(1) Chief executives of States and municipalities encourage the establishment and strengthening of citizen organizations, and take leadership in determining accident prevention needs, developing official programs based upon the action program and establishing priorities for action.

(2) Civic and business leaders take the initiative in establishing State and community citizen traffic-safety organizations or in strengthening existing ones. In this effort, they may be able to utilize communitywide organizations, such as chambers of commerce, etc.

(3) Citizen groups—

(a) Expand their accident prevention activities and join forces in States and communities to bring their combined potential into action through a citizen traffic safety committee, council, commission, or similar organization.

(b) Follow the basic principles of organization and programing which experience has shown to be most effective.

(c) Develop action programs that apply to the specific needs of their respective States and cities in line with the recommendations of the national action program for traffic safety.

THE ROLE OF AMVETS

As the national organization of the veterans of World War II and Korea, AMVETS has both an opportunity and an obligation to add its force and leadership in a positive action program of highway safety that would operate within the recommendations set forth above.

THE INITIAL STEP

At the national convention which concluded in August 1961 in Louisville, Ky., the AMVETS organization adopted a resolution calling for a highway safety project. The implementation of such a project would be carried out in cooperation with the Dodge Division of the Chrysler Corp., as a public service activity and reflecting credit upon both organizations. In addition, AMVETS have every reason to call upon and to expect complete cooperation from such groups as the President's Committee for Traffic Safety, the Automotive Safety Foundation, the Auto Industries Highway Safety Committee, the National Safety Council, the American Association of Motor Vehicle Administrators, the National Committee on Uniform Laws. Finally, it is most obvious that in every State the appropriate public official within that State and similarly appropriate public officials within each city, can be expected to cooperate in programs of substance that AMVETS introduces.

THE SELECTED AREAS OF AMVETS ACTIVITY

Three specific areas of activity have been chosen to be AMVETS action projects—the adoption of the motor vehicle inspection provision of the Model Uniform Vehicle Code; periodic physical examination of licensed vehicle operators; and to encourage the increased public acceptance and utilization of automotive safety belts. AMVETS activity will be planned for each of these projects at all three levels of the organization: National, State, and in the local post.

Since each of these three areas is significant in itself, the question arises—why divide the effort? To answer this completely, we will examine each program area and view the nature of the AMVETS contribution. However, it is well to point out that by offering three action possibilities, we encourage maximum organizational participation at all AMVETS levels: National, State, and local. Additionally, where satisfactory vehicle inspection statutes exist, alternatives are offered. Finally, it is sufficient to state that to some AMVETS groups the possibility of effective achievement in a legislative endeavor or any endeavor outside of their immediate community might have less appeal than a local program such as is possible with the safety belt project.

UNIFORM MOTOR VEHICLE INSPECTION PROGRAM

The need

Vehicle condition is an increasingly important factor as traffic volumes and sustained high-speed travel mounts. Unsafe vehicle condition is a constant, inherent potential in vehicle use. Experience has shown that where vehicle inspection is required by law, an improved highway safety record results. While voluntary inspections are helpful, the ultimate objective must be a legal requirement of a safety check for all licensed vehicles.

Present status

Successful programs of statewide periodic motor vehicle inspection are in operation in 17 States and the District of Columbia. About 25 percent of the Nation's vehicles are now regularly inspected at least once, and in most cases twice, each year. Inspection twice a year is preferable in the interests of safety. Revised standards for motor vehicle inspection were developed by a national committee and published in 1957 by the American Standards Association.

Jurisdictions which have established inspection programs are: Colorado, Delaware, District of Columbia, Louisiana, Maine, Massachusetts, Mississippi, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Texas, Utah, Vermont, Virginia, and West Virginia. A few others have legislation pending.

The objective

Concerted, continuing efforts should be made—including organized, informed citizen support—to establish sound inspection programs in all States with the least possible delay. Periodic vehicle inspection should be considered an essential part of the highway safety program in every State.

Enactment of a law requiring periodic inspection of all motor vehicles should be given high priority in every State that does not have such an official program. State-approved, privately owned, officially supervised stations should be supported as the most feasible and practical arrangement.

The AMVETS program would call for the adoption of the model inspection law, as set forth in chapter 13 of the uniform vehicle code.

THE AMVETS PROGRAM

On the national level

(a) *Announcement of the project.*—A statement of program similar to that incorporated in this memorandum would be prepared and distributed nationwide to public officials, the press, and nationally within the AMVETS organization. This program announcement would also advise the intended activity of the national commander in the course of his travels into the various States, to call upon the Governor and the responsible State highway official presenting a resolution urging the adoption within the State of a State statute similar to the statute proposed by the committee on uniform laws. This obviously applies only in States which are not presently adhering to the code on uniform laws.

The commander's activity or the AMVETS position within any State obviously depends upon the nature of the existing State law. In many cases, States provide for an inspection on a once-a-year basis or the nature of the State law is not such to be up to date with all current provisions deemed advisable under the model code. To establish the AMVETS position in any State, therefore, it is obvious that we must be in contact with and carry out the appropriate research to determine the status of the uniform code in each and every State. To accomplish this is not particularly difficult, especially with the full cooperation of the several interested organizations whose national office is located here in Washington. Throughout the national commander's tour, the entire traffic safety program would be a part of public speeches and press releases. Naturally, depending upon the local picture of inspection, the emphasis would vary but the ability to research the situation in advance makes this a relatively easy matter.

Those States whose existing laws fully satisfy all the inspection requirements will be dealt with later in this report by the alternative programs.

State level of activity

The national AMVETS resolution presented to the Governor of each State will recognize and take note of the fact that the AMVETS organization within the State will be pursuing this program and supporting it with legislative activity and seeking to generate citizen support within the State, as might be needed to encourage the enactment of the appropriate statute.

The State commander would be called upon to name a legislative committee to carry out the necessary steps to provide legislative support for the AMVETS position. In addition, the State commander would take steps to establish liaison with existing citizens committees at the State level. He would encourage posts within his department to follow similar lines in terms of their local activity.

Post level of activity

Post commanders would be asked to name a post legislative officer and a post committee to carry out the traffic safety program. The post programs could follow any one of a number of approaches. These include:

- (1) A letterwriting campaign urging passage of the law.
- (2) The obtaining of petitions from the interested citizens in the community.
- (3) The carrying out of a volunteer motor vehicle safety check (full information on this program is available from an organization entitled the "National Vehicles Safety Check for Communities," located at 2000 K Street NW., Washington 6, D.C. This activity is sponsored by the Auto Industries Highway Safety Committee).
- (4) A display in a prominent area of the community of an exhibit pointing up the importance of motor vehicle safety checks.

The above represent but a few of the possible avenues of approach by a local post conducting this program. There are, naturally, many more possibilities that involve the conduct of essay contests within high schools, the use of exhibits and displays with local merchants, participation in local parades with appropriate posters, trailer exhibits, and so forth. In addition, AMVETS could call local press, radio, and TV attention to the importance of the adoption of a model vehicle inspection code.

RECOGNITION

No project is truly effective that fails to provide recognition of effort. The entire AMVETS safety campaign would be geared to emphasize the matter of recognition on State and National levels.

State recognition

All AMVETS departments would be encouraged to carry a monthly report during the entire year of posts active in the various safety projects. In addition, award ceremonies should be planned at the State level for all department conventions.

National level

The various national publications including the National AMVET, Contact, and convention program would carry continuing articles related to the safety program.

It is naturally anticipated that recognition of the best programing effort by local units would be provided at the AMVETS national convention. It is also anticipated that the cooperation of Dodge, the best effort would receive an award of a Dodge automobile. (Note the portion of the report entitled "AMVETS-Dodge Cooperation.")

PHYSICAL EXAMINATION OF VEHICLE OPERATORS

The need

It should be reasonably apparent to any thinking individual that even the safest vehicle is a dangerous instrument in the hands of an unsafe operator. Most jurisdictions have certain initial licensing requirements to measure the driver's skill and physical capacity. Few jurisdictions, however, have shown any inclination to periodically recheck either of these important human factors. As a result, persons subject to varying degrees of disability continue to operate vehicles in instances where this licensed privilege should be restricted, i.e., requiring use of glasses to correct vision, etc., or in other more extreme cases, where the privilege should be revoked entirely as a safeguard to the individual and to the community. Such extreme situations as totally blind drivers, severe epileptics, heart and blackout cases, mentally disordered, etc., have and presently continue to legally drive automobiles on our Nation's highways.

Present status

Only a very few jurisdictions currently reexamine licensed drivers. In most areas this is a touchy subject and is not a particular popular cause. Its lack

of popularity, however, is not the measure of its importance. We are presently obtaining information as to the status of State activity in this area.

The objective

In this case, the AMVETS objectives would again be a uniform State law requiring the periodic physical examination of drivers at the time of revalidation or renewal of operator permits. Although considerable research is ahead, it would seem most logical to base all licensing upon the submission of a medical form signed by a physician. The content and exact nature of the form yet to be determined, however, in any case the individual would be required to obtain the required examination at his own expense from a duly licensed physician.

The AMVETS program

Generally, this program would follow the lines of the inspection project. That is to say, legislative implementation on National and State levels. In this case, however, local projects would follow some additional and different lines. For example, the support of the medical profession might well be enlisted in the form of encouraging doctors to speak on the subject at the community level. At all levels, great care would necessarily be required to avoid misunderstanding and resulting resistance on the part of aged and handicapped segments of the population. This also applies in the case of the entire group of disabled veterans.

ACCEPTANCE AND UTILIZATION OF SAFETY BELTS

The need

As is the case with vehicle inspection and driver examination, few persons will logically argue against the injury reducing and lifesaving value of automotive safety belts. The major problem here is one of public acceptance.

Present status

It is encouraging to note that in 1962 all major automobile manufacturers included belt anchors as a standard item in new cars. No State or local jurisdictions require belt use or installation. It is not likely that use could even be effectively enforced. It is also unlikely that required installation can be made a requirement on older cars. Providing that manufacturers continue to include anchors will perhaps permit the item to become a future requirement as was the case with turn signals.

The objective

This aspect of the AMVETS safety program is, therefore, to be one of education toward acceptance of the safety belt as an item which is in the self-interest of every car owner. Therefore, in this instance the present belt campaign is not legislative and offers an entirely different approach and objective.

THE AMVETS PROGRAM

National level

As presently constituted and envisioned, the national effort will be chiefly in the public relations field. First, the commander's car will be fully equipped with belts. Secondly, it is definitely possible that for each State visit a presentation of a gift safety belt made up with the State emblem on the buckle would be made to each Governor and to each State director of highway safety.

State level

Again in this instance, public relations is the key theme. An effort would be made to have each AMVETS State commander receive a safety belt in an appropriate presentation. Throughout the year, AMVETS State departments would give continuing recognition to the project by such devices as selecting the "Safety Post of the Month," etc., and as in the other projects, the ultimate recognition would be climaxed at the State convention.

Post level

At the post level the implementation of the safety belt program is basically a question of individual ingenuity. Such possibilities as mayor's proclamation of auto safety belt day or week are obvious. In all cases, local Dodge as well as other automobile dealers should be willing to cooperate. Gimmick-type approaches along such lines as equipping "the racers" in "soap box derbys" with safety belts or arranging to install safety belts in school driver training cars all become natural approaches to be utilized by local posts.

Recognition

As set forth above the recognition factor would be part of this project and follow the same pattern.

SUMMARY

This memorandum represents the broad outline for the AMVETS traffic safety program as proposed for 1961-62. It is still subject to change and, in fact, considerable additional information is presently being gathered. Therefore, as the project develops other materials will be incorporated.

The CHAIRMAN. The Chair would like to thank you for a very fine statement and would like to thank you and your organization for the work that you are doing in this field.

I know you have traveled all over the country many times. I wonder if you believe that there is widespread demand for this type of legislation and effort on the part of the Federal Government?

Mr. RUSSELL. I firmly believe there is, Mr. Chairman. I think that this has to be spearheaded by Federal action. I think that there is a great awareness of this peril on both the highway and in the home, and there is a real need and demand for something to be done about it, but I do think it has to be spearheaded by congressional action.

The CHAIRMAN. Do you find in your contacts with other organizations in groups that many times they ask the question: Well, what can we do about the problem?

Mr. RUSSELL. Yes; I do, sir. And this is one question that is difficult to find an answer to because of the lack of coordination between the various groups. Everyone, of course, is interested in one sense or another in this problem and that question, of course, is asked: "What can we do?" And there are many organizations that do an outstanding job of promoting various aspects, of course, of this whole safety program, especially on the highway.

The CHAIRMAN. Do you believe the type of coordination and bringing together of loose ends that would be afforded by this bill would make a valuable contribution to the whole problem of accident prevention?

Mr. RUSSELL. Very much, Mr. Chairman. Very, very much. I think this will be the first concentrated attempt to bring together and evaluate this most important information and to spur the programs on. I think it would give great encouragement and assistance to many, many organizations and individuals, both private and public organizations, throughout the country.

The CHAIRMAN. Do you feel that this bill would infringe on the work of other organizations or would duplicate work that is already being done?

Mr. RUSSELL. Not a bit, sir. In fact, I think it would help rather than infringe in any sense of the word. It would help inspire other organizations to carry on. It would take their results and take their programs and attempt to spread this around. I do not see any conflict in any sense of the word, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Mr. Nelson?

Mr. NELSON. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Rogers.

Mr. ROGERS of Florida. Thank you, Mr. Chairman.

I, too, want to join the chairman in commending you, Mr. Russell, on this statement, and the fact that I think you pointed up very

vividly the problem. Some of us, I think, in this country accept as part of our way of life all of this damage and the death that results because we are living in a very fast age, and not too much has been done in this line certainly in comparison with the death and damage that is caused by accidents.

I agree with your statement that we must have a coordinated attack on this problem, and I personally appreciate your interest and the help you are giving the committee.

Mr. RUSSELL. Thank you, sir.

The CHAIRMAN. Thank you again. It has been a pleasure to have you with us this morning.

Our next witness is Mr. Robert E. O'Brien, president, Bio-Dynamics, Inc., 1 Main Street, Cambridge, Mass.

Mr. O'Brien.

**STATEMENT OF ROBERT E. O'BRIEN, PRESIDENT,
BIO-DYNAMICS, INC.**

Mr. O'BRIEN. Mr. Chairman and members of the subcommittee, I am Robert E. O'Brien, president of Bio-Dynamics, Inc., in Cambridge, Mass.

I would like to address myself to what I feel will be the technical contribution of the proposed center to the field of accident prevention. There is a great deal of evidence, to my mind, which suggests important benefits to be expected from an increased effort in accident prevention research, and it appears to me that the establishment of the proposed Accident Prevention Research Center would be an important step in achieving the greater level of technical effort in the field.

The center could first promote greater interest in problems within the field of accident prevention research in the professional communities which can contribute to the solution of these problems. The technical challenge and the importance of these problems must be communicated effectively to the scientists and engineers whose work is needed.

In addition, the proposed center could support the technical efforts of workers in this area by providing direct technical assistance—as framed in the terms of H.R. 133—such as information exchange, training of workers, and so forth. Furthermore, by carrying out intramural research, the center would serve to provide answers which are needed, and generate related and succeeding research by other groups outside of the center. And finally, of course, the center could support technical efforts of workers in this area by financial support through grants and research contracts which can help to insure that the work which needs to be done is, in fact, done.

In summary, it appears to me that the intramural research and the technical administration functions proposed for the center in H.R. 133 will contribute importantly to reducing the effects of accidents on public health.

I want to thank the subcommittee for the opportunity to present our views in support of H.R. 133.

The CHAIRMAN. Thank you, Mr. O'Brien.

What type of an organization is Bio-Dynamics, Inc.?

Mr. O'BRIEN. We are a research organization, sir, of engineers and psychologists addressing problems within the area termed "human

factors engineering." So this, of course, suggests our technical interest in the problems relating to accident prevention.

The CHAIRMAN. I thank you very much, Mr. O'Brien, for your appearance. We appreciate your coming here.

Are there questions? Mr. Rogers.

Mr. ROGERS of Florida. Mr. O'Brien, are you doing any research now on accident prevention in your organization?

Mr. O'BRIEN. Yes; we are. Our immediate interest is in the area of automobile safety. Representative of the projects that we are working on is a technique to monitor the alertness of an automobile driver. Another project of ours is in the area of automobile driving simulation. There are a lot of problems in this area of automobile safety concerning the effective integration of the human operator in the automobile driving situation which are of real interest to us.

Mr. ROGERS of Florida. Now who sponsors these studies for you?

Mr. O'BRIEN. We have one private sponsor and we have one Government sponsor. I think this is fairly typical of the field at the present time. There are a number of private associations, insurance companies, industrial corporations, and others which are sponsoring outside work by groups like ours which is needed to promote their own particular safety interest.

Mr. ROGERS of Florida. What governmental department is involved?

Mr. O'BRIEN. The Public Health Service.

Mr. ROGERS of Florida. You are working with the Public Health Service?

Mr. O'BRIEN. Right.

Mr. ROGERS of Florida. Do you coordinate your work with the National Safety Council?

Mr. O'BRIEN. We have attended conferences sponsored by the National Safety Council. And when you refer to coordinating our work with others, I would like to point out the usefulness of the technical literature of the work of our group and others which is presented for the use of all of us.

Mr. ROGERS of Florida. Who publishes that?

Mr. O'BRIEN. In our own immediate field the Journal of the Human Factor Society frequently treats of technical work relating to safety.

Mr. ROGERS of Florida. How often is that publication—

Mr. O'BRIEN. It is published quarterly.

In addition to this journal I would draw your attention to the professional journals in the medical areas, which are beyond my immediate competence, and the journals at the more applied level in the field of safety itself, which provide information on work being done at a very applied level.

Mr. ROGERS of Florida. Do you have difficulty finding personnel, trained personnel, for this type of work?

Mr. O'BRIEN. Yes, indeed. This is a very real problem. I suggest that one of the very useful functions of the center will be to provide professional training. This training can be done in a number of ways: inhouse training, sponsoring conferences and assisting university researchers who will, in time, make important contributions to the field and so forth. So certainly there is need for more trained people to my mind.

Mr. ROGERS of Florida. Do you think we need more coordination on our research work being done in this country on accident prevention?

Mr. O'BRIEN. In my opinion there is need for more coordination. But I want to qualify my endorsement of the need for coordination by saying that one must always be careful in research that one's coordination effort does not become a dictating kind of effort.

Mr. ROGERS of Florida. Well, I suppose that is so with all research.

Mr. O'BRIEN. Precisely. This is why I wanted to make the qualification.

I would say, yes; there is need for greater coordination, greater exchange of information among people working in different fields related to accident prevention research.

And one final point in the area of coordination is that a great deal is going on in fields apparently unrelated to accident prevention research—work which is relevant and which frequently the worker in accident prevention research may not know about. And a worthwhile function of the center, might very well to be certain that the technologies developing in other fields are brought into the field of accident prevention research.

Mr. ROGERS of Florida. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Schenck.

Mr. SCHENCK. Thank you, Mr. Chairman.

Mr. O'Brien, I am sorry I did not get to hear your entire statement, but I shall be very interested in reading it carefully.

I understand that in your reply to our colleague, the distinguished gentleman from Florida, Mr. Rogers, you indicated that part of your work was privately financed and part by Government funds.

Mr. O'BRIEN. Right, sir.

Mr. SCHENCK. What percentage is privately financed?

Mr. O'BRIEN. May I first request that in your interpretation of my answer, would you bear in mind that we are a small organization, and in considering whatever statistics apply to us one could not at all infer national figures from them.

But at the present time about one-third of our work is privately sponsored and about two-thirds Government sponsored.

Mr. SCHENCK. Would you prefer not to reveal the source of the private financing?

Mr. O'BRIEN. I would, sir, simply because I would want to ask our sponsor before submitting it to you. I would certainly be glad to provide it for you later upon checking with our sponsor.

Mr. SCHENCK. Thank you.

(The information referred to is as follows:)

BIO-DYNAMICS, INC.,
Cambridge, Mass., February 14, 1962.

HON. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety, Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR CONGRESSMAN ROBERTS: In my testimony before your subcommittee on February 7, I withheld an item of information in responding to a question asked by Congressman Schenck. His question concerned the identity of the non-Government sponsor of our accident prevention research work; I felt it proper to request permission of our sponsor before providing this information.

The following statement can be inserted in the record:

"The work is being supported by Liberty Mutual Insurance Co. Liberty Mutual has been well known for its own work and support of others in accident prevention research for many years. If the results of our automobile driver alertness monitoring project appears valuable, the company will make our reports available to other workers in the field."

I would like to take this opportunity to thank you, your colleagues, and the clerk of the committee for enabling me to present our view on H.R. 133. Your interest in accident prevention is extremely encouraging to us who are working in the field. I am personally grateful for your courtesy. If our organization can be of technical assistance to you at any time, please let me know.

Very truly yours,

ROBERT E. O'BRIEN, *President.*

Mr. SCHENCK. Do you feel, Mr. O'Brien, that the Federal Government should assume the responsibility for all the expense of all this research work?

Mr. O'BRIEN. I would answer your question, sir, by saying that there is a great deal of work which needs to be done. There is, I feel, as I suggested in my statement, a great deal of value to be obtained by the public from an increased effort in accident prevention research. And the nature of this increased effort is such that it will involve people from many different disciplines, medical scientists, psychologists, engineers, and others. There will be people working in many different research groups and laboratories throughout the country.

Now it seems to me that in order to make this total effort most effective there is a real need for a central organization to assume a kind of technical responsibility for this effort and to assist where help is needed. So that I say there is a need in an expanded program for a central assisting, supporting function, a function which provides exchange of information, which does research itself and, in general, makes itself available to researchers like ourselves and like the many, many other groups that are working in the field. The need is there. Whether or not it be the responsibility of the Federal Government to fulfill this need is an important question. In my own opinion this is a case where the national interest is best served by having the Public Health Service assume this responsibility.

Mr. SCHENCK. How much of this work is being done by States and local communities?

Mr. O'BRIEN. Sir, I just do not know the figures. I know that within many State health departments there are active and ongoing programs with valuable projects whose end is reducing the loss caused by accidents. But there are men who know far better than I what the facts and figures are and the extent of this activity. I just do not know.

Mr. SCHENCK. Assuming that there is great merit to your position for need of centralized supervision, control, cooperation in the matter of safety research, do you feel the Government is justified in doing that and borrowing the money in order to do it?

Mr. O'BRIEN. May I first, sir, take exception, a very limited exception, to a comment of yours where you stated the function as being one of control, and words to that effect. I feel very strongly that this Center must indeed not be a controlling organization. It must be a supporting and assisting organization. There is all the difference in the world, I think, between the two.

Mr. SCHENCK. Well now, do you feel that the Federal Government is justified in spending money without some control?

Mr. O'BRIEN. Yes; I believe that for every dollar which is spent by the Center, the Center must assume responsibility for that dollar being well spent.

Mr. SCHENCK. How would you assume the money was well spent if it did not have control?

Mr. O'BRIEN. Some of the functions, sir, which I feel would be fulfilled by the proposed center, would be training and the sponsoring of technical conferences. In these areas it would appear to me that the expense or the investment would go into training people and one could not hope to control the future productivity of these people, that is, their future fruitfulness. One could train people and hope and expect that they would, indeed, pay off the investment in time. But one could not hope to control that expense in the ultimate sense.

There are certainly other kinds of expenses where rigid control is virtually mandatory where expenditure is made for the performance of a certain piece of work. Then, indeed, control is required.

But in the largest context it seems to me that the function is to encourage, support, and assist, and whether it is right for the Federal Government to perform this function I admit is a very real question. To my own mind, the need is there and the need would be well fulfilled by the established capability of the Public Health Service.

Mr. SCHENCK. Mr. O'Brien, the chairman of the Education and Labor Committee, a few days ago announced that 43 agencies of the Federal Government are spending in excess of \$2 billion a year on Federal aid to educational programs of various kinds. You indicate about the training of additional personnel. Do you think it justifies an increase of that \$2 billion still further?

Mr. O'BRIEN. Sir, I do not know. I do not know what the expense of the proposed training activity of the center would be and how that dollar amount would compare to the total technical educational effort. I simply do not know the facts, sir.

Mr. SCHENCK. Do you have any information, Mr. O'Brien, as to the value in the saving of lives or injuries as a result of increased expenditures of such funds as provided in this proposed legislation?

Mr. O'BRIEN. Again there are people who know the statistics better than I, and I think this is a case where statistics could be a very real help.

Let me simply draw your attention to the enormous progress made in certain of our industries which were once highly hazardous where accidents were expensive in terms of people and in terms of dollars. And through research and development on the part of men within these industries the accident rate has been cut drastically. I would say that we have evidence from that area and others that an increase in technical effort can be considered an investment on which there is to be a return.

Mr. SCHENCK. I think the fact that you indicated this accident prevention research was financed from within the industry is important.

Mr. O'BRIEN. It is, indeed, sir, and this broad effort and cooperation must continue.

Mr. SCHENCK. Thank you very much.

The CHAIRMAN. Mr. O'Brien, while it is hard to measure dollarwise values that might be obtained from a better type of research or more coordination, isn't it true that for every life we save, and for every person whose time in the hospital would be reduced, or who might be prevented from going to the hospital in the first place, that many

of those dollars would show up on the tax rolls, not on the States but on the Federal Government?

Mr. O'BRIEN. Sir, I think this is a very good argument. Perhaps the largest one is the one which you cited earlier; namely, how is one going to measure the value of having prevented the loss of a human life or human suffering. But there certainly is an economic measure, as you say. People who do not have accidents are not on the public roll.

The CHAIRMAN. Of course, I haven't the figures, but I would be glad to supply them for the record, but we have been spending probably billions of dollars on such things as the hoof-and-mouth disease, the fire ant, and many other things in the agricultural field, yet isn't it true that we spend, by comparison, very little in the field which, to my mind, is much more important?

Mr. O'BRIEN. I think this is altogether true, sir. And I think it naturally raises the question: Why is this so? Everyone knows accidents are expensive. Why, indeed, hasn't there been a greater amount of effort in the past? In my opinion it is because accident prevention is an extremely complex problem. It is different from most of the other things which affect public health, and its very complexity has frustrated efforts of people. Perhaps the service of the center in defining what are the problems, will permit a more orderly and fruitful attack.

Mr. ROGERS of Florida. Mr. Chairman?

I just want to comment, too, that according to testimony before the committee that was presented yesterday, in line with what you are saying, the complex problem that we have has made many people, I think, shy away and not even want to face up to this problem. They are willing to spend some money, for instance, even the Federal Government, to do research on cancer, heart, and the specific diseases where they think research may bring about a solution. But this is such a complex problem that, as you say, some people just would rather not even look at it. Yet we have, according to the testimony, 92,000 accidental deaths every year and 46 million accidental injuries every year with a loss estimated at some \$13 billion to this country. And I think we are beginning to realize the problem we have and how little we have done.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. O'Brien.

Mr. O'BRIEN. Thank you.

(The prepared statement of Mr. Robert O'Brien follows:)

STATEMENT OF ROBERT E. O'BRIEN, PRESIDENT, BIO-DYNAMICS, INC.

The magnitude of losses caused by accidents—whether measured in terms of human suffering or in an economic dimension—suggests the need for increased technical activity addressed to defining the causes and developing sound methods of accident prevention. An increase in our annual investment in accident prevention research is bound to reduce the effects of accidents on the public health, when we consider the benefits already gained from research efforts in this area. The contributions which have resulted from large-scale research in other areas of public health—such as the work done and supported by the National Institutes of Health—gives further encouragement to my expectation that there will be a substantial return on an increased investment in accident prevention research.

This expanded work must be characterized by a breadth of technical effort if it is to be fruitful. The problems which are to be solved demand the coordinated contribution of medical scientists, psychologists, engineers, and other specialists. Not only must there be workers from a variety of disciplines engaged in this program to reduce the hazard of accidents, but the problems to be addressed represent many levels of technical work. There are, for example, many questions to be answered which require fairly basic research, and, there is also much work to be done at the very applied level in developing ways of implementing accident prevention knowledge.

A third important characteristic of research directed toward the prevention of accidents is the existence of many technical organizations which, historically and currently, contribute vitally to our national effort in this area. Certainly future programs in accident prevention research must be designed to encourage the work of university, industrial, government, and other qualified groups interested in raising standards of safety.

It appears to me that the establishment of an Accident Prevention Research Center carrying out the planning, coordination, and intramural research functions described in H.R. 133 can be a very effective means of insuring a continuing, directed accident prevention research program.

In discharging its program planning responsibility, the Center can serve the field by establishing objectives for accident prevention research, and by identifying problems on which work ought to be done. Presentation of problems to the technical community, described in terms of potential payoff of successful results, estimates of feasibility, and evaluation of resources required to provide meaningful results, may well promote substantially greater interest in safety research, as well as serving to coordinate (insofar as this may be desirable) the efforts of independent groups now carrying out research relating to accident prevention. Several of the other functions of the proposed Center as envisioned in the text of H.R. 133, such as technical information exchange, and personnel training, will further serve the ends of promoting greater interest in the field and facilitating the work undertaken by the many capable private and Government laboratories.

Beyond the valuable role which it can play in planning and coordinating a long-range accident prevention research effort, the Center ought to be a direct contributor to technical advances in this field.

By grants and other means of financial support the Center can direct the technical contributions of laboratories to specific problems or areas in which work is now needed. Undoubtedly, for many reasons, the work which must be done at a given time cannot always be carried out by the Center through its program coordination or research grant functions. The Center must have the capability to carry out research and development itself. While giving the proposed Center the means for carrying out intramural research can be justified on the basis of program technical needs alone, there are important side effects which such research activities provide.

Intramural research will tend to maintain a level of technical competence in the overall program, enhancing the program planning and grant administration function of the Center. The very existence of a multidisciplinary technical organization addressing itself to accident prevention research can also be a useful stimulant to other workers in the field. Finally, and not unimportantly, the presence of an ongoing research program will serve to attract and maintain capable staff personnel.

The CHAIRMAN. Our next witness is Mr. James E. Aaron of Carbondale, Ill.

Mr. Aaron, I understand you have a plane reservation and I am sure the subcommittee will take that into account.

**STATEMENT OF JAMES E. AARON, COORDINATOR, SAFETY CENTER,
SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE, ILL.**

Mr. AARON. Mr. Chairman and members of the subcommittee, I am James E. Aaron, coordinator, Safety Center, Southern Illinois University.

In the interest of time I would like permission to delete certain parts of my testimony because it would, in a sense, be duplication of some of the items that have been mentioned previously this morning.

Mr. ROBERTS. Without objection that may be done.

Mr. AARON. First of all I would like to commend the committee for its interest and previous work in matters related to the field of accident prevention. Specifically, I would like to single out the hearings related to driver education and research needs in traffic safety.

I should like to state initially that I do not object to the intent of H.R. 133, that is, that of establishing a National Accident Prevention Center. However, I do have some objections and reservations about certain stated functions, some aspects of the proposed administrative structure, and some other perplexing statements that I found in the bill and I would like to attempt to clarify some of these matters.

In the proposed title, "National Prevention Center," the implication is made that this is a broad, comprehensive accident-prevention program, including traffic, home, industrial, and what have you. If my information is correct, the intent of H.R. 133 does not cover such program developments. It is my understanding that such a Center would be essentially a research oriented operation.

Secondly, the intent of section 382(2) is not sufficiently clear. The stated function, "promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals" seems to infringe upon one's freedom to design and conduct research studies supported through Federal funds. Perhaps the term "control" is what concerns me most. I believe this was pointed out by the previous witness. Moreover, in section 382(3) it is not clear as to whether or not the facilities mentioned are currently available or will be developed or made available as a result of this Center establishment. It seems to me that if the latter is the case it might be wiser to utilize existing facilities, such as the National Safety Council, in order to assist in the development of their facilities; this also would assist institutions of higher learning where a capability for the conduct of sound research has already been established.

I believe that in section 382(5) we find a duplication, at least it seems to me that there will be a duplication, of services already in existence from a number of our public and private agencies. Here again it seems to be more feasible to use the approach of existing agencies such as the National Safety Council, the National Commission on Safety Education of our National Education Association, to expand and/or refine their current research publications, materials, and library facilities in order to eliminate this duplication of effort.

At this point I would like to more or less ask a question, and I do this out of my own ignorance. The statement is made that "donations will be accepted by the center from various sources, and I am wondering if this is an acceptable as well as a desirable practice for various divisions or departments of the Federal Government. This is a question I simply ask and to which I should like to receive an answer.

It would seem to me that it would be more desirable if such gifts, if known, were diverted to institutions of higher learning, and the various agencies qualified to conduct accident prevention research.

I think we are all aware of the fact that all such institutions and agencies, are in dire need of financial support, and this would be a means of cooperating and, in a sense, giving them a helping hand.

Another comment that I should like to make at this point, is related to the Accident Prevention Advisory Board established under section 384(a-1). This seems to be a duplication of the existing Accident Prevention Advisory Committee of the U.S. Public Health Service. If this be the case, one of these Boards is unnecessary.

I should like to summarize my comments as follows: I would approve, or do approve, of the establishment of a center by the Federal Government. However, since research will be its primary function, I suggest that it would be advisable to include this term in whatever title selected. Secondly, I would suggest that one of the major functions of the center be that of cooperating and assisting in the development of research programs in existing safety centers and agencies concerned. Thirdly, I would recommend that one of the major functions of such a Federal center should be that of making available funds for the conduct of accident prevention research by qualified, established institutions and agencies. It does not seem advisable to me that we develop one super research center under the aegis of the Federal Government. It would seem to me to be a more feasible approach if we had a number of smaller research centers strategically located so that all the States would have access to at least one of these center operations in their general area of the Nation.

Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Aaron.

As to your question of whether or not it is an accepted practice for the Federal Government to receive gifts in this relation, I think, No. 1, it is an accepted practice. I think, No. 2, as to how these gifts should be handled, that it would depend, certainly, upon the intent of the donor. Whether it would be a trust or a private individual, I think the wishes of the person making the gift should certainly have a great deal to do with how the donation or money, or thing of that value, is handled by the Government. I think whatever advisory board or committee the Surgeon General has advising him would advise him as to what control the donor placed on the gift to begin with, and whether or not it should be given to a specific institution or used at the center. It would depend on, first of all, what the donor wanted done with it, or what the document prescribed, whether it be a will or deed or whatever it might be.

I agree with you in that I do not think this center should displace private institutions. I do not think that is the intent of the bill at all. I think it is intended that we have, that we need to have, some central agency that can know what is going on in other departments of the Government. Now we have, of course, as you know, in Labor the mine safety, we have certain work being conducted in the Bureau of Public Roads that has an engineering aspect to it, and we have, I suppose, quite a bit of research in the Department of Agriculture. I think what we need to do is try and find some one center where these things can be evaluated.

I do not mean to say we would want to displace what Labor is doing, or what Commerce is doing, or what these other departments are doing, or what Defense is doing, but I do think that at the present time

all this is scattered over the lot and we do not know whether we are getting any value for the tax dollar that is being invested in these various expenditures. So I think this type of center could perform a very valuable service. But I assure you it certainly is not my intent in presenting a responsible bill to do away with the National Safety Council or with the NEA, or with any other group that is trying to do work in this field.

Do the gentlemen of the subcommittee desire to question? Mr. Schenck.

Mr. SCHENCK. I have just one short, quick question.

You have answered some very interesting questions and made some very interesting observations.

Now after you get all the results of this engineering and psychological information on accidents and how to prevent them, how do you transfer that to the teenagers driving on the highway and to drivers who apparently have such an irresponsible attitude?

Mr. AARON. This is one of those ever-present points of confusion. It seems to me that the application of research findings is one of the very real problems. As I recall, one other witness called this to our attention. It seems to me that we need to establish a closer liaison, so to speak, with those groups, agencies, if you please, that are working with, let's say, the high school driver education program, with our State departments of education, departments of public safety where this information could be taken and utilized in some practical fashion, rather than have it collect dust, if you please, on the shelves in the libraries.

Mr. SCHENCK. Is it a question of law enforcement?

Mr. AARON. I think enforcement is part of the total accident prevention picture. The matter of training enforcement personnel to accept their responsibility and train these people to do the job is vital to the accident prevention effort.

Mr. SCHENCK. Do you feel that a national uniform traffic code would be part of the answer?

Mr. AARON. Well, we have a uniform vehicle code which covers this to a certain extent, and I think we are all aware of the various problems that we have seen as a result of trying to get various States to adopt the code. And I suspect we would have similar problems here.

Mr. SCHENCK. May I ask you this same question: Do you feel that the Federal Government is justified in borrowing \$5 million, or whatever it eventually requires for this program to be put into effect?

Mr. AARON. In my own personal judgment, yes, sir. Because I am personally sold on the tremendous need for accident prevention activity nationwide, and if this is going to help us get the job done, then I would certainly approve.

Mr. SCHENCK. Now as a taxpayer, then, you are perfectly willing to increase the national debt which is to be paid by future generations in order to do this at this time?

Mr. AARON. If that were the only way, yes. But I am not so sure I would be in favor of increasing the national debt.

Mr. SCHENCK. All right, thank you.

The CHAIRMAN. Mr. Rogers has a question.

Mr. ROGERS of Florida. Of course, as you say, Mr. Aaron, maybe if we borrowed from national defense this could be partly paid out of

taxes coming in. But it just depends on what emphasis we place on it I suppose.

I note the fact you are coordinator of the Safety Center of Southern Illinois University. Is that correct?

Mr. AARON. Yes, sir.

Mr. ROGERS of Florida. What do you do to coordinate your research?

Mr. AARON. Actually, I assist at the present time, our psychology department and others in the development of research proposals.

Mr. ROGERS of Florida. In other words, you have need of some coordination there?

Mr. AARON. Yes. They look to me and I assist them in any way that I can. Ultimately I hope to have one or possibly two people on my staff who are capable of conducting research within the center operation itself.

Mr. ROGERS of Florida. Now, do I understand that you see a need for some coordination, for instance, in all the work being done in the Federal Government?

Mr. AARON. Yes, sir; I would say that.

Mr. ROGERS of Florida. Just as you have some coordination in your area?

Mr. AARON. Yes.

Mr. ROGERS of Florida. I do agree with you that we must keep the various programs of research going on, such as at your university and the others.

Do you obtain any money from the Federal Government for your research?

Mr. AARON. To date, no.

Mr. ROGERS of Florida. None at all. Did you apply for some?

Mr. AARON. We are in the process of making application now.

Mr. ROGERS of Florida. With what department or departments? Public Health?

Mr. AARON. Public Health; yes, sir.

Mr. ROGERS of Florida. What particular research is going on that you think might be beneficial to meet some of the problems in accident prevention? Could you give us an idea of maybe one or two projects?

Mr. AARON. I have been particularly impressed with the work at Harvard. Dr. Moseley is present and I am certain he can enlighten us on his project development.

And, the research program at the Traffic Institute of Northwestern has been a particularly interesting one in the past few years. Moreover, New York University, center for safety education, has been a leader for many years.

Mr. ROGERS of Florida. I was thinking more particularly of the work that is going on at your university, Southern Illinois. Could you perhaps mention two or three projects for the record?

Mr. AARON. At the moment I have to say we have no projects underway.

Mr. ROGERS of Florida. But you are contemplating some?

Mr. AARON. Yes, sir. If I may add, we have three major program areas and this is the one that we have intentionally delayed.

Mr. ROGERS of Florida. I see. Thank you very much.

Mr. ROBERTS. Thank you, Mr. Aaron.

Our next witness is Dr. R. H. Hutcheson of the Tennessee State Health Association, Nashville, Tenn.

The Chair would like to state that I have received a letter from Greg O'Rear, commissioner of safety, State of Tennessee, which contains an endorsement of the bill and he asks permission for it to be inserted in the record with Dr. Hutcheson's testimony. Without objection I will offer that for the record.

(The letter from Greg O'Rear, commissioner of Tennessee, follows:)

TENNESSEE HIGHWAY PATROL,
Nashville, Tenn., February 5, 1962.

Representative KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety, House Committee on Interstate
and Foreign Commerce, Washington, D.C.

DEAR REPRESENTATIVE ROBERTS: I have read the testimony written by Dr. R. H. Hutcheson in support of H.R. 133 and would like to add my endorsement to the testimony that Dr. Hutcheson proposes to give before your subcommittee in favor of this bill for the establishment of an accident prevention center.

Yours very truly,

GREG O'REAR, Commissioner.

**STATEMENT OF R. H. HUTCHESON, M.D., TENNESSEE STATE HEALTH
ASSOCIATION, NASHVILLE, TENN.**

Dr. HUTCHESON. Mr. Chairman and members of the subcommittee, if I may I would like to submit to the committee the formal statement which has been prepared and duplicated, and assume that the committee will read this, and then with emphasis on two parts of the bill give a few remarks which are not included in this testimony. Is that in order, sir?

The CHAIRMAN. That is in order.

(The prepared statement of Dr. R. H. Hutcheson is as follows:)

STATEMENT OF DR. R. H. HUTCHESON

My name is R. H. Hutcheson. I am a doctor of medicine, specializing in the field of preventive medicine and public health. I have the honor of being the commissioner of public health for the State of Tennessee and have been since 1943. I am chairman of the Infectious Disease Committee for the State and Territorial Health Officers Association and am a past president of this association.

My testimony is given in behalf of the State and Territorial Health Officers Association, the Tennessee Department of Public Health, and myself personally.

I have read H.R. 133 and am prepared to give testimony in favor of this bill.

You have undoubtedly read the alarming statistics concerning deaths, injuries, economic loss, human suffering, and waste of labor potential due to accidents. Without burdening you with a mass of figures, let me quote you only three statements which emphasize the cost to us as a nation in lives, suffering, and dollars.

(1) A total of 91,000 persons are killed in accidents in the United States each year.

(2) Accidents cause 46 million injuries each year, 10 million of which are bed disabling.

(3) Accidents cost \$13 billion per year, as a result of lost wages, medical and hospital expenses, and property damage.¹

Let me emphasize that these figures can only continue to rise with passing time unless we do something about it, because we will have more people (a larger proportion of the aged and the young), more automobiles, more electrical gadgets, more poisonous agents, more people participating in leisure time activities and sports, and so on. There is no doubt but that we live in a world of universal risk to accidents.

¹ All figures from "Accidents Facts," 1960 ed., National Safety Council.

One of the most basic things we can do is to establish a National Accident Prevention Research Center within the Public Health Service to:

(1) Determine the causes of accidents as related to the type of activity involved in various age groups. This sequence of words makes a statement which sounds relatively simple but the connotations are complex. Involved in such research is the quest to identify the multiplicity of factors which affect human motivation. Brief consultation with any researcher in the area of human motivation will soon convince one that such factors are not only hard to define and classify, but it is equally difficult to determine their identity. However, the determination of such factors is most basic in order that we can develop positive attitudes toward safe living in coming generations and change the attitudes of those who already have developed habits of hazardous living.

(2) Aside from the identification of human factors and how they relate to safe or unsafe living discussed above, research definitely needs to be done on the factors in the environment which contribute to or cause accidents. May I say that we are adding to these factors daily through scientific and technological advances. Design and production of automobiles, aircraft, power mowers, homes, and clothing, as well as the rapid development of new chemicals and drugs deserve study. It seems logical to me that such study can best be done on a national level and coordinated by a centralized organization.

(3) Along with discovering the facts about the role of human factors in the causation of accidents and how to improve the safety of man's environment, we must learn how to improve his decision-making ability in various activities in the many areas of his environment. We must learn how to apply what we discover about man and his environment in accident prevention programs. This third area of research should dig deeper into the use of educational methods and the better use of techniques of communication. At present, we are not getting through to the public with the information which we already have. In the field of accident prevention, communication is as important as penicillin is in the control of the venereal diseases.

In the field of research in accident prevention we are about at the place where we were 25 years ago in our research on one of our infectious diseases—polio. At that time, little did we know about the cause of polio, especially that there was more than one virus that could cause the disease. The mode of virus transmission and how the host reacted to its invasion was little understood.

I am not saying that we must stand idle and wait until research is complete in the field of accidents. We have to use what we know until better methods become available. In fact, we will never be able to eliminate or prevent all accidents but the time is right for us to initiate positive action.

What could be more appropriate in this connection than the establishment of a National Accident Prevention Research Center? In this center a sound, systematic, and scientific approach can be made to eliminate one of the major causes of death and disability. If we were asking for research into a disease which causes 91,000 deaths per year or has the epidemic proportions of 500 persons killed in one holiday weekend, there would be a tremendous clamor for action. One person out of every four is injured annually. Accidents touch every State, county, community, village, hamlet, and almost every home in the country yearly. The avoidance of accidents depends to a much larger extent on individual understanding and action than does the prevention of infectious diseases. We do not have, nor will we ever have, a vaccine with which we can immunize against accidents. Thus our problem of gathering basic data on which to plan programs which help people develop understandings and motivate them to take positive action with regard to safety is complicated.

This, to me, vividly points out the need for a center where scientific disciplines can affect a team approach in our first step toward the reduction of accidents. Conduct, promotion, and coordination of public and private research efforts on the national level is a sound and economical plan. Grants-in-aid to institutions and private and public agencies for research will broaden the base of our research endeavors and allow more participation and a wider opportunity for application of findings.

The Surgeon General now has an Advisory Committee on Accident Prevention. It is possible that sections 384 and 385 concerning the Accident Prevention Advisory Board could be redrafted giving the Surgeon General specific authority for the appointment of an advisory committee, board, council, or by whatever

name you choose to designate it. I believe that this would facilitate administration of the bill when enacted.

A unit for research in accident prevention in the Public Health Service has been recommended by the American Public Health Association, the National Safety Council and the Association of State & Territorial Health Officers. Our own State health department in Tennessee endorses it and I personally fully endorse and encourage the establishment of an accident prevention research center in the Public Health Service.

The public health officers of the Nation are interested in preventing accidents because of the high mortality and morbidity from accidents but have neither the staff nor the financial resources to conduct research in this field. The State health officers along with the administrators of highway safety programs and other official and nonofficial agencies would profit by research in this field as consumers of the findings of the research center. The public would profit as the findings of research are applied in safety programs resulting in fewer deaths, fewer injuries, and the saving of billions of dollars.

In summary I have pointed out the alarming accident problem, the need for an accident prevention research center in the Public Health Service and the type of research it should conduct. Finally, I have pointed out the other agencies that have joined with us in the support of such research. I offer this testimony in support of H.R. 133. I hope you gentlemen feel that the need for such a center warrants the passing of this bill.

I wish to thank the committee for its courtesy to me in allowing me to present this statement.

Dr. HUTCHESON. My name is R. H. Hutcheson, I am a doctor of medicine, specializing in the field of preventive medicine and public health. I have the honor of being the commissioner of public health for the State of Tennessee. I have been in that position since 1943. I am chairman of the Infectious Disease Committee of the Association of State & Territorial Health Officers. My interest for the past 19 years has been in the administration of health services.

I became interested in accident prevention some years ago when it was called to my attention by statisticians that accidents were the first cause of death in the population of our State, 44 years of age and under, and that we were doing very little about it. Then I began discussing with my staff what could be done.

On investigation I found that there is an interest in this field in practically every organization. I think everyone is interested in it. It is sort of like people being against sin. We are all interested, and the truth of the matter is, gentlemen, we do not know what to do.

I have made a complete tour of my entire State of Tennessee, and took with me six of my staff members, to meet and discuss with local health personnel throughout the State a plan that we could put into effect that would reduce to some extent the terrific mortality and morbidity that we are having from accidents. The truth of the matter is we came up with practically nothing.

We can do a lot of talking about what ought not be done but we have not formulated any real constructive program of what can be done. And I do not know any way to do this other than to secure the interest of individuals whose primary purpose in life is to prevent mortality and morbidity from accidents. I know of no agency better capable of doing this than the U.S. Public Health Service.

In my experience I have had association and worked with most of the Federal agencies in one form or another, other than the courts and the investigative services, and I have found no instance in which we have had better cooperation between the States and the local government personnel and the Federal agency than that which exists between the U.S. Public Health Service and the health services

throughout the Nation. We get irritated at times, with some of the things they require of us, but we realize, as has been brought out here this morning, that where there is money put into a program by a Federal agency there must be some kind of control over the money.

The point that I want to emphasize, and this has been emphasized already, is the necessity for research in this field, research that will tell us, not where accidents are occurring—we know that—but why, and how to do something about it. I think of myself and my associates as consumers of research. I believe you will find the public health workers throughout the Nation to be a rather cautious lot of individuals. They are not going to accept something until it has been proven. We are not able either from a financial standpoint or from the point of view of personnel to establish research facilities that will give us the materials that we need to work with in a program of accident prevention.

We have, as you gentlemen know, research in every field that I know of that is causing mortality and morbidity in the medical field except in this particular instance going on rather actively at the Federal level of government. There is a small amount going on in accident prevention. It is true that individuals in private agencies are doing something. But I cannot, in our organization, and I believe we have one of the best in the Nation, set up a research program for this service. It would be uneconomical for us to do so when it could be done by one centralized agency and the information could then be given to all of us once it is proven to be worth while. Then it would be up to us to use it and to put it into effect.

I hear statements, when we get to talking about accidents, that accidents are just as inevitable as hotel green peas. I am not willing to accept that. While I know that as long as we go along in our do-nothing attitude, accidents are going to be an inevitable part of our life. But once one begins to study accidents and study the methods by which they can be prevented, then accidents will cease to happen—certainly less frequently than they formerly have been happening. I believe the best illustration of what can be done is to be found in the magnificent record of the transportation system we have today through the air dealing with what I believe to be one of the most hazardous instruments that has ever been made, and yet it has one of the best records that one can conceive of.

This is the result of a tremendous amount of research and effort that has been devoted to air safety, and the individuals who are working with airplanes. And as we progress, and we certainly shall, I think that more and more we will be living in what can very well be called a mechanistic jungle. Unless we start studying the hazards that this jungle places before every single individual who lives in it we are not going to do anything toward reducing this mortality. Our problem is not just highways. I do not know the history in other States, but we have in my State about one-fourth as many people drown every year as we have killed on the highways. It is true that serious water accidents usually are fatal, whereas on the highway we have a tremendous amount of injury in addition to the fatalities. But we are not doing a whole lot about these. We have individuals on the farms who are being destroyed every year.

We have a tremendous amount of morbidity from such accidents, and probably worst of all is the home which is supposed to be a refuge of safety. We have attempted to study accidents that occur in the home. When we begin to look at our results we find that a good bit of the hazards are built into the home.

I believe a research center set up to study accidents, not just highway accidents, farm accidents, or home accidents, et cetera, but all accidents, and to study ways of preventing these accidents, would be one of the most worthwhile things that we can do in the field of public health. I think it makes not a great deal of difference how many people are interested in accidents, other than that the more who are interested the better off we shall be. And I have no fear of someone usurping my rights in this field—if I have any in my position—by doing this. If it is felt that the work can be done better somewhere else, all right.

Personally I do not think it can be. The health services personnel by and large are the ones that must treat these accidents once they occur, and are therefore most interested in prevention.

In my testimony I have said that I am testifying for myself personally, for the Department of Public Health of the State of Tennessee, and for the National Association of State and Territorial Health Officers. While I do not have the authority to speak for the traumatic surgeons in Tennessee, I have never been in a meeting of theirs where there was not something said about accident prevention. I am sure those gentlemen would be glad to join with us had they been asked to do so.

This is a tremendous thing that we have before us and I believe it can be handled only by this or a similar bill. There is one area in this bill that I would suggest consideration by you of changing. That is where you provide for a board for the advisory committee.

Refer to sections 384 and 385 concerning an accident prevention advisory board. I think this could very well be redrafted, giving the authority for the establishment of this board to the agency in which his service is placed, that is, the Public Health Service, so that it will be closer to the service and the contact with the board will be more realistic.

Thank you so much, gentlemen. It is an honor for me personally to be permitted to come here and offer this testimony.

The CHAIRMAN. Thank you, Dr. Hutcheson. We are certainly happy to have you before our subcommittee.

The Chair feels you have made a very valuable contribution. I just have one or two questions.

Let us assume that you have a person who is trained either in the field of science or medicine or as an investigator, and he is a newcomer and wants to get into this field. Now is there a single group with its finger on the current status of the art that he could go to and get started in this work?

Dr. HUTCHESON. Not in my field there isn't. Of course, my information may be somewhat limited, but I know of none.

The CHAIRMAN. Do you think that if such an activity could be found in the center it would give us a base for a starting point for training people in this field, whereas there is none at the present time?

Dr. HUTCHESON. If we look into the mirror of past events I think we can be certain that it will be. There are certainly individuals who

are interested, and the establishment of a center of this nature would attract these individuals who have a burning desire to get into this field and work in it.

The CHAIRMAN. Now it has been mentioned here that the National Safety Council does quite a bit of work in this field. Do you know of anywhere that they train people or offer them opportunities for training in this particular field?

Dr. HUTCHESON. No, sir. We have worked with the National Safety Council, and we are pleased to have them on our side any time that they can help us. I have attended some of their meetings. However, I do not believe that the National Safety Council is in a position at the present time, with the limited resources they have, to establish a center of the kind that you have in mind in this bill.

The CHAIRMAN. One other question. What other public health field has not been administered by public health people as this one has not at the moment?

Dr. HUTCHESON. Well, sir, it would take me too long to enumerate them—there are a number of them. If I may say this right now, I think one of the most confusing problems that we have today in the public health field is the fragmentation of health services that has gone on, not only at the State level—we have five different agencies in my State that are operating health services—but at the Federal level. And I think that sometimes when you want to do the Nation a real service, you could consolidate some of them. I would hate to see more of it. Accident prevention is definitely a health service field, and I do not like to think that there is going to be further fragmentation of health services.

The CHAIRMAN. Do you think that one advantage of such a center might be that there would be less fragmentation?

Dr. HUTCHESON. Yes, sir. Yes, I certainly do.

The CHAIRMAN. That is all I have.

Congressman Schenck.

Mr. SCHENCK. Mr. Chairman, I thoroughly enjoyed Dr. Hutcheson's statement. I think it is well based and very well presented. It is nice to hear from a gentleman with experience and a professional background such as he has, and which is closely tied in with actual fieldwork.

Now, Dr. Hutcheson, the various university programs, such as Cornell, Harvard, and others, have pretty well established information on some mechanical defects that cause accidents of one kind or another. I noticed you mentioned many accidents in the home are actually built in, such as throw rugs, which are well named.

Dr. HUTCHESON. Yes, sir.

Mr. SCHENCK. Now assuming that all of these mechanical things, overloaded electrical outlets and wiring circuits and all these various problems of one kind and another are very well understood, then how do you get the necessary information over to the individual to make him more safety conscious?

Dr. HUTCHESON. Sir, I think that that is another problem the research center must attack. Certainly we must get it to the individual, otherwise our work is wasted.

In the field of medicine, research workers developed for us certain immunizing agents, and then they developed a technique of adminis-

tration and recommended that technique to us for carrying the service back to the people. There has been a tremendous amount of research done in the field of health administration, and that is part of a general research program.

I am not prepared this morning to answer specifically your question because I think there is a tremendous amount of study that needs to be done on that as well as the mechanical end of it.

Mr. SCHENCK. Well, professionally you feel that there is a possibility that that can be done?

Dr. HUTCHESON. I certainly do. May I have just one more minute to say something?

Of course, my attitude is influenced by medicine. If we take the simple example of diphtheria, we know that if we can develop, in the population, 60 percent that are immune to diphtheria the probability is that we shall not have an epidemic from diphtheria. We do not have to get them all. By getting 60 percent we will so dilute those who are not immune that even if one or two contract the disease it will not jump like a prairie fire to the rest of the population. I think we can compare accident immunization—if you will let me to use that term—to that in other immunizing fields.

When we can have the proper techniques developed for us in carrying this to the public and secure enough of the public cooperating with us in this, then they will be conditioned against accidents. I do not know whether we shall need 60 or 80 percent but certainly if we get a large portion of the population conscious of accidents and the way in which accidents can be prevented, even if it does not help those who have not been so conditioned, we will reduce the total number of accidents to the extent that we have done this work.

We have four big hospitals in Tennessee devoted just to tuberculosis. We are appropriating in our State \$3.5 million a year for treatment of tuberculosis. I do not know how much the Federal Government is appropriating, but it is a tremendous amount, and yet we have many more deaths from accidents in our State than we have from tuberculosis. We have not yet gotten all of these patients who have tuberculosis to the point where they will all go to the hospital or take treatment, but we are still working on it.

Because we do not know that answer now, we are not too discouraged about it. I believe that anything the human mind can conceive of, if enough effort is devoted to the idea it can be accomplished.

Mr. SCHENCK. Mr. Chairman, I think the doctor has made a very fine statement.

The CHAIRMAN. The Chair certainly joins Congressman Schenck in his compliment.

Mr. ROGERS.

Mr. ROGERS of Florida. I, too, want to commend Dr. Hutcheson on his statement and his helpfulness to the committee.

Thank you.

Dr. HUTCHESON. Thank you.

The CHAIRMAN. Thank you very much, Dr. Hutcheson.

Our next witness is Mr. Alfred L. Moseley, department of legal medicine, Harvard Medical School, Boston, Mass.

Mr. MOSELEY. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Moseley, I believe you plan to make a slide presentation, so maybe we better do something about that.

STATEMENT OF ALFRED L. MOSELEY, DEPARTMENT OF LEGAL MEDICINE, HARVARD MEDICAL SCHOOL, BOSTON, MASS.

Mr. MOSELEY. I have that arranged, and I would like to review a few things in about 3 or 4 minutes before doing that.

I have brought two documents which, with the permission of the committee, I would like to have included in the record. This would obviate the necessity of spending the time in the session this morning covering details in those documents.

One of these is the formal testimony and the second one is an article summarizing what we have accomplished in the last 3 years, which was published in the Harvard Medical Alumni Bulletin in December past.

The attempt here is to cover as much material as possible in a short space, and I am sure you will appreciate that consideration.

The CHAIRMAN. Without objection, that will be done.

(The documents referred to follow:)

STATEMENT BY ALFRED L. MOSELEY, DEPARTMENT OF LEGAL MEDICINE, HARVARD MEDICAL SCHOOL, BOSTON, MASS.

Mr. Roberts, committee members, and distinguished guests, I am grateful for the opportunity to appear in favor of H.R. 133. This committee has established an outstanding record of sound concern for the health and safety of all our citizens in its activities in the past, and the current bill offers significant accomplishment for the future.

The President of the United States, in his state of the Union message to the 87th Congress on January 11, 1962, said: "In the past year, I have traveled not only across our own land but to other lands—to the north and the south, and across the seas. And I have found—as I am sure you have, in your travels—that people everywhere, in spite of occasional disappointment, look to us—not to our wealth or power, but to the splendor of our ideals. For our Nation is commissioned by history to be either an observer of freedom's failures or the cause of its success. Our overriding obligation in the months ahead is to fulfill the world's hopes, by fulfilling our own faith.

"That task must begin at home. For if we cannot fulfill our own ideals here we cannot expect others to accept them. And when the youngest child alive today has grown to the cares of manhood, our position in the world will be determined first of all by what provisions we make today—for his education, his health, and his opportunities for a good home and a good job and a good life."

This statement by Mr. Kennedy is relevant to our proceedings here today. It is at one time, our task, our obligation, and our ideal.

PROVISIONS OF THE BILL

Purpose

The purpose of this bill is to extend the work now being carried out by the Accident Study Section of the Division of General Medical Sciences of the National Institutes of Health and the Accident Prevention Division of U.S. Public Health Service. It essentially does not add to any of the activities they are now carrying out, but rather makes it possible to do a better job in the areas presently active. It does make provision for intramural research which is now feasible to only a very small degree and thus a present source of considerable frustration to some very fine scientists who would like to be carrying on some research with their other duties.

Provisions

There are essentially six provisions in the bill as it is now written hinged upon two terms. The word "accident" is the fundamental concept of the bill and it is without definition as to scope. Thus, accidents of all types are the subject matter of the center. The two terms which are concerned with this

focus of interest are "causes" and "prevention." The six areas of activity concerned with research into accidents then are as follows:

- (1) To conduct, assist, and foster research;
- (2) To promote the coordination of research;
- (3) To make available for use the research facilities of the center;
- (4) To make grants-in-aid;
- (5) To establish an information center;
- (6) To secure and utilize advice from experts at home and abroad.

Administration

The administration section of the bill provides for the review of grants and training proposals approved by the Board and for the acceptance of conditional gifts for use in research training, buildings, etc.

Supervision

Supervision of the center would be an Advisory Board composed of the Surgeon General or an officer appointed to serve for him, and 12 members appointed by the President of the United States. The functions of this Board would be to advise the Surgeon General on matters of policy, to review and certify projects or programs, to collect information on studies relating to accidents at home and abroad and, with the consent of the Surgeon General, to make the information accumulated available; to review applications from universities, hospitals, laboratories, public or private institutions, and individuals for grants-in-aid for research, to recommend the acceptance of conditional gifts.

Appropriations

The appropriations section of the bill suggests that there will be money to work with to accomplish these several objectives. This is in essence what the bill attempts to do.

URGENCY OF THE BILL

There is no dissent with the idea of a National Accident Prevention Center. There is broad agreement that such a center to be concerned with causes, diagnosis, treatment, and prevention could make important contributions to our health, our mental health, and our productive capacity.

The question arises, "Why now?" What is the urgency of the establishment of the center at this time?

Need for knowledge

The basic urgency is simply that we are all ignorant. We have many persons here who have devoted 25 years to research and programing or accident prevention. The one common denominator among them is their thirst for more valid knowledge to enable them to increase the success of their work.

We have utilized radio, press, television, billboard advertising, and teaching to attempt control of all types of accidental trauma. The record shows that all our problems are still with us. We placate ourselves by computing traffic deaths in terms of gasoline tax paid, and refer to the computation in terms of deaths per hundred million vehicle miles. We note that this rate has dropped and express satisfaction. This is a magical means by which to clear the slate of the magnitude of the problem. In the time that has elapsed since the Williamsburg Conference in February 1958, we have suffered 75,000 deaths by the motor vehicle. We are overwhelmed with the problem, but accidents to our children, our military personnel, and our senior citizens are of great importance to us.

It would seem that talk, and language in its other forms, is not the answer to the national accident problems. If we knew what to do, many of the problems would have been solved long ago.

Federal responsibility

The second reason for urgency of this bill concerns the responsibilities of the Federal Government. Three approaches may be made here: Accident problems in Government, in interstate commerce, and in military duty at home and overseas. The latter will be considered separately.

A. *Accident problems in Government agencies.*—The responsibilities in governmental agencies include research on problems which are broader in scope than the capacities of the individual department permit, thus supplementing

departmental research activities; or problems which are common to several governmental agencies, thus avoiding the economic losses of duplication of effort.

B. *Interstate transportation.*—With regard to accidents in interstate commerce, the Federal responsibilities include consulting and research service to the Interstate Commerce Commission. No satisfactory resource is available at this time for research on the wide range of problems concerning drivers, passengers, and cargo in interstate commerce. The Public Health Service is presently aiding within its capacity, which is not sufficient as yet to meet the needs.

There is, however, another aspect of the accident problem in interstate traffic. This problem concerns the passenger car in use for personal transportation or for business. It has been agreed for many years that while States have considerable rights and responsibilities for their own management, when two or more States are involved in problems, the problems become the province of the U.S. Government. A survey of Accident Facts for the last 10 years shows a rather dramatic deficiency which must now be met. Tabulated data from 17 to 24 States show consistencies which are firm enough to be called trends: (a) from 14 to 19 percent of the automobile death problem involves a driver resident in a State other than the State in which the accident occurred. This means that one out of each six automobile death cases during the last 10 years involves crossing a State line, and is thus a problem which the Congress of United States must face. With respect to traffic accidents of all types, Accident Facts tabulates nonresident drivers for 9 of the last 10 years, a range of 8 to 11 percent. This averages 1 case in 10 of all traffic accidents involving a nonresident driver (table 1). This is a problem which is the responsibility of the Federal Government.

TABLE 1.—*Interstate travel: Percent traffic accidents by residence of driver, 1951-60*

Year	Number States reporting	Percent accidents			
		All		Fatal	
		Resident	Nonresident	Resident	Nonresident
1951.....	18	90	10	82	18
1952.....	20	90	10	82	18
1953.....	21	89	11	81	19
1954.....	17	89	11	83	17
1955.....				82	18
1956.....	22	91	9	84	16
1957.....	21	90	10	84	16
1958.....	17	90	10	84	16
1959.....	19	92	8	85	15
1960.....	24	92	8	86	14
Mean.....			9.66		16.7

One can imagine the salutary effect it would have on the vehicular accident record if the interstate problem were met in a responsible way by the Federal Government. The first step would be research assessment of the problem. Such stages as driver physical examination, licensing, and reexamination could follow—the precedent for this in private flying is already in successful operation. Another stage of vehicle fitness certification to move in interstate traffic could follow, with a Federal registration to be applied to the vehicle. Precedents exist for this procedure also.

An important first step in arousing the interest of the U.S. Government in the accidents in interstate highway transportation has been accomplished in the Rhodes bill which established the Federal Register in the Bureau of Public Roads.

NATIONAL DEFENSE

In President Kennedy's first complete budget, presented to the Congress on January 18, 1962, his message said: "Because of the increasing requirements for national security, I have applied strict standards of urgency in reviewing pro-

posed expenditures in this budget. Many desirable new projects are being deferred * * *. It would not, of course, be sensible to defer expenditures which are of great significance to the growth and strength of the Nation."

An important part of the strength of the Nation is the budgeting for national defense. In the current year, the estimate is for \$51.2 billion out of a total budget of \$89.1 billion. For fiscal 1963 the estimate is for \$52.7 billion out of a total budget of \$92.5 billion. (H. Doc. 265, pt. 1, pp. 7, 10, 57.)

From these data it would appear that relating any major outlay of money to the requirements of national defense would be necessary.

Disabling injuries

Dr. Flanders Dunbar, in an article in War Medicine, in 1943, reported: "Four million workers were killed or seriously injured as a result of accidents during 1941, according to the latest report of the National Safety Council. If one thinks of the years of effort normally involved in building up an army of 4 million men, one gets some appreciation of the significance of this figure. Furthermore, in terms of industrial warfare, the National Safety Council estimates that these accidents resulted in a loss of 460 million man-days, enough labor to have produced during 1941 20 more battleships, 100 more destroyers, 9,000 more bombers, and 40,000 more tanks. This would roughly have doubled the number of the instruments of war at the disposal of the United States when war was declared on December 8, 1941."

This statement is interesting and to the point at a time when the President speaks of the continuing needs for national defense, and indicates that all the problems of safeguarding the dollar have not been accomplished as yet. One of the domestic answers to strengthening the economy and the military forces of the country may be approached by considering the problem of work injuries.

The accompanying table shows that the number of disabling work injuries is roughly half what it was in 1941. Almost 2 million workers are injured on the job. The man-days of work lost per year is about 360 million. The total compiled from Accident Facts for the last 10 years is 3.7 billions of man-days of work time lost (table 2). Several industries declined to give man-day estimates for the building of material for national defense, so these data are not at this moment carried to their final conclusion, to parallel the Dunbar estimates of 1943.

TABLE 2.—Man-days lost from all work injuries, 1951-60

Year	Millions of disabling injuries	Millions of man-days lost time		Future losses from disability	Total
		By injured worker	By other worker		
1951.....	2.1	50	230	145	425
1952.....	2.0	45	205	140	390
1953.....	2.0	45	205	140	390
1954.....	1.85	40	190	125	355
1955.....	1.9	45	190	125	360
1956.....	2.0	45	190	130	365
1957.....	1.95	40	190	135	365
1958.....	1.8	38	180	120	338
1959.....	1.95	40	190	130	360
1960.....	1.95	40	190	130	360
Total.....	19.50	428	1,960	1,320	3,708

Traffic accidents

Tabulation from Accident Facts on the occupation of all drivers involved in vehicular accidents indicates another aspect of the problem as it relates to national defense. For only 5 of the last 10 years are the data published. They indicate that military personnel were involved in (an average of) 4.5 percent of all traffic accidents and 6.5 percent of all fatal traffic accidents (table 3). Thus, 1 driver in each 22 traffic accidents, and 1 in each 15 traffic deaths is a member of the Armed Forces.

TABLE 3.—Traffic accidents by occupation: Military personnel

Year	All accidents, percent	Fatal, percent
1951.....	4.0	6.0
1943.....	4.0	6.0
1954.....	4.0	6.0
1955.....	5.0	8.0
1956.....	5.0	7.0
Mean.....	4.5	6.5

Military duty accidents

Accidents are a continuing concern in all the military services. From "Statistics in Navy Medicine" (1954, No. 4; 1958, No. 4), comparisons may be made for 2 war and 2 nonwar years. Rates are per thousand average strength for the year. The data (table 4) indicate there are important accident problems which continue to plague the Navy and Marine Corps. The rates were higher in 1956 than during 1952-53. Admissions for nonbattle classes of diagnosis included the following proportions of accidents, violence, and poisonings: 1952, 11.8 percent; 1953, 11.8 percent; 1956, 13 percent; 1957, 10.6 percent. Nonbattle deaths for 1956-57 were 1,574 and 1,660, respectively. Out of each 10 deaths, in each of these years, 8 are attributable to accidents, violence, poisonings. Out of each 10 of these, 8 occur in vehicular, air, and water transportation. Also, 1 of each 20 persons in the Navy is accidentally injured during the year.

A brief look at table 4 for 1952 and 1953 under "Noncontinental" service areas suggests that much can be accomplished on the military accident problem by providing assistance to our allies in accident prevention, through research and programing.

TABLE 4.—Incidence rates by diagnostic classes, all ships and stations, Navy and Marine Corps

Year.....	Total rate per thousand		Continental		Noncontinental		Ships	
	1953	1952	1953	1952	1953	1952	1953	1952
Total disease, all classes.....	395.7	436.0	409.1	465.7	514.9	579.7	333.9	343.7
Accidents, violence, poisonings.....	46.8	51.4	46.4	45.8	88.9	124.7	32.8	38.4
Year.....	1957	1956	1957	1956	1957	1956	1957	1956
Total disease, all classes.....	444.1	362.2	453.7	379.1	472.0	414.2	416.6	311.8
Accidents, violence, poisonings.....	47.1	47.1	54.1	56.2	56.4	51.0	31.3	29.2

"Medical Statistics of the U.S. Army" provides a commanding document concerning the varied nature of nonbattle injuries. The classification system shows the need for broad training in the areas of injury hazards. The war year (1953) rate per-thousand strength for accidental injuries (nonbattle) was 54.99, and dropped to 49.13 in 1954, a nonwar year. This change seen in table 5 may reflect procedures and personnel. Dominating the lists is the breakdown into the categories of (a) falls, athletics, environment, and miscellaneous injuries, (b) land transport, and (c) work-related injuries.

A comparison of the traffic death rate per 100,000 in the population of the United States and per 100,000 average strength in the Army is given in table 6. The 1953 Army rate is 59.8 in comparison to 24.0 for the U.S. population. For the year 1954 the Army rate is 53.4 as compared with 22.1 for the whole United States. In table 7 these data may be seen as ratios. The Army traffic death rate per 100,000 is 2½ times as high as for the U.S. population. The part of the Army problem which occurs in continental United States is over three times as high in both years.

These data do not attempt a systematic assessment of the picture of accidents involving military personnel. Indeed, much data necessary to accomplish

such an objective, although available, have not been published. Assessment of the current picture is not necessary to make the point that injuries to military personnel constitute a problem in national defense. The data not only support this contention, but also suggest strongly that further intramural research is urgent.

TABLE 5.—*Nonbattle injury admissions and rates per 1,000 strength for selected causative agents, U.S. Army*

Causative agent	1953 ¹		1954 ¹	
	Number	Rate per thousand	Number	Rate per thousand
Total, all agents.....	84,290	54.99	69,740	49.13
Aviation.....	1,385	.90	1,405	.99
Land transport.....	14,485	9.45	11,295	7.96
Motor vehicle.....	14,190	9.26	11,030	7.77
Traffic accidents.....	12,315	8.04	9,040	6.37
Nontraffic accidents.....	1,875	1.22	1,990	1.40
Railway; other land transport.....	295	.19	265	.19
Water transport.....	255	.17	230	.16
Machinery, tools, related agents.....	12,995	8.48	10,595	7.46
Chemical warfare agents.....	140	.09	145	.10
Instrumentalities of war.....	4,970	3.24	2,635	1.86
Poisonings.....	580	.38	560	.39
Prophylactic reactions and therapeutic misadventures.....	2,750	1.79	4,610	3.25
Falls, athletics, environment, and miscellaneous injuries.....	46,730	30.49	38,265	26.96

¹ Annual report of the Surgeon General, "Medical Statistics of the United States Army," 1953, pp. 210-212; 1954, pp. 224-226.

TABLE 6.—*Traffic death rates per 100,000 average strength and per 100,000 population*

	1953	1954
Total, Army ¹	59.8	53.4
Continental United States.....	86.5	72.3
Outside continental United States.....	31.4	31.3
U.S. population ²	24.0	22.1

¹ Annual report of the Surgeon General, "Statistics of the U.S. Army," 1953, pp. 256-257; 1954, pp. 264-265.

² "Accident Facts," 1961, p. 58-59.

TABLE 7.—*Ratio of traffic death rates per 100,000 of U.S. Army to U.S. population*

	1953	1954
Total, Army.....	2.49	2.41
Continental United States.....	3.60	3.27
Outside continental United States.....	1.31	1.42
U.S. population.....	1.0	1.0

FROM A RESEARCH VIEWPOINT

Since my responsibilities concern traffic deaths and the concern is expressed by research, some comments from that point of view seem necessary.

The most important factor determining what is offered to the public in programming for traffic safety is fear. Every organized interest is afraid that the U.S. Government will take over the running of its business or profession. The

automobile industry is afraid some program will hurt the sale of cars. The fuel industry is afraid people will be frightened off the highways. The local and State politicians are afraid they will lose votes. State administrators holding appointive posts are afraid they will not be reappointed. The career employees are afraid the members of the legislature will have them transferred to menial tasks. Policymakers all over the country are afraid to take steps which they know will be effective in solving much of the traffic collision problem. Researchers are afraid that in the most-agent-environment breakdown of the traffic problem, they can survive only if they either study only human failure, or show that environmental or vehicle failure is ultimately traceable to people. Not one of these points of view is sensible.

I too am afraid. My fear is to hear the telephone ring. For with it comes the news that makes the work hard to face. Before each new step can be taken in the research, someone must lose his life in traffic. Those who take comfort in a purely partisan position on traffic safety should come to Boston, spend a week on call with our team, and see at first hand the realities which constitute the problem. One who does this can never go home and again deal with a traffic death as a statistic; it will be to some degree a personal event, a loss of human resources.

What is being done all over the country is treating the traffic death almost as if nothing happened. We send telegrams to families to inform them of a severely injured pedestrian, to avoid the travail of a personal confrontation. Western Union delivers two telegrams at once, the second saying the much beloved gentleman is dead. We notice the dark clothing the man wears, but fail to see the black top street. We see that the pedestrian has lost an eye, but do not notice that the luminaries in the street are hidden by the summer foliage.

The driver who leaves the scene, his quarry to die without diagnosis and without treatment, may admit having been a mental patient, and having had blackouts recently. He will not be convicted of manslaughter, or leaving the scene. He pays \$100 on a conviction for operating to endanger, and in a short time his license is valid again.

We offer neither the dignity of human information procedures, nor the consolation of sound investigation so the bereaved will know the facts of the terrible event. The mental health residue of the traffic morbidity and mortality are compelling reasons the Center is needed.

The management of the traffic death problem in the United States is so incompetent that it is appalling. The investigations are so superficial that little, if any, of the data reported nationally is valid. Investigations go from unwarranted assumptions to foregone conclusions without the benefit of either observation or adequate training. Prosecutions are managed so as to minimize the hurt to the living, maximize the faults of the dead; and often to victimize a survivor for the aggrandizement of the investigating department. The whole procedure, from collision to penalty, is a national disgrace.

I started out by saying the field is dominated by fear. The alternative is fact, information which is relevant, which is located in a framework which constitutes a true picture of the problem. I am reminded of a true story of a physician who returned to his hospital after dinner in the evening to receive information on the patients. An interne reported a patient with eclampsia and said she had 63 convulsions in rapid succession. He inquired, "What did you do, Doctor?" The reply was, "I counted them."

The intent of H.R. 133 is to consider every kind of accident as broadly as possible. In order to clarify this intent, four terms in concert are explicit with respect to this intent: case, diagnosis, treatment, prevention. To include these in the language of the bill is to make possible studies which will keep accidents from taking their ultimate toll. I envision an accident research hospital devoted exclusively to this problem area, as one segment of the Center facilities. Diagnostic studies, experimental surgery, and advanced training would give our medical people everywhere competence to further preserve our human resources.

To restrict the functions of the Center to "medical, clinical, and behavioral sciences" would mean that its research could be concerned only with the person who is injured. Environmental factors and agent factors would be specifically excluded. All of the engineering disciplines would be excluded. All of the values derived from the collaboration of scientists of varying viewpoints would be lost. The move to limit methodology and subject matter is calculated to protect the composition and structure of products. If leadership is to be effective, all aspects of the problems must be studied. If research is done with the

interests of the public in mind, it can only help the manufacturer, not hurt him. And if the fear expressed in the desired limitation were expressed in a cooperative research adventure, the atmosphere of the scientist would be vastly improved.

We need an Accident Prevention Research Center as a national facility, possessing no proprietary interest in any method, machine, product, or process; representing no vested interest; concerned with the needs of the American people, and approaching the problems as independent scientists, serving the public interest. The Center must function within the bounds of the broadest administrative policy, studying all problems, utilizing all the disciplines of science, using all methodologies, testing all hypotheses, validating all findings, and thus contributing to our position in the world by contributing to the provisions for education and health and opportunities for a good home and a good job and a good life.

[Reprinted from the Harvard Medical Alumni Bulletin, Christmas 1961]

DEATH BY DRIVING

THE HARVARD PROGRAM OF RESEARCH ON FATAL HIGHWAY COLLISIONS

Alfred L. Moseley, research associate in legal medicine

[Mr. Moseley received his highway research training in the Harvard School of Public Health under the direction of Dr. Ross McFarland. The present study was developed after an invitation from USPHS to submit a proposal for a study in a new area. A survey of the existing studies indicated that highway deaths were considered to be a point on a continuous curve. The attempt to separate deaths out for an analysis led to this study.]

A tremendous amount of publicity materials go on radio and television stations, into newspapers and magazines, onto billboards, and echo in hundreds of thousands of spoken words.

Yet automobile deaths continue at the rate of 104 a day throughout the year. We start in horror to read or hear about multiple deaths in aircraft accidents. But we have yet to equal in any air crash the average daily motor vehicle death toll of the holiday periods. In point of fact, there have been only 5 days in 10 years when less than 100 persons have been killed in auto mishaps in the United States.

Two and a half years ago—after 17 months of preparatory research activity—"Research on Fatal Highway Collisions" was initiated at Harvard under a research grant of \$809,820 from the National Institutes of Health. The program is now at midpoint in a 5-year period.

The program is unique in the broadness of its scope; accident studies have hitherto been conducted only on very circumscribed aspects of automobile fatalities. To the best of our knowledge, there is no comparable study being carried on anywhere in the world. Nevertheless, the program has had many critics who claim that such exhaustive studies are unnecessary.

The basic viewpoint in the research is that of a team of scientists representing many disciplines, each looking independently at the individual case. This process is effective in producing disagreements, which are in turn resolved by experimental, operational, or clinical research.

Studies take place at the scene, at the police station, in the jail, in the courtroom, in the mortuary, in the hospital, in the home, at the place of employment, and in archives of public records.

For purposes of gross description, the team may be divided into two groups. The operations group includes a mechanic, automotive engineer, traffic engineer, and human engineer. Their responsibilities are to examine the scene, the vehicle and its components, pedestrians and occupants, and property. The clinical group is concerned with the physical and psychological condition of each person involved in the case. This group includes a pathologist, chemist, technician, sociologist, internist, psychiatrist, ophthalmologist, optometrist, statistician, clergyman, and attorney. Patients and other survivors and decedents are examined directly, when possible, and records are utilized additionally.

Cases are usually referred by inspectors of the registry of motor vehicles through the communication division of the Massachusetts Department of Public Safety. In some instances, cases have been referred by State, local, and MDC police officers and by medical examiners. Calls are received during continuous

on-call periods by telephone and by radio. (Research group communications are maintained by radio station KCG 787 at 42.96 megacycles located in the school.)

The most fundamental assumption held on the automobile death is that it occurs by accident. This view is an international one. It is false. It is worse than that. The view is an automatic barrier to intelligent observation concerning the problem. View, if you will, the public control programs:

1. Slow down and live.
2. If you drive, don't drink, if you drink, don't drive.
3. Obey the law.
4. Cool down before you drive.

If the problems and their solution are this simple, the total road deaths should be negligible, but this is not the case. The opinion this writer holds is that this longstanding problem constitutes a national disgrace.

Why is this problem in a state of disgrace? First is the assumption that it is an accident. If chance is the dominant factor, the problem is not subject to control. Second, responsibility for investigation is often placed on police personnel who have little or no training, and consequently, limited interest. Third, many communities have infrequent cases, so that no experience is accumulated. Fourth, medical examiners and coroners have not been responsible in their public trust to do more than superficial examinations. (Perhaps as few as 60 of the over 500 fatalities in Massachusetts this year will be autopsied. No blood work will be done in more than 10 additional cases.) The problem of explaining the necessity for autopsies to families is an unhappy one of the medical examiner. This is one area where the task should certainly be covered by legislation to require autopsies in violent deaths, thus relieving him of the unnecessary burden. Fifth, investigations by groups other than police are slanted, so that only selfish interests dominate. Sixth, research people have avoided the problem for two reasons: One is the image of the problem. If the problem is speed, "Slow down"; if it is fatigue, "Stop and rest." On the surface these seem to be simple problems, and their solutions seem to be simple. But they are not.

The second reason that research people have avoided the problem is the relationship to politicians. Academic people reason that with ticket-fixing, pay-offs, influence, consideration, and other epithets, only a researcher with a character disorder would attempt working on the problem.

One may have considerable faith, however, in the capacity of the American public to do the proper thing if enough facts are brought to their attention. What may be said this time on the basis of 100 cases studied in depth?

VARIETIES OF AUTOMOBILE DEATHS

Cases, as we see them, may be divided into seven classifications based on the dominant characteristic of the cases. An additional principle to consider in this grouping is that causes are multiple. Many important deleterious factors occur simultaneously. Some cases demonstrate such importance in several areas that different persons will rate a case differently depending upon shades of interpretation. This classification system represents a new method of investigation in a field in which the geometry of the collision course has been the accepted method of classification.

ENVIRONMENTAL FAILURES

Environmental failures concern the factors of the roadway and the environmental variables. A head-on collision, in the fog on Route 128 was precipitated by following the white line. At a temporary construction crossover, the lines had not been removed, although the construction need no longer existed. The crossover was still open. The vehicle entered the southbound lane, where the northbound vehicle was following the white line adjacent to the median. One driver died. The other survived, in part due to the recessed post steering wheel design and in part due to excellent medical care.

This case was of interest in another way. For some time it has been our practice to attempt the prediction of injuries from the study of the collision course and the occupant path of body travel. The decedent in this case lived for only 90 minutes after admission to the hospital. The second driver was described as in "good" condition and able to go home in perhaps "3 days." On the basis of our studies, however, we insisted that the patient might be more seriously injured than suspected and when the predicted injuries were reviewed with the physician, the patient was swiftly reevaluated and was correctly placed on

the danger list, where he remained for 10 days. He subsequently recovered, but he would have succumbed had the original diagnosis prevailed.

VEHICLE FAILURES

Our studies have found a whole new group of traffic fatalities which are due to mechanical failure of the vehicle. Hitherto, this possibility was largely unexplored.

Vehicle failures are of two types. A driver went to sleep at the wheel and entered the median. When he applied his brakes, he pumped brake fluid out through a hole in the metal line along the rear axle housing. Once the collision course was started, the faulty braking prevented adequate driver control and the driver lost his life.

Vehicle failures may also trigger the collision course. A vehicle traveling northbound on a numbered route moved violently across three lanes to the roadway edge, at which point the driver reversed the direction, crossed the median and was hit by a vehicle traveling southbound. The collision course was due to a tire which was defective. It had been repaired when it should have been discarded. There are many more collisions within this category than anyone has heretofore suspected, simply because adequate investigation was not available.

In both examples of vehicle failure, emergency situations occurred which could in some degree have been avoided by prior emergency training. If the first driver had not attempted to regain the pavement, no death would have occurred, since he had been in a wide median where there was nothing to hit. If the second driver had been trained in how to maneuver and control a car under conditions of a blowout, the overcontrol in steering would have been avoidable. It is tragic for a person to have his first blowout on the last day of his life. Emergency training has been successful in many military and civilian industrial areas. Why should it not offer promise of aid in the "human error" component of this problem on the highway?

EMOTIONAL PROBLEMS

Emotional problems do not appear to be the transitory type. The emotional involvement case demonstrates deeply rooted histories. In one such case, four friends had "staked out" the man because they thought his state of mind to be so poor that "something terrible was in the making." For 4 weeks, they protected him from himself. One night he left his girl friend's house and started home. A combination of short sight-distance, high speed, an ice patch, and a steel pole rang down the curtain on a drama in which only the time and place had yet to be decided.

PATHOLOGICAL CONDITIONS

Pathological conditions, illness, and toxic states play important roles. The diabetic driver taking his Orinase kills a pedestrian before dawn in an unlighted area; the pedestrian wears an extensive brace and carries his nitroglycerin. The driver who exhibits a shifting bilateral exophoria kills a pedestrian who has severe bilateral cataracts. The intoxicated driver kills the intoxicated pedestrian and leaves the scene. How do the deficient driver and the deficient pedestrian team up?

SUICIDES

Suicides are attempted by both occupants and pedestrians. The evidence of deliberate aiming at a tree might be overlooked if one suggested that the intent was to injure, but not to a fatal degree. Supporting evidence in pedestrian attempts includes notes left to explain victim's suicidal intentions. How shall we understand the pedestrian who uses you and your car to bring about his death?

SUSPICIOUS FINDINGS

Suspicious findings constitute the first of three factors in a label which would be called murder. Use of a motor vehicle is probably second to poisoning as a method, and more likely to go undetected. One can reason about means by which an observed event may have occurred. In two cases the wall of the rubber tube carrying brake fluid to the front wheel was cut through with a sharp instrument. (One of these fatalities had a line of brake fluid 35 feet long leading up to the scene of the crash.) In another case an important cotter pin was missing from

the steering system. In another case a ballpeen hammer had been used to close the lines for brake fluid along the rear axle housing. In still another, the medical examiner was advised by hand-delivered memo of a disconnected vacuum tank, an empty master cylinder, and a disconnected brake line in the vehicle in which a professional man died. The memo was never acknowledged, nor the investigation continued. (To get to the point where we call a case suspicious, we must first have clearly established the fact that the defect existed prior to the collision course and that it definitely influenced the maneuverability of the vehicle in the collision course.) We had predicted 1 such case in 500, but the incidence is far greater than that.

In each of these cases, we noted a method by which the vehicle was subjected to tampering. Public officials did not believe these data, even when they were demonstrated by direct observation.

NO FINDING

Hypothesis dominates the few cases in which nothing of demonstrated significance is learned. "A lot of facts and no knowledge" may be an appropriate description. Perhaps our methods lack precision, or do not cover enough areas. Perhaps our informants do not supply us with factual data. Perhaps we are fatigued and fail to be perceptive.

NEW CONTRIBUTIONS TO METHODOLOGY

Contributions to methodology have developed during the study: The early cases studied were restricted to fixed-object collisions. The reason for this was that there would characteristically be only one occupant, and he would be dead. There would usually be no witness. Thus, we would have to depend upon our powers of observation to determine what might have happened: (a) The analysis of lamp filaments is useful in determining whether the lamp system was functioning in night cases. (b) Brake light filament deformation is useful in making the judgment that in a given case the operator applied his brakes before the collision. He was therefore not asleep at the wheel at the time of collision. This means also that the absence of skid or tire marks at the scene does not indicate that brakes were not applied. (c) We have found "footprints" of the brake pedal on the soles of shoes. This means that the driver's foot was on the brake at the time of collision, giving indication of the perception of danger and reaction to it. (d) Ultraviolet examination of the scene in hit-run deaths after darkness offers help in locating parts of lenses which fluoresce, and may be found to fit a suspect vehicle. Ultraviolet examination of tire marks is helpful in describing how a vehicle moved in the collision and, in hit-run cases, the characteristics of a tire which made marks left at the scene. (e) Path of body travel follows an "expected path" from the center of seated position to the center of the impact site. From this may be predicted the structures involved in the production of injuries. When the "observed path" of body travel diverges from the expected path, the indication is that some unusual circumstance dominates the case, requiring special investigation. Often the finding is important vehicle failure. Several factors seem to influence the path of body travel at the moment of impact. The car body opposite the impact site tends to move vertically: In other words, in a frontal collision with a tree, the rear bumper may move high enough into the air to lift the wheels completely off the ground. If this impact is not centered so that weight distribution is equal on both sides of the impact site, the vehicle will move in an arc (yaw) about the impact site. The combination of these two forces vexes a police officer because the rear wheels may be 6 feet away from their tire marks.

The third force is called deceleration gradient and refers to the fact that different parts of the vehicle demonstrate different rates of deceleration. The contact area of impact stops with great rapidity as compared to adjacent structures of the vehicle. In other words, the part that hits the tree stops while the rest continues to move a short distance. Further experimentation will lead to an understanding of how this factor affects the path of body travel, as indeed it does. The fourth factor is the tendency of a passenger to move in a path parallel to the long axis of the vehicle in motion. The fifth factor is the coriolis force. When the frame of reference of an object in motion is moving circularly, the object moves in an arc with respect to the frame of reference. These principles make possible advance analysis of vehicles for occupant impacts.

A HYPOTHESIS

As the reader considers the above descriptions, he may arrive at the conclusion that this seems very different material from the concepts of automobile death which he held. The present writer views the collision death case as related to damage and injury cases in the same way that cancer is related to the common cold. Contrary to prevailing opinion, the problems have some components which are common, but the differences overtake the similarities quite readily. This hypothesis holds that several differences between fatalities and other cases may be observed: Fatalities do not tend to occur, as do injury cases, at (a) the same time of day or day of week, (b) in the same traffic locations, (c) in the same conditions with respect to traffic congestion. Some commonly held views do not apply: most fatalities are not caused by (d) speed, (e) traffic violations, (f) lack of courtesy; (g) and it is not recognized at all that there are qualitative differences between normal wear and cataclysmic failures of vehicle components; (h) in some cases the highway is wrongly blamed for a death that was rooted in prior illness or pathology, (i) some cases of "accidents" involve deliberation, suicide, or tampering, (j) in some types of cases predictable personal and social characteristics may be seen.

The hypothesis that automobile deaths constitute a different "disease" is important. If true, it means that public programs for investigation and control of fatalities and nonfatalities will have to be far broader and also specific for each problem. It also means that a great deal of traffic engineering activity now applied to control the deaths may be completely wasted because the problems are not factually related to the design of the highway. Suicide and tampering cases, for instance, would not appear to involve highway design.

RECOMMENDATION

In order to serve the public interests and the interests of justice, the automobile death problem must be upgraded to the level of respect for human life. How can this be accomplished? The hypothesis underlying the death investigation should be that a homicide has been committed. Therefore, the investigation into a traffic fatality should be as thorough as that accorded a murder. The validity of this hypothesis should be tested by carrying out a standard examination in every case, an examination which should include (a) detailed examination of the scene by a traffic engineer, (b) mechanical and engineering examination of the vehicle and each component the failure of which would affect safety in motion, (c) post mortem description of the external and internal injuries of the decedent, and a determination of the cause and manner of death, toxicological examination of the blood, (d) physical and psychiatric examination of each surviving driver, (e) personal and social history of each primary person. These examinations should all be required by statute so there could be no exceptions to their application. The findings should be public records, so that justice and fairplay in criminal and liability procedures would be assured. To ask for this degree of concern for the loss of human life in an automobile case requires that high competence at the professional level characterize those entrusted with the investigation.

FURTHER RESEARCH

Some problems requiring further research are apparent: (a) Emergency training procedures for soft tires, panic stops, skidding, blowouts, loss of power steering, loss of brakes must be worked out for driver education; (b) the identification of the driver, when all occupants are ejected and there are multiple possibilities, is not soundly managed and some police departments resent any hint of dissent against a hastily formed opinion; (c) sudden death often follows the notification of sudden death; (d) severe neuroses or psychoses either develop, or develop to maturity, after notification of sudden death; (e) is there also a superclotting agent manufactured by the body when there are tissue injuries and hemorrhage, which might be identified in hemorrhagic blood; (f) what is the real nature of the retroactive amnesias which are observed? Can the memory be reinstated by any means? The criminal and liability status of a person may shift from suspect to defendant if one does not have sufficient memory to protect himself, the defendant may appear in an extremely unfavorable light in any direct testimony and if someone wished to railroad him in the courtroom; (g) why are proven safety devices such as recessed-post steering wheels, and

seat belts rejected both by many members of the automobile industry and by the motoring public?

The attitude of the automobile death problem by this research staff may be summarized by mentioning the difficulty of the work, the intricate complexity of the many variables, the promise for a better understanding of the "disease," and the high personal and professional motivation to contribute scientifically to its solutions. We have encountered many roadblocks which were removed by developing better methods. We have managed organized opposition by careful work, integrity, and patience. We have rewarded cooperation by being cooperative. We have balanced the lack of assistance in high places by the genuine interest and help offered by persons whose lives were directly affected by the cases. By these several means the nature of the automobile death is slowly yielding to scientific inquiry.

Mr. MOSELEY. I speak from the point of view of a researcher whose responsibilities are concerned exclusively with looking into the automobile death problem. The committee is already familiar with what we are trying to do.

Mr. ROGERS of Florida. Excuse me. Did you say automobile problems?

Mr. MOSELEY. Automobile deaths. Only deaths, not the rest of the circumstances. This is our only research area.

All of our funds are tax dollars from the U.S. public contributed in a grant through the U.S. Public Health Service.

Now you might well assume that the major reason that I would have for appearing on H.R. 133 would be because as a researcher, I am interested in more research funds. But I am not here on a personal mission. I am a Tennessee hillbilly by origin and I come from a grade of people who believe you pay your own way or you do not get paid. So when the time comes when we are not doing sound things with our money, I hope the Public Health Service will come and take it back. And when we have no research proposals to offer, or that are found to be in the public interest, I think they should give us no more money.

It is from this point of view that I speak.

I am here, on the other hand, to ask for help, and ask for help in a very simple way. The problems which we see are so intricate, so complex, they involve so many problems that do not meet the eye, that it is of considerable importance that the best minds we can possibly get working with the broadest possible policies, the most extensive methodologies with no limitations as to material, or equipment, or concepts, or personnel, attack the various problems which are of concern.

I would like to make a comparison to show something of what the dollar interests are based upon in our experience over the last few years in areas of concern to the Nation's health.

In the 1959 proceedings of this committee you included in the record estimates which say that the research cost per polio death was \$40,000, and per treated case was \$10,000; per heart death \$87, and for a treated heart case \$7.80; per cancer death \$360, per treated case \$130, and for aviation deaths \$500,000 each.

At that time Mr. Roberts' recollection was that we were spending approximately \$2.70 per automobile death and perhaps 40 cents or 50 cents for nonfatal injuries.

Now in 1962 we could bring the first of these figures up to date. That is not necessary for our immediate purpose, but the outside esti-

mate of what we are putting into traffic deaths would be \$5 a case. Now if we take this amount of money which is being poured into our research, we could say either \$5 for traffic deaths and practically nothing—Mr. Johnson yesterday used the term “mills”—on traffic injuries. Or we could reverse it and say almost nothing on traffic deaths and perhaps 10 cents a case on traffic injuries. Now this is a perfectly fantastic lack of investment in a problem of the magnitude we have here.

If you look at the newspapers, when a airliner in scheduled domestic passenger services goes down with 60 or 70 or 80 people aboard, you get some notion of the reaction of the American public, and the concerns that make possible the investment the aviation industry and the Federal Government have put into that aviation safety. But we have been killing 100 people a day for every day except 5 days in the last 10 years in automobiles, and most of the people who are concerned with this problem could not care less.

There was concern in this committee yesterday with the question of how coordination might be carried out within the Public Health Service for accident research of various sorts. I think there are two aspects of principle which might be applied here rather than making any attempt at a rule: (1) There are certain types of accident problems which are going to be common to several different Federal agencies, certainly no one wishes to have a duplication of effort on these problems; (2) the second one is that certain problems will be of such magnitude that within the framework of the individual governmental department the research facilities are not adequate to handle them. They will need someone else from whom to request help. I think these two principles can very nicely cover the means by which coordination can be accomplished within the Federal Government.

In the detailed testimony which I have submitted for the record there are two or three figures which I think are worth looking at. There is a problem in interstate commerce, interstate transportation if you want to use a broader term, which I think is of concern to the Federal Government. You take the National Safety Council data for the last 10 years and you can show that 1 out of each 6 automobile death cases, and 1 out of each 10 automobile accident cases at large, involve a driver who is a resident of a State other than the one in which the accident occurred. Now by all definitions of Federal responsibility this is a Federal problem which the State may not, cannot, and is not meeting. I think this committee must come to grips with that problem and do something about it.

Perhaps the Rhodes bill opened up the beginning work to alert the States that the Federal Government is anxious about this problem.

I think the problem which we presently face is a problem concerned with national defense. Mr. Schenck is concerned that we be very careful of our expenditures of money here, and he is absolutely right.

Dr. Flanders Dunbar tried to take the meaning of the loss of man-days at work in 1941 and translate it into concrete terms. She estimated that for the 4 million men who were injured and the 460 million man-days of time lost that year, that on December 8, 1941, we could have had 20 more battleships, 100 more destroyers, 9,000 more bombers, and 40,000 more tanks available and at the disposal of the Federal Government as war material.

Our current rate is about 195 million injured people reported in the National Safety Council data, with something in the vicinity of 360 million man-days lost, with an accumulated loss for the last 10 years in the range of about 3.7 billion man-days.

With respect to the specific language of the bill, there seems to be some anxiety among the people making presentations to you concerning public information procedures. I have two comments to make on this: I think the Federal Government has the responsibility to inform the American public of what it is doing with its money. Second, any agency which either does research or which supports research should see to it that the materials accumulated which can be applied in the public interest are sent out to the public who can make use of them.

Judge Finesilver, from Denver, who spoke to you yesterday, made it very clear that any research data this committee was able to make available to him could be utilized in the city of Denver to help solve his problem. His point of view undoubtedly applies to many other persons who are interested in this whole problem.

With respect to the language elsewhere I have one comment. The attempt of this bill, as I understand it, is to study the whole trajectory of circumstances in the accident from the time it starts until it has gone to its final conclusion, whatever it is. I would thus suggest that between the terms "causes" and "prevention" in the early language of the bill, the term "diagnosis and treatment" or "emergency care" be included. I have some specific reasons for making this point which I will show you on some slides later, and one second reason which is worth mentioning here.

It seems feasible to me that within a reasonable period of time the U.S. Public Health Service Accident Prevention Research Center should have a completely equipped hospital in some major metropolitan area where it will have access to all types of industrial, home, recreational, and highway accidents, all injury problems, and there within the framework of sound clinical, research, surgical, and training setting, carry out detailed studies in cooperation with the local industries, with the local health authorities, the local enforcement authorities concerned with traffic and the like, and produce research documents which will aid in the capacity of every one to manage the problems at the local level.

This is essentially the material I wanted to cover from the documents that I have submitted. With the permission of the chairman I would like to show some slides to illustrate something of what my feeling is concerning the traffic death problem which is my particular area. I have selected cases to illustrate characteristics of the problem as we see it at this time, and the concepts are, of course, subject to change.

I would like to impress you that my feeling is that we have oversimplified the traffic problem to such a degree that there is little, if any, relationship between our talk and language about it and the realities of the problem. If "slow down and live" is the solution to the problem, obviously it is simple. If alcohol is the problem, all we have to do is not drink and drive. If the matter is one of emotional circumstances, all we have to do is simmer down before we get into the car. If it is fatigue, then we rest. But we have given the public

tremendous amounts of information over the years in these areas, and the population data indicate that we are still killing such a tremendous number of persons that the concepts must have little, if any, relationship to the realities of the problem. I propose in these cases to show you what I mean by that.

Now if at any time you would like to ask questions as we go along, I would be very happy to answer them.

Mr. SCHENCK. Mr. Chairman, before we get into the slides, may I ask a question of Mr. Moseley?

The CHAIRMAN. Congressman Schenck.

Mr. SCHENCK. Mr. Moseley, I very much appreciate your statement and I think it is very good.

We have heard that there have been dramatic increases in safety airline operations, and the amount of money that has been spent per death on airline investigations and so on as compared to automobile investigations is not at all adequate. Now in the airline industry we have I do not know how many but I would guess 150,000 pilots whose livelihoods depend upon their continuation to perform as a pilot, and they are closely supervised and licensed and checked out as to the type of airplane they can fly and so on. Now in the automobile field we have 76 million or whatever it is, drivers. How can you get supervision and the licensing problem and enforcement of automobile driving competence in some sort of comparable setup as the airlines and airline personnel must meet?

Mr. MOSELEY. Mr. Schenck, I think that for a large part of this problem it has to be done within the framework of the individual States. And I think for as much as can be done that way, the Federal Government should stay out of it. The States have plenty of prerogatives, they have methods already established for handling many of these things if they will do it.

There is a part of the problem which is the province of the Federal Government, and I think within this framework you can do a tremendous amount.

I think if you accept the problem of the vehicle and the driver which crosses the State line as a Federal problem, the first thing to do in attacking this would be to assign directly to the center this task. The center should do research on feasibility of the management of this problem, and come back and report to this committee their findings. Then you could consider whether or not it would be sound and feasible and in the public interest, and self-supporting, to have a Federal driver's license which would be required before any person could drive any vehicle across a State line; perhaps requiring physical, and if necessary, psychiatric, examination of this person, certification of the fitness of the vehicle to be on the highway, with Federal registration for the vehicle.

There is an established principle in aviation, which is already functioning successfully, to cover this. If I were a private pilot and never flew outside the area of metropolitan Boston, I would still have to be licensed by the Federal Government in order to fly that plane. And that plane would have to have a certificate of airworthiness provided by a Federal agency.

I think this is in the public interest, and I think it is the responsibility of this committee. I think this part of the problem is the re-

sponsibility of the Federal Government, which it should meet. And this is not going to be a popular idea, but this is my opinion about it.

Mr. SCHENK. Can you not assume that most automobiles will be an interstate commerce, driven in interstate travel?

Mr. MOSELEY. I cannot give you a sound opinion about that. My feeling from surveying the published data for the last 10 years is that interstate travel in the passenger car is probably lower than it was.

Mr. SCHENK. Well, it would be quite a problem, would it not, with 76 million drivers compared with 150,000 pilots?

Mr. MOSELEY. I do not think that has anything to do with it. If you want to solve the problem you must take whatever step is necessary.

Mr. SCHENK. Well, except that it increases the bureaucracy and Federal controls, that is all.

Mr. MOSELEY. Well, you can call it that if you like. However, if it were my son or daughter who was crossing the street and killed by a drunken driver from another State, I would like to speak very forcibly of my feelings about it. In the absence of personal experience, I think I have to speak from what I know from the data that I see.

This is a tremendous problem. We see many, many military persons involved in our cases in metropolitan Boston, and we know at first hand that this is a problem of national defense.

Mr. SCHENK. Thank you very much.

Mr. MOSELEY. This is a case with three vehicles involved. The vehicle which went out of control had a driver and one passenger. Both of these persons were killed. The impacting vehicle had three passengers, one of whom suffered injuries which were fatal on the 29th day. The third vehicle had four passengers in it, all of whom survived without any severe injuries.

The vehicle was coming over the hill in the direction toward us as we look at this screen. The vehicle was traveling in the high-speed lane next to the median, crossed the curbing on the extreme right out of control. The driver straightened up (fig. 1, p. 131). You can see where the grass has died around the edge of the curbing. She then made a sharp turn to get back on the highway again.

In the process of doing this the vehicle went further out of control, made a very sharp turn across the median (fig. 2, p. 132) and was hit at an angle by a vehicle in the high-speed lane going in the opposite direction. Now the person driving this car was strictly an innocent bystander, on his own side of the road, operating within the speed limit in a properly registered automobile and driving under a valid driver's license. He had every right to be where he was, doing what he was doing, when a missile came out of control (fig. 3, p. 132) and blocked his path. As the vehicle crossed the median, it was impacted at roughly the angle you see here by the second one, and while that collision was in process the third vehicle hit the second one from the rear. The arrow shows the direction of the motion of the vehicle.

Here is a side view of the vehicle which went out of control, indicating the damage. The windshield came out leaving a large open area for ejection. The Cornell automotive crash injury people made a very strong point of this in their research. People do not believe

that the area is large enough. You could take any man in the room and put him in any of the current vehicles and he could go through the windshield area with considerable ease. The problem of ejection is very much a part of this case. The woman sitting along the right-hand door impacted the structures there four times before being ejected.

There was severe damage to the front of the vehicle. This is the impacting the vehicle (fig. 4, p. 133). This is a recessed-post steering wheel which came as a result of the Cornell research (fig. 5, p. 134). The man who impacted this steering wheel lived for 29 days. It was a combination of the sound design of the steering wheel on the one hand and extremely careful and devoted medical care on the other. His death was from an embolus. If this had been a flat steering wheel design he would have been dead at the scene.

You cannot see this picture very well, but there are two head impacts in the windshield glass (fig. 6, p. 135). The one on the left is from a passenger and the one on the right is from the outside. We took some samples of hair from this glass, and samples from the patients in the hospitals and the people in the mortuary and made an analysis and determined this was an impact made by the driver of the vehicle which went out of control. No one who was in this accident was aware that this had happened.

This is the primary cause of the accident (fig. 7, p. 135). The C-looking mark you see reversed in this photograph shows the interior of a tire. This tire had been repaired when it should have been discarded. Some kind of chemical has been applied freely on the inside of the casing to cover up the hole that was there, and the tire then gradually exhibited what we call a cut growth. The original damaged area began to enlarge and it enlarged finally to such a point that the tire suddenly lost its compression.

Well, in the scheme of things which led to the death of these three people and the damage of these three vehicles, the first thing that was wrong was that someone improperly repaired a tire that should have been discarded. The second thing that was wrong was that the driver had no knowledge about how to manage a vehicle under emergency conditions. And the third was that there was no protection beyond that provided by the manufacturer for the occupants of vehicles in case something went wrong.

Not all cases we see are accidents by any stretch of the imagination.

Here is a vehicle which went out of control and impacted a tree. The analysis of the vehicle showed that the hose carrying brake fluid from the frame to the right front wheel for energizing the brakes when you put your foot on the brake pedal had been lacerated deliberately by some person or persons unknown.

The last one of these which you see on the extreme right opens all the way down into the tube, so that when the person driving the vehicle puts his foot on the brake, all he did was pump brake fluid out into the street. Now we use the term "tampering" to apply to this type of case. We would like to call it "murder" but in order to do that we must be able to establish a motive and then a suspect. Neither of these two things can we do.

Here is another case in which the hose has been lacerated twice and brake fluid was deposited in the street for an area of 35 feet long

when the man put his foot on the brake pedal. Two persons were killed in the case. No public official believes these data to be what they are.

Another case in which the tank in the braking system was disconnected and the connecting mechanism was missing.

The master cylinder was empty and the connecting metal line to the brake hose to the right front wheel was disconnected (fig. 8, p. 136).

It shows the marks of an instrument which was used recently to disconnect it and the threads at the bottom of the connecting area are clean so that this had no possibility for accumulation of road dirt, therefore indicating that this happened very, very recently.

(Fig. 9, p. 136.) Here is a flexible coupling in the steering system which is designed to take up road shock transmitted to the steering wheel in the system and also to minimize to some degree the amount of time in disassembly of the steering system for repairs. This, I believe, is a type of insane design. I see no possible justification for this. If this ruptures at any one of its four points, the driver is without control of steering the vehicle.

This case came from a circumstance in which the police department requested assistance because they believed that someone had tampered with the steering mechanism in an attempt to establish an alibi for the driver. This case involved the death of two persons and a collision involving three vehicles. If you will look carefully above the extreme right (fig. 10, p. 137) edge of the ruler you will see the imprint of the connecting bolt in the coupling. This appears at five different places in the coupling. It is not visible otherwise on the wall in this circumstance. But it is clear evidence that this was in failure previous to the collision course.

It might interest you to know that this man, the owner of the vehicle, at the time felt that someone was attempting to take his life. And as I understand the story, he had this feeling with probably good reason. I should not attempt to document this because I cannot prove it. But it was a matter of an elapsed period of 17 months or thereabouts until the same man in a car of the same make came back to me for investigation of his car for failure of the same component the second time. He again had the feeling someone was making an attempt on his life.

(Fig. 11, p. 137.) Those of you who read research data concerning suicides very often think that the person who is involved in taking his life is psychotic. Here is a slide from the Department's files, which I borrowed, to show you that a person can in fact decide he is going to take his life, for what he considers to be good reason, decides upon a method and sits down and carries it out with considerable foresight and with considerable urge. This man wanted to kill himself. He went out to the barn and sat down on the remnant of a stump with an ax in his hand and proceeded to chop holes in his head. You can see the number of blows which he delivered to his skull. Finally the ax cut one of the vessels and his death was due to bleeding.

(Fig. 12, p. 138.) Here is a vehicle which has gone into a tree after going 90 feet in an absolute straight line over a snowbank, correcting for the displacement in the vehicle for that collision course. The extenuating circumstances are not proof of suicide, but they suggest it so strongly that no other reasonable conclusion can be accomplished. Many other cases of the same sort have occurred within our series.

Pathologies play their role.

Here is a bumper injury to a 70-year-old man who was crossing the street (fig. 14, p. 139). He was 8 feet out from the curb. He had his right foot on the street, with his left foot in the air at the time he was hit. The street was a black-top street and there is no national standard on this particular detail—and a vital one. He had a glass eye on one side. His whereabouts had been unknown for approximately 12 hours. He was wearing a dark suit. He was crossing the street in an area 70 feet from the intersection, in a bus stop location, and he was standing there in an area that had an ambient-like level of 9 foot-candles when traffic was going on and less than 1 foot-candle when there was no traffic, with tremendous luminaires, but also tremendous trees which blocked the light so that it never got to the street. He was hit by a car in reasonably good condition, driven by a man who was living under considerable emotional pressure although not of a pathological nature and showed a very marked chronic fatigue.

At the highway research board in January a representative of the Rand Corp. in California indicated the means by which computers are applied for the process of making long-range forecasts on designing vehicles. This is reported again in the Science Newsletter for the current week. The low look in car design seems a preoccupation.

View, if you will, the mark of the tire across this man's arm (fig. 15, p. 139). The measuring instrument has been located here so that if there were a question of which tire crossed his body it would be possible to make an exact measurement from the photograph and then go back to the tire. But the stitches which you see in the chest is evidence that cardiac massage, post mortem, was attempted in order to revive the man. This failed. He had been hit, bounced up into the air, landed on the car, moved out into the street by inertia shifts when the driver put his foot on the brake, and then run over.

Now all you have to do is take the measurements of the population of people under 15 and over 40, who are the primary members of the community involved in pedestrian accidents, and take the body diameters and see what you can do with them underneath a vehicle of the modern design with the low book. You will come out with a conclusion that someone, somewhere, ought to give the pedestrian a little bit of a chance. We have been so involved with the idea that speed kills that we fail to look at the possibility that the pedestrian death is certain at any speed if he is run over. And certainly killing an adult requires no more speed than 10 or 12 miles an hour. So "Speed Kills" has no application to this problem for control purposes. We are dealing with something in the vicinity of 60 g.'s force to the pelvis on impact from the frontal sections of the vehicle, and forces which may go in the vicinity of 1,000 g.'s to the head when the person's upper torso hits the upper structures of the vehicle.

Now, the same procedures which have been applied so effectively by the automobile industry in steering wheel design, in the use of dissemination of information concerning seat belts, in crash padding on the dashboard and door locks that resist opening can be applied to the problem of pedestrian protection. And I hope one of the things this center could do would be to work cooperatively with the automobile industry in accomplishing the basic principles on which this thing could be done. Our hope is a very, very menial one. Our hope is to

learn enough about these problems to make it possible for the pedestrian to survive long enough to get to the hospital where his injuries can be diagnosed. Then he has a chance.

(Fig. 16, p. 140.) You will note that one of the cornea is cloudy and the other is clear. This was the clue to the pressure of the glass eye.

(Fig. 17, p. 141.) This is an 82-year-old lady who was killed seven blocks away, 7 days away, under conditions of mild rain in the afternoon. She has very severe bilateral cataracts so her effective vision is within a range of 3 or 4 feet. She has made it known to all persons around her that she believes it is up to the driver to protect her and she therefore has the right-of-way and uses it. On this particular day she picked the right-of-way in front of a person who had shifting bilateral exophoria. By this, I mean one of his eyes rotates off to the side, and he is then a one-eyed driver. Then the eye will rotate back again and the other one will rotate out and he is a one-eyed driver on the other side.

In this circumstance, obviously, where you have a severe deficiency in the pedestrian and a severe deficiency in the driver, these things can team up to produce very severe trouble.

I might add for the record, the driver of the first car lived in Dorchester, very close by the scene of the pedestrian death. The driver of the second car lived in Montreal. The psychiatrist in the investigation here indicated that the ages of these two persons were very, very similar to the ages of parents of the driver in the first car who was a brother to the driver in the second case.

I would like to show some slides, which will run the risk of offending you to show the problem we are dealing with is fraught with tragedy and fraught with unhappiness. I am trying to show you in brief a real point of view concerning what it is.

Here is a man who was hit by a vehicle and left to die in the street. After he was impacted he was dragged for 310 feet. Much of the way he was hung by the undercarriage of the vehicle while he fought to try to keep himself from being run over by it (figs. 18, 19, 20; pp. 141, 142).

Here is a pattern imprint here, just above the left nipple, as you see in the picture, of one of the housings in the vehicle. And down low on the chest is a mark which came from other structure. We have at this time exhausted the one suspect vehicle which we had and suspect driver. He was taken to court on criminal charges, after inquest, and the evidence was not sufficient to convict him. I think in all probabilities this man was murdered. I think the vehicle which hit him was at a dead stop when the pedestrian was standing in front of it, and the driver, probably intoxicated. I am inferring this from what I know about the collision course and from laboratory work on the case. The driver may well have intended to frighten the man by putting his foot on the gas pedal and running the engine a little bit to make him move, but with the automatic transmissions the vehicle simply moved forward and hit him. The driver of the vehicle came back after making a full circle around the block, moved evidence from out of the middle of the street to the curbing, and then went his way to become unknown.

The slides show the way he looked when the low look had finished with him. I submit we have some tremendous problems here which require tremendous cooperation between the governmental agencies,

between the manufacturers, between scientists, and with the cooperation of university people for solution.

Mr. Chairman, am I going into too great length?

Mr. ROBERTS. I believe, Mr. Moseley, we are going to have to adjourn because the House is expecting a vote shortly.

The committee will now be adjourned.

(Whereupon, at 12 noon, the committee was adjourned, to reconvene Thursday, February 8, 1962.)

FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4

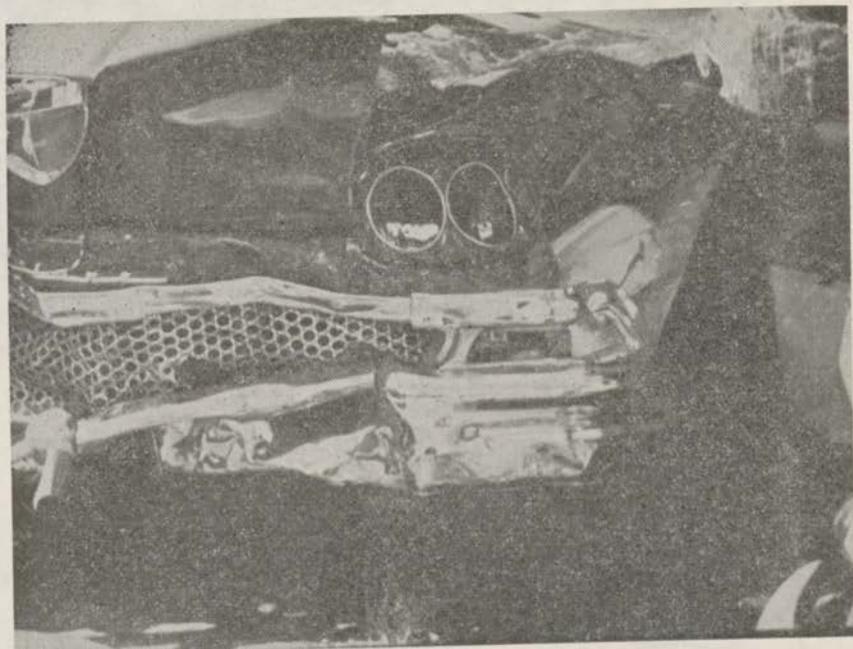


FIGURE 5

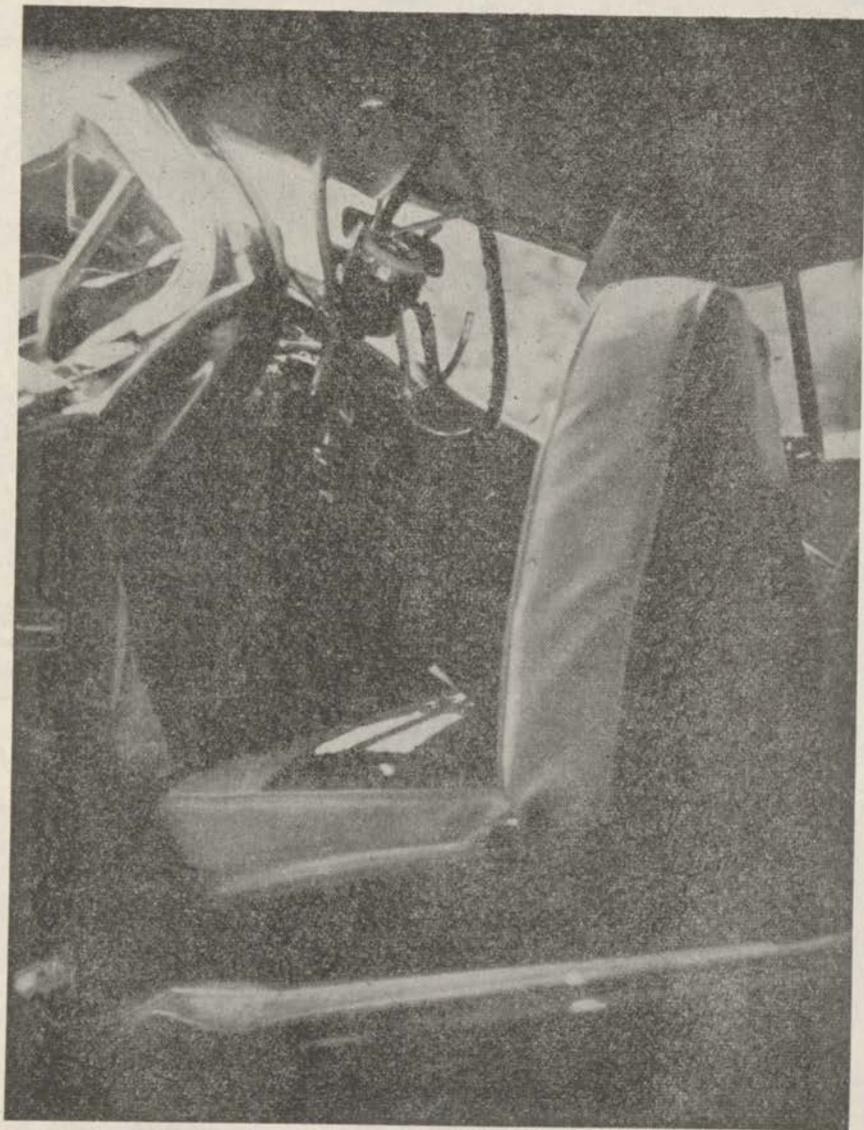


FIGURE 6



FIGURE 7

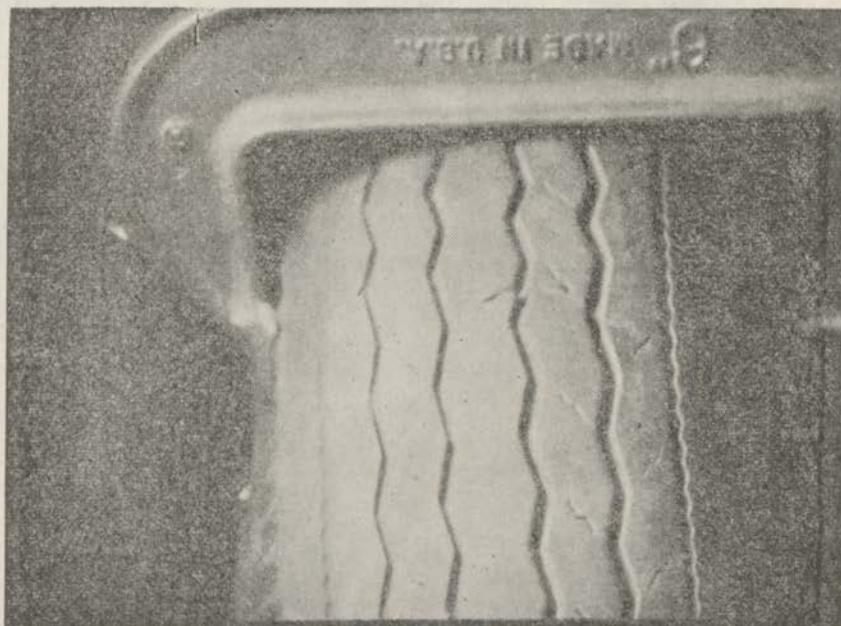


FIGURE 8



FIGURE 9



FIGURE 10

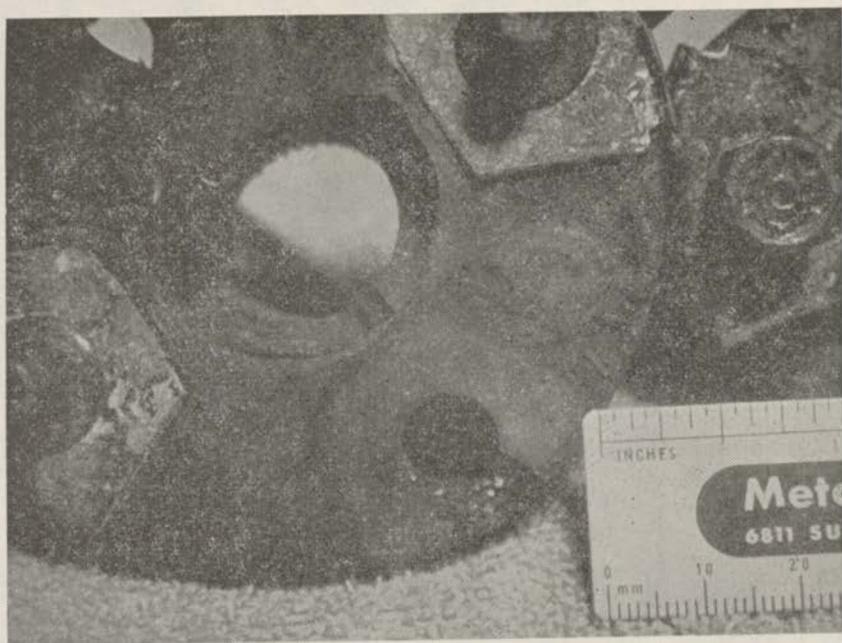


FIGURE 11

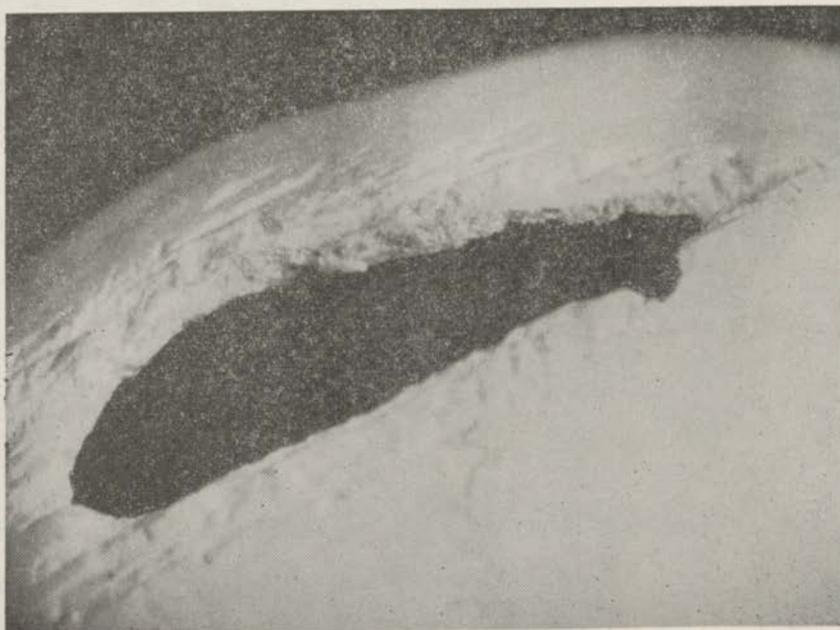


FIGURE 12

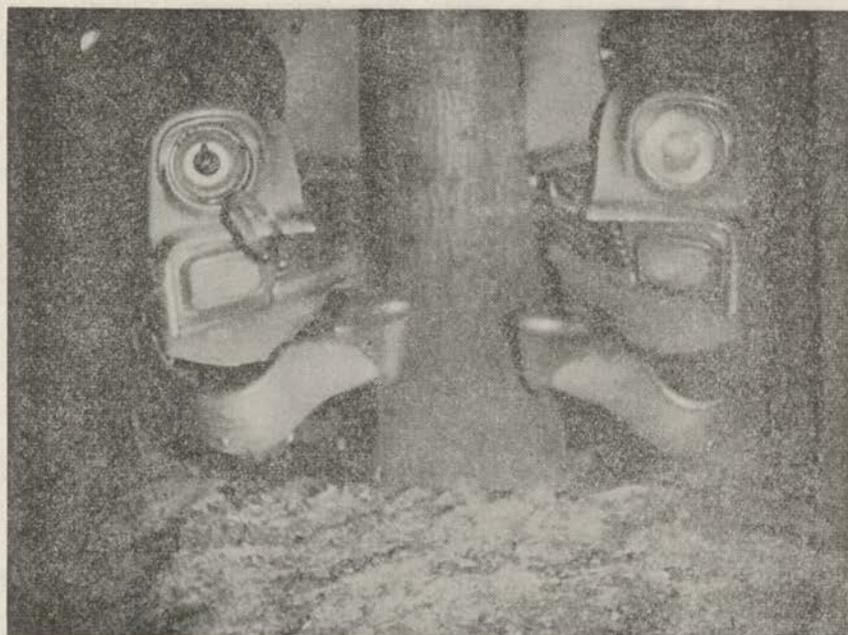


FIGURE 13

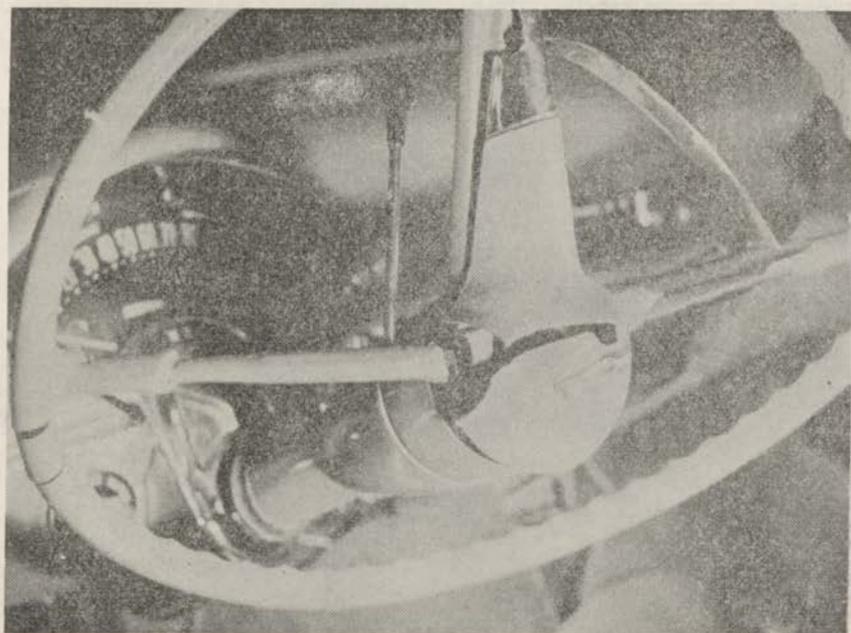


FIGURE 14



FIGURE 15

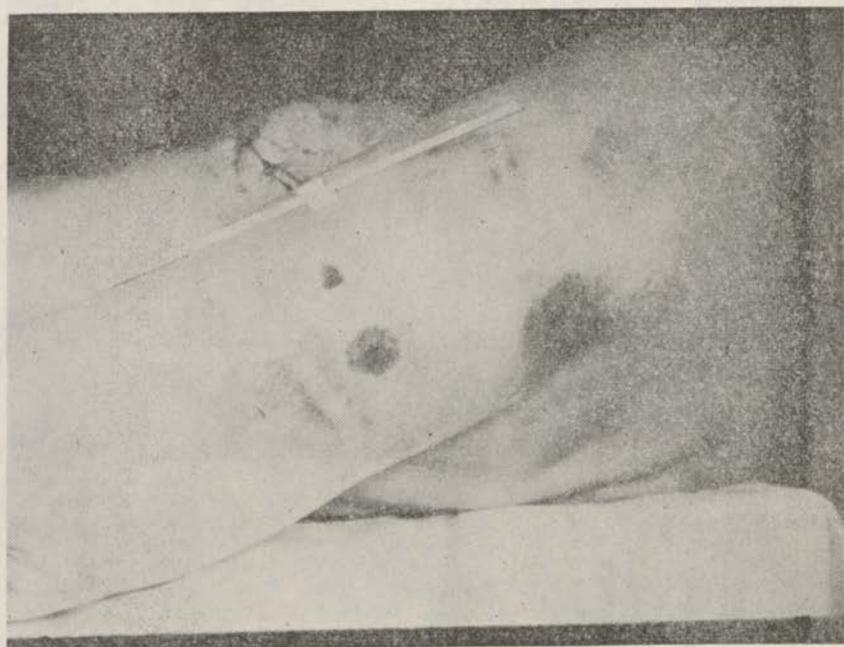


FIGURE 16



FIGURE 17

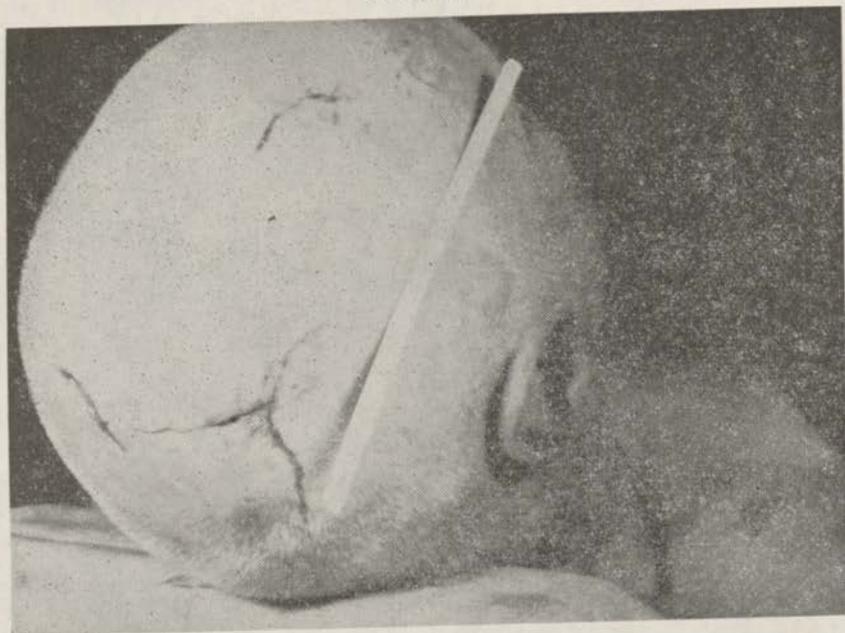


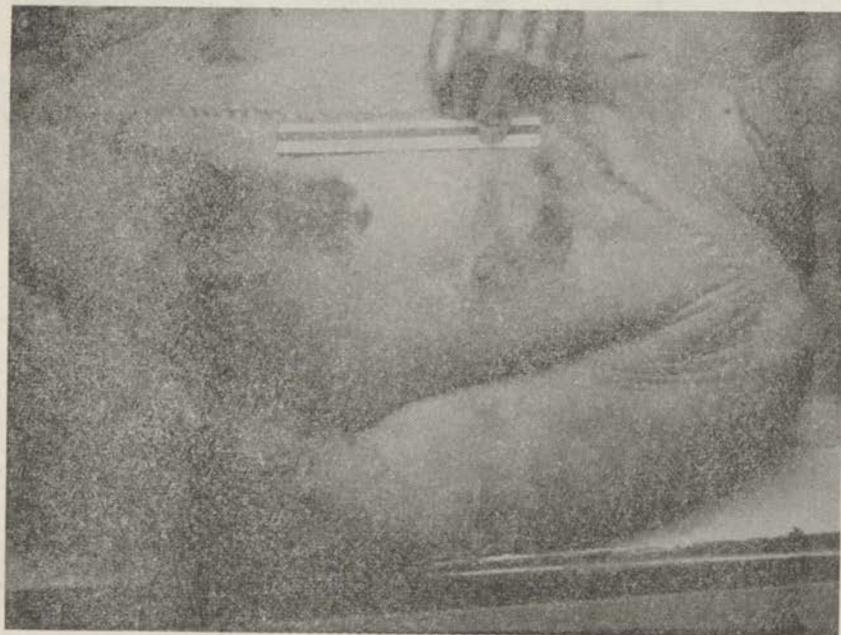
FIGURE 18



FIGURE 19



FIGURE 20



TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

THURSDAY, FEBRUARY 8, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

The CHAIRMAN. The subcommittee will please be in order.

The Chair would like to state that we have a number of distinguished witnesses today, as we have had on the other days, and we are hoping that we will be able to complete the hearing today.

Without rushing anyone we will try to proceed as rapidly as we are able to do so.

I believe yesterday Mr. Moseley, of Harvard University, was about to finish his testimony. Mr. Moseley, will you come around? First of all, I would like to thank you for your appearance before the committee, Mr. Moseley, and commend you on the work that is being done at Harvard University and to thank you not only for your appearance yesterday and today but for other appearances you have made before the committee.

There is one phase of your testimony yesterday that I would like to comment on. You stated that you believed that this matter was of such severity that we probably should consider the matter of Federal licensing of interstate drivers. You may be familiar with the fact that I have introduced a bill which would say to the States that unless some type of compliance with Uniform Motor Vehicle Code is made, under my bill, I believe H.R. 4933, the Secretary of Commerce would have the right to prescribe certain requirements, and drivers who did not meet those requirements would be in violation.

This bill places the driving in interstate commerce on a different plane from driving in intrastate, and I will say this: That I think there is an awareness on the part of the States that they must try to achieve some uniformity, and if you are not familiar with the bill I might explain to you that chapter 6 of the Uniform Motor Vehicle Code simply leaves the matter of physical and mental capacity to the appropriate officer in the State.

In other words, there would be no Federal requirement as to physical fitness, and the matter of whether or not this examination would be by the family physician or by some State public health physician would be left to the good judgment of the State, the commissioner of

vehicles, or I suppose any other similar official, perhaps the director of public safety.

I was just wondering what you would think about that type of approach which would not put the Federal Government in the licensing field; that is, as far as revenue is concerned, but would give us a look-see at the type of driver we have on our interstate highways.

Mr. MOSELEY. My general reaction to this is that this represents a means by which to accomplish the principle which is common to both points of view, and it would appear that what we are all trying to do is to get the individual States to take more aggressive steps and more sound steps to meet this problem so that the Federal Government can stay out of it.

The data I presented would offer one more line of reasoning to support the concept that the problem is a bigger one than is presently being properly managed and if the States do not do it the Federal Government will have to step in. Perhaps this gives you another tool in the motivation to get the thing done within the States so that you can keep out of it.

The CHAIRMAN. I might say at the outset of the committee's work 6 years ago that our first piece of legislation that we sponsored in the Congress was the Beamer resolution which gave the consent powers to the States to enter into interstate compacts, and while at first after I introduced H.R. 4933 there was quite a bit of opposition to it and there still is, yet a good many of the States I think are beginning now to see that they must make a stronger effort in that field, and I have had some of the State officials write me recently saying that they thought this bill had good possibilities, certainly, in getting the States to move; and of course it has been, I would say, the sense of the subcommittee since its inception that we want all of this done locally that we can get done.

It seems to me, however, that 6 years is a long time and I agree with you that unless something is forthcoming from the States the problem is one in which we may well have to consider the necessity of Federal action.

Again I would like to thank you, Mr. Moseley, for your appearance and for your fine presentation. I thank you for your appearance before the committee.

Mr. MOSELEY. Thank you, Mr. Roberts.

The CHAIRMAN. I believe our next witness here today is Dr. Preston Wade, New York City. Dr. Wade, it is a pleasure to have you with us today. I believe I am correct that you are speaking for the American Public Health Association; is that correct?

STATEMENT OF DR. PRESTON WADE, AMERICAN PUBLIC HEALTH ASSOCIATION, NEW YORK, N.Y.

Dr. WADE. That is right. I am not speaking necessarily for them; but at their suggestion.

The CHAIRMAN. You may proceed as you desire.

Dr. WADE. This is a statement I prepared which I hope will be brief enough. Although the medical profession as a whole has always taken its proper responsibility in public health problems the practitioner of surgery has traditionally confined his interest to the care

of the patient and particularly in the case of accident victims has concerned himself with first aid emergency and definitive care.

It has been only in the past few years that members of national surgical societies have recognized their responsibility in accident prevention. This change in attitude is well demonstrated by the Joint Action Committee of the American College of Surgeons, the American Association for the Surgery of Trauma, and the National Safety Council.

This Joint Action Committee was formed at the suggestion of surgeons and was enthusiastically supported by the National Safety Council. The Joint Action Committee recognizes the need for cooperative efforts in accident prevention and the treatment of injured persons.

I happen to be associated with all three of these organizations and am a member and vice chairman of this committee, and it is therefore with interest and a sense of responsibility that I appear at this hearing to advocate the passage of H.R. 133. It is my belief that the establishment of a National Accident Prevention Research Center will fulfill a need for a centralized organization of accident prevention activities in the Public Health Service.

Although great progress has been made in research in accident prevention, there is a need for the establishment of an appropriate organization within the Public Health Service structure which would strengthen the role of leadership in protecting and improving the health of the population by expanding its accident prevention activities.

A facility in which basic research can be done would fulfill needs in this area. First, it would serve to attract young, new researchers into the field of accident prevention research. There are many research programs being carried out in the United States in this field, but in order to make further progress comparable to other areas of interest in medical problems it is necessary that younger men interested in the field be given an opportunity to develop.

Second, it would provide a central organization for research teams which would bring to this complex field of accident prevention research the particular skills of a variety of different professional backgrounds—physicians, surgeons, physiologists, psychiatrists, engineers, and physicists.

Extramural research is of vital importance but intramural or directed research is also essential to fill the gaps in the individual center research, which is a type of extramural research.

Third, an intramural research center would also provide a greater opportunity for translating more rapidly new knowledge developed by researchers into applicable techniques, equipment, and programs. The accident prevention problem is of such a complex nature and involves so many different disciplines that no one interested group can now be expected to evaluate and bring together all of the important findings in every research program.

It is my belief that great progress will be made in this field of public health by the establishment of this research center, not only by reason of the intramural basic research which would be developed, but most particularly in aiding and supporting extramural research.

It would also serve to coordinate the efforts of many diversified groups to prevent unnecessary duplication of effort and disseminate up-to-date information in every field.

This is the end of my prepared statement and I would respectfully support this bill.

The CHAIRMAN. Doctor, the Chair would like to say that since the work of this subcommittee began the members of your profession officially and individually have been very helpful to our committee. One of the first visits we made was out to Chicago where we met Dr. Mason who was, and still is, I believe, in an official capacity with the medical profession.

I know that I speak for all the members of the subcommittee in saying that we are very grateful to the medical profession for its foresight and vision in this particular work. It has been a very pleasant association and one that I think has been very beneficial to our committee's work, and I am grateful to you.

I know what a busy man you are, and I know that it is a sacrifice to come down here to take 2 or 3 days out of your work to appear and to give us your blessing, and the Chair would like to tell you I am deeply grateful to you, sir.

Dr. WADE. I appreciate very much your feeling that we have been cooperative.

The CHAIRMAN. I would like to emphasize one thing which you said in your statement, and that is that you see no interference or threat to present activities by the creation of this center as proposed by the bill.

Dr. WADE. No; I do not. It would seem to me that it would serve a purpose to help present work that is going on, and I do not see that it would interfere at all.

The CHAIRMAN. Thank you again. It has been a pleasure to have you this morning.

Dr. WADE. Thank you.

The CHAIRMAN. Our next witness is Dr. Clyde M. Berry, who will be introduced by our colleague from Iowa, the Honorable Fred Schwengel.

Mr. SCHWENGEL. Mr. Chairman and members of this subcommittee studying the needs for an accident prevention center as a part of the U.S. Public Health Service, I welcome this opportunity to appear before this subcommittee in order to introduce a constituent of mine, Dr. Clyde M. Berry of the State University of Iowa, who wishes to offer testimony in support of this proposal.

So that all of you will be aware of Dr. Berry's qualification to speak with authority in this field, I feel that a few words about his background, training, and experience are in order.

Dr. Berry is presently serving at the State University of Iowa as associate professor in the Department of Hygiene and Preventive Medicine and as associate director of the Institute of Agricultural Medicine at the College of Medicine there.

Dr. Berry is a product of Midwest rural America, having been born in Posey, Ill., and spent his youth in southern Illinois. He attended a one-room country school, and taught a one-room country school. He attended a small high school and taught science for 2 years in a small high school.

He attended the University of Illinois and received an advanced degree in biochemistry, and has advanced degrees from the State University of Iowa in chemical engineering and industrial hygiene.

During the war he was a commissioned officer in the Public Health Service, Division of Industrial Hygiene. He later established an industrial hygiene program in the Central Medical Department of Esso Standard Oil Co. Five years ago he went to the State University of Iowa to help establish a research program into those health and accident hazards which arise out of, and are peculiar to, modern Iowa farming, he has been intensely interested in all accident prevention activities. This has included membership in the Farm Conference of the National Safety Council and the Program Area Committee of the American Public Health Association.

This convinces me, as I am sure it does you, that Dr. Berry can speak with authority on the need for the establishment of an accident prevention center. It is an honor and a privilege to introduce him to this subcommittee.

STATEMENT OF DR. CLYDE M. BERRY, ASSOCIATE DIRECTOR, INSTITUTE OF AGRICULTURAL MEDICINE, STATE UNIVERSITY OF IOWA, IOWA CITY, IOWA

Dr. BERRY. Thank you very much, Mr. Chairman and Mr. Schwenkel. I am very happy to be here. It is a personal and a professional honor to have an opportunity to add my knowledge and any experience, associated with the activity in which I am now engaged which may be relevant in a particular area which could be useful to you and this committee.

I would like to acknowledge the interest that you have displayed in this area over the last decade and compliment you, sir, for it.

The CHAIRMAN. Thank you.

Dr. BERRY. I have filed a statement which I think is largely self-explanatory, but in view of the testimony of yesterday and this morning there are several amplifications that I would like to make. In indicating that approximately one-third of the hospital admissions are related to accidents and their care, I should like to point to the Bayne-Jones report of a few years ago which pointed out that we were facing a critical shortage of medical personnel and that the current rate of production of physicians in the United States is at the rate of about 6,800 per year.

By 1970 it was estimated that we would have need of about 8,700, which means that we can anticipate a shortage of about 1,900 physicians per year in order to meantime the same ratio of physicians per population which currently is about 132 per 100,000.

Now, then, if we were to utilize medical training facilities at their maximum we might possibly close this gap to the extent of possibly 700 additional physicians per year, which still leaves a physician gap for the 1970 population of about 1,200 physicians per year.

This, translated into medical schools, according to the Bayne-Jones report, figures out to be between 14 and 20 additional medical schools. This then gets to be a very expensive aspect of the medical needs of the United States, and if there is then a possibility of making better utilization of the existing medical facilities and personnel, both pres-

ent and in the future, through the reduction of accidents, it would seem to me that this is a particularly relevant point to be considered by this committee.

There is the point that I raise in my statement with respect to the economics involved in the loss in tax revenue, and I would add to the statement that there is diverted and being diverted into stones and steel in the construction of medical facilities materials which might very well be diverted into items which will add to our gross national product and increase our standard of living and otherwise contribute to the state of being of the United States, our economic health and our physical and mental welfare.

I have been just a little bit disturbed over the failure to recognize the missing emphasis which may arise out of the recognition of the steps which are involved in problem solving. If then we have here a problem which we recognize as being expensive in the form of death and in medical care and its drain on medical facilities, then we are seeking a solution.

Well, step 1 then is the recognition of the problem. This we have. As to the solution, the answer is that for which we are seeking. Between those two steps are the second step and the third step, the second step being the gathering of data or perhaps the generation of data where adequate information does not now exist.

The third step is the manipulation of those data, either mathematically or putting it into a program so that a solution emerges. Since we do not now have a solution, then I think we might look at step 2 and step 3, and in my opinion one of the missing links is the inadequacy of new data upon which to prepare action programs which can result in a decrease in the number of accidents which we are now having, so that with the availability of an accident research center, then information will be evolved which should go far toward providing those data upon which we can progress toward a solution.

In the preceding testimony the question has been discussed that here would be an opportunity for the training of personnel, the availability of resources, which are not available to the extramural researcher. In the Institute of Agricultural Medicine we have an ongoing activity in the study of farm accidents and in the Institute of Agricultural Medicine we also have an interest in other health problems which arise out of, and are peculiar to, farming, and particularly in Iowa, and those two areas are in the area of infectious diseases, as animal disease, those animal diseases that are transmissible to man, and the exposure to toxic chemicals.

We have had available to us and have used research facilities in the Public Health Service for the training of people. We have had some of our beginners in these research areas go to Atlanta to the facilities of the Communicable Disease Center to learn techniques, to gain information, which then they can use upon their return to us.

This sort of thing might conceivably come out of an accident prevention research center. We have been able to borrow field equipment, light meters, noise meters, ventilation measuring equipment, from the Cincinnati Research Activity Operations Facility of the Occupational Health Division of the Public Health Service. There is no comparable facility in the accident prevention field to which we can turn, so that for the extramural researcher who does not have

the competence or the facilities initially to move as rapidly as he might the presence of a research center within the Public Health Service would be tremendously helpful.

The question was raised with respect to the possibility of going into debt, borrowing money, to engage in this activity. I think I would approach that in the same way that I would to a student who might come to me and ask if he should borrow money to gain an education. My answer would be an unqualified "yes," as the rewards to society would be amply justified. It would return many, manyfold and I feel personally and professionally that the advantages which would accrue would be largely parallel in such an approach.

My final point would relate to the acceptance of gifts from private sources to the Public Health Service, and here I go back to a personal period of my professional life when I was with the Public Health Service in 1941 and reported for active duty at the National Institutes of Health.

There were five buildings on one side of the hill and one on the other. The one on the other was the National Cancer Institute. I was very much interested in how this came about and the story I was told was that Mr. Wilson, a private citizen, had died of cancer and his widow had provided the grounds of the estate to the Public Health Service with the provision or with the overtones that a research activity would be initiated into the cause and prevention of cancer.

From this very small initial effort generated by the concern of a private citizen we now have not only the National Cancer Institute, as it now stands, but also the other Institutes of Health, as we see them on the campus out at Bethesda.

That, sir, concludes the remarks that I would like to make in addition to the statement which I have filed with you.

(The statement referred to above follows:)

NEED FOR USPHS ACCIDENT PREVENTION RESEARCH CENTER

(By Clyde M. Berry, Ph. D., associate professor, Department of Hygiene and Preventive Medicine, and associate director, Institute of Agricultural Medicine, College of Medicine, State University of Iowa, Iowa City, Iowa)

A. MEDICAL INTEREST IN PREVENTION OF ACCIDENT AND DISEASE

Curative medicine, the use of medical and paramedical skills, to return an individual to a state of health such that he can enjoy life and return to his normal activity in society, is an established and respected area of medicine. Within the past generation an increasing amount of emphasis has been placed on the prevention of those conditions that are disabling or reduce the physical and mental performance of the individual below his optimum. Accident victims come to the medical profession only for curative treatment.

The prevention of disease through immunization (smallpox, poliomyelitis, diphtheria, tetanus, whooping cough and, more recently, measles) is desirable from a medical and public health viewpoint. Failure to prevent infectious disease brings the patient to the physician for curative treatment. Preventive medicine is taught in medical schools. The public accepts this approach. The public supports it.

It is understandable that, if certain diseases are preventable and certain accidents are preventable, the medical profession is vitally concerned in the existence of a body of knowledge, experience, and techniques that can reduce the disability associated with either disease or accident.

Medical resources, personnel, and facilities, are currently inadequate in the United States. Population growth is outstripping the rate at which medical schools can train new physicians. It is urgent that increased effort be made to keep this gap between needed services and services available as narrow as pos-

sible. Accident prevention may be one of the most effective means of keeping the medical load within the capabilities of the Nation's medical resources.

B. CURRENT DEMANDS ON MEDICAL SERVICES AS A RESULT OF ACCIDENTS

It is obvious that a dead person is no longer in need of medical care. Over 90,000 persons are killed in accidents each year. It should be observed, however, that some medical services are diverted to this group prior to death. Many require a great deal—and die in spite of the complete mobilization of all emergency medical services.

More important, however, are the surviving 38 million requiring medical care and the 10 million (estimated) emergency room visits. One out of every three hospital admissions is for accidents. Approximately 1.7 million persons are hospitalized each year for treatment of accident injuries. Translated another way this is equivalent to about 16.5 million hospital bed-days, to 50,000 hospital beds, and 68,000 full-time medical and paramedical personnel. For perspective on these national figures it might be pointed out that this is equivalent to the annual hospitalization of 60 percent of the total population of the State of Iowa. The number of beds involved is in excess of those available in whole of that State.

C. THE POPULATION SEGMENTS MOST AFFECTED

It should be particularly noted that accidents affect the younger segment of our population. They will carry their disabilities longer. They may earn less during their working lifetime. The national health survey recently estimated that 16.5 million children are injured each year with 10 million days of bed disability. If we are prepared to accept 15,000 accidental deaths among children under 15 years of age we must also accept the 224,000 impairments caused by injuries. About 60 percent of these injuries occur in or about the home. How can one medically ignore accidents when it is the leading cause of death in each 5-year increment from age 1 through 34?

Older persons, those over 65 years of age, who have made their contributions to our country and to our society and who should be privileged to enjoy their golden years, are particularly susceptible to accidents. This group suffers more than 25 percent of the fatal accidents even though they account for less than 10 percent of the population. Over two-thirds of these accidents occur in the home. The above two groups are offered as specific examples of population segments where the major problem seems to be home accidents and the medical problem is substantial. Their health must be of concern to public health agencies because of the scope of the problem. One could choose other examples and come to the same conclusion.

D. THE COST OF ACCIDENTS

The National Safety Council estimates that accidents cost (attributable to injuries) at least \$8 billion per year. The medical expense alone is in the range of \$1 billion. Wage loss (\$4 billion) and overhead cost of insurance (\$3 billion) account for the rest of the \$8 billion figure.

Less tangible, and I have no estimates on the amounts, are loss of tax revenue. Excessive medical bills are tax deductible. Earnings are reduced with a concomitant loss of taxable income. The total tax bill is increased, with a narrowed base, as expenses mount for compensation, rehabilitation, and indigent medical care from tax-supported medical facilities when the financial resources of the individual have been exhausted.

Also less tangible is the loss in future earnings of those killed in accidents. Surely each of the 15,000 children killed each year would earn at least \$100,000 during his lifetime. Many would earn more. This loss in future earnings will then be at least \$1.5 billion—and this is occurring every year.

E. ACCIDENT PREVENTION NEEDS A FOURTH "E"

Any knowledgeable person in the field of accident prevention can quickly list the traditional three "E's"—engineering, education, and enforcement. Each is predicated on the assumption that there is an adequate body of information upon which to take appropriate action. I would add a fourth "E." I would add exploration.

If I have made a convincing case for the existence of a medical problem and if I have a cogent argument that this is a preventive medical problem, then I submit that it is a public health problem. It is serious. It is costly. It has

not yielded significantly to date, in my opinion, because there are inadequate data upon which truly effective control programs may be designed.

F. NEED FOR A U.S. PUBLIC HEALTH SERVICE ACCIDENT PREVENTION CENTER

We have stated that there is a need for exploration—for research. There is a need to bring together, in the U.S. Public Health Service, those knowledges and skills that will make possible a multidisciplinary attack on some of the multitude of problems related to accidents and particularly those associated with human factors.

I have mentioned the problem of childhood accidents. I could ask: "What are the safety implications associated with the progressive development of the infant and child?" Research in this area could be expected to reduce the number of childhood poisonings and perhaps improve the picture with respect to post-adolescent male drivers.

I have mentioned the problem of accidents in the over-65-age group. I could ask: "What are the influences of impairment, disease, stress, and medication on the accident potential of our senior citizens?" Research in this area could be expected to point up special needs of this group. It might be nutrition, the design of living quarters, lighting, or others.

Extramural research grants, in my opinion, do not provide the complete answer. These research studies are initiated by independent investigators. They reflect his interest and skills. Facilities are frequently a limiting factor. It is difficult to assemble a competent multidisciplinary team because competent researchers are often diffident over their tenuous employment status. They may fear that grant supports will not be large enough or over a sufficiently long period to achieve solid results.

An intramural accident prevention research effort within the U.S. Public Health Service is a missing link, and the establishment of such an effort—personnel and facilities—is endorsed. A U.S. Public Health Service Accident Prevention Center could provide badly needed leadership and coordination. Consultation and technical support would be available. It could teach special skills relevant to an accident prevention program in another organization and at another location. Truly, this is "seeding."

Research studies could be initiated that are beyond the resources of the individual researcher or a small group of investigators. Or long-term studies, not otherwise feasible by extramural researchers, may be carried out. Career researchers, some with esoteric professional specialties, could be brought together for mutual effort. An inevitable byproduct of bringing professional talent together from widely divergent fields is that of intellectual cross-fertilization with consequent wider horizons for all.

This is not the place to attempt more than an indication of what might be included in an intramural research effort, or what might be expected from it. The important point to be made is that it is needed.

G. SUMMARY

I would summarize the above very tersely. The current accident picture justifies concern over its medical implications, now and in the future. It is an urgent public health problem. Research is badly needed if satisfactory progress is to be made. Extramural research programs, while extremely valuable, have inherent limitations. An intramural research effort on accident prevention and within the structure of the U.S. Public Health Service is urgently needed.

The CHAIRMAN. Dr. Berry, I want to thank you for a most interesting statement and I think your answer to the problem of should we go in debt or borrow money for this activity is very apt and is one of the best answers I have heard. I think that, dealing as you do in field of agricultural research, you know of the great benefits that have come to agriculture through money that we have spent in not only pesticides, but plant and animal diseases, and I have no opposition as far as I am personally concerned to that type of activity.

I think it has been wonderful and has perhaps made America the greatest agricultural producer in the world. The thing that is para-

doxical to me is that when that comes up before the Congress there are very few questions about the amount or purposes and usually those appropriations pass without too much effort, but it seems we keep our hogs and cows on a little higher plane than we do human beings, as far as spending the money to rehabilitate people and keep them out of the hospitals and keep them from getting killed.

I do not know why that is true, but I plan to place in the record the billions we have spent in agricultural research. It was one of my pleasures this past fall to visit Auburn University at the dedication of their new animal and plant disease research facility, and there is invested more money in equipment and buildings there than will be spent on this particular bill. That is just one of the land-grant colleges, so I again would like to thank you for your answer to this matter of the cost.

Of course we are concerned with cost, but if we could keep some of the 38,000 or 40,000 people that we kill every year alive we could pay for this activity in a very short time and avoid all of the human pain, and suffering, and heartache that comes with one of these tragic occurrences.

I again appreciate your appearance here and I thank you very much for your statement.

Mr. NELSEN?

Mr. NELSEN. Thank you, Mr. Chairman. I just wish to add a welcome to my neighbor to the south for his appearance here today and I might comment that in the hearings certainly the objective of the coordination of the findings in research is a laudable objective. I think that there are those on the committee who have previously made statements, for example, referring to the many educational programs going on and we find great duplication; and sometimes the same result could be obtained by first an examination of what we are doing, how much overlapping we have, and perhaps we could have a consolidation of efforts and perhaps achieve the objective that you seek and those who might approach it on a conservative basis.

We are all trying to get the same end result with the best possible results at the least possible cost of course, and I want to add my thanks to you for your testimony.

It was my understanding that Congressman Schwengel would be here. I know he meant to be, and if he does not arrive before you leave, at least you know he wanted to be here.

The CHAIRMAN. Thank you.

Dr. BERRY. Thank you.

The CHAIRMAN. Our next witness is Dr. Edward Press, Public Health Director, Evanston Department of Health, Evanston, Ill. Dr. Press.

STATEMENT OF DR. EDWARD PRESS, PUBLIC HEALTH DIRECTOR, EVANSTON DEPARTMENT OF HEALTH, EVANSTON, ILL.

Dr. PRESS. Mr. Chairman and Mr. Nelsen, I am Dr. Press, a physician, the third one you have had in the last 2 days. I am in the public health field, like Dr. Hutcheson of Tennessee, being the public health director for the city of Evanston, Ill., but my original background is in the field of pediatrics, a baby specialist, and I am formally

representing the American Public Health Association, whose accident prevention committee I chair.

I am also, as I mentioned, a pediatrician, and I am chairman of the accidental poisoning subcommittee for the American Academy of Pediatrics and have in the course of those activities started, or helped to start, the first poison control center in Chicago back in 1953, and since then—I do not know if you gentlemen are familiar with it—it has grown quite a bit and there are over 400 of these poison control centers.

The American Public Health Association, as I believe you know, is a nationwide group and in addition to its own unit there are 48 State affiliates and three regional branches, so that in addition to the 13,000 members of the American Public Health Association, there are 25,000 others in these State and regional branches, and all of them are involved in the resolutions which they pass.

I have in the appendix to this statement selected 10 resolutions passed since 1952 that have to do with accident prevention. I am not going to read them to you, as they are too long, but one of them in 1956 is particularly relevant and that is on the first page of my statement there. I would like to read three or four lines from that, and this is a resolution passed back in 1956.

That consideration be given to the advisability of establishing within the Federal Government, a national accident prevention center to coordinate the activities of various accident prevention agencies in order to improve the safety of the people of the United States, through conducting research, investigations, experiments, and demonstrations relating to the cause of and means of preventing accidents.

You have had a lot of statistics in the field of accidents so that I am not going to burden you with many others, although there are two points in that area I would like to make. One is in reply to a question that Mr. Schenck raised yesterday about the cost of accidents and the cost of a man's life.

Accidents in 1959 caused 400 million days of restricted activity. Now, some of those were children who could not go to school, but many of them were people who could not go to work, and so there is an economic loss. They caused 100 million bed-days, where people had to take to the bed, with a substantial portion of them in the hospital, and if a third of that 100 million was in the hospital you can see the hospital bill involved.

Finally, he had a question about the money value of a man's life. Louis Dublin, formerly with the Metropolitan Life Insurance Co., wrote a book with just that title, "The Money Value of a Man's Life," and, as you gentlemen know, it depends on the man and how long he lives, but as I remember it, the average was somewhere about \$70,000 to \$80,000 or \$90,000 per person; and accident prevention, although it is the first cause of death in people age 1 to 25 years, heart disease and cancer kill more older people than accidents do.

Nevertheless, as far as productive years of life, from the economic standpoint, accidents kill them at a younger age, so that if you assume that a man is productive up to age 65, and that is being increased, and you figure the productive years of life lost through accidents, and this has been done by Mr. Dickinson of the American Medical Association quite a few years ago, accidents then lead cancer and heart

disease in the loss of productive years of a man's life. So much for statistics on it.

I would just like to make two points, both of which are sort of oriented toward accidents in children, which is my special field. One has to do with what could really be called an epidemic of accidental lead poisoning. The city of Chicago, in 1959 and 1960, recorded 350 cases of lead poisoning, practically all of them children, and one of those years (1959) 17 children died of it and the other (1960) 28 children, and in a good many of the remaining 300, their brain was affected by this lead and often they became mentally retarded. Some of them are doomed to spend the rest of their years in a mental institution, and then not only do you have the emotional trauma, but it is also a costly thing.

There is a moderate amount of research going on in accident prevention, but I feel there is not nearly enough, both intramural and extramural. There are gaps in research. We know that most of the children get lead poisoning by eating these chips of paint which contain lead, where these old houses and tenements have been repainted on the inside; but why some children will eat these chips of paint and bite on the window sills, while others right alongside of them, their brothers and sisters, will not; we do not know. There is a gap that the agency called for in H.R. 133 might well address itself to.

In the field of lead poisoning alone there are definite gaps. I do not think there is one laboratory out of a hundred in the United States that can do a direct quantitative test for lead in the urine and blood. They get different results. Many of them do not have experience with it. If there were a National Accident Prevention Center, I have a feeling that some of these children that have been dying of lead poisoning not only in Chicago but in many older cities, including Baltimore, New York, and Philadelphia, would, through correlated effort of physicians and toxicologists, and chemists, and epidemiologists, have a much better chance of not succumbing to this.

The second point I wanted to make is from the standpoint of washing machine wringer injuries, something I have been working on now for several years. Many of us think that the fully automatic washing machines have completely replaced the old wringer type, but that is not true. There are about 17 million still in existence and each year over 600,000 new ones are sold, and surveys have shown that about 100,000 children, and a similar amount of adults, still at the present time get their hands, or arms, or other parts of their bodies caught in wringers, and there is another field where research can be helpful.

I am currently working on a research project. There are two types of safety mechanisms in these wringer machines, one of which all of them have, which is a bar which you have to push with your hands to get the pounds of pressure off and that releases the thing. There is another one which is an "instinctive" safety release, where if your finger gets caught and you pull back four pounds of pressure will stop the rollers. I have a feeling that this "instinctive" release is probably a lot safer than the other release.

I also happen to be chairman of a Committee on Hazards to Children for Standards, and so if we can prove that this "instinctive" release is better than the other release, which is a research project we started in Evanston, in conjunction with Chicago, but with no financial assist-

ance; then we may recommend a revised standard. I would not be surprised if some of you gentlemen here or in the audience know of persons who have caught their hands in a wringer.

The final point I want to make has to do with a partnership of voluntary and official or tax-supported agencies. As you know, the National Safety Council, which is an excellent agency for whom I have unstinted praise, is a voluntary agency in the field of accident prevention.

I have been a member of that agency for many years and I know it does an excellent job, but the amount of funds that it has and the amount of funds in the whole field of accident prevention compared to funds in these other major killers of persons, like heart disease, and cancer, and arthritis, is pitiful.

This table on page 4 of my testimony has selected five fields that are major causes of death and disability in the United States. Accidents, as I told you, are the leading cause among persons 1 to 24 and as far as productive years lost, they are the major cause. Yet look at the relatively minute amount of money spent in extramural and intramural research.

I feel that the existence of the voluntary agency, such as the National Safety Council, or such as the Heart Association or the Mental Health Association, is an excellent thing in our society, but I do not feel that that should replace concentrated and expanded effort on the Government's part. It is my feeling that, too, with our advance in science, and industry, and technology, atomic energy, airplanes, automobiles, submarines, outboard motors, practically on every row-boat, accidents are bound to increase if we do not do something about it.

I feel if the same brains and money that develop these conveniences in our culture were devoted more thoroughly to efforts to coordinate and increase research that we would be bound to be paid off in results.

Thank you, Mr. Chairman.

(The further statement of Dr. Press, together with related materials, follows:)

STATEMENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, BY EDWARD PRESS,
M.D., M.P.H.

I am Edward Press, a public health physician and pediatrician currently public health director of the Department of Health for the city of Evanston, Ill., and chairman of the Accident Prevention Committee of the American Public Health Association. I represent the APHA in support of H.R. 133 for the establishment of a National Accident Prevention Center in the U.S. Public Health Service.

During the last 15 to 20 years I have written a variety of scientific articles on public health aspects of accident prevention including a book on "Accidental Poisoning in Childhood" published by the American Academy of Pediatrics. I was chairman of a committee that organized and developed the first poison control center in this country, in Chicago in 1953 (there are now over 400 of these centers throughout the United States, Canada, and in a few foreign countries). I am also chairman of the Subcommittee on Accidental Poisoning of the American Academy of Pediatrics.

I am speaking now in my capacity as chairman of the American Public Health Association's Accident Prevention Committee. This association is an organization of about 13,000 public health physicians, dentists, nurses, engineers, health educators, etc., with 48 State affiliates and 3 regional branches that include an additional 25,000 members. The association, during its annual general assemblies passed 10 separate resolutions on various aspects of accident preven-

tion since 1952. One of these (in 1956) is of direct relevance to the bill under discussion. It resolved:

"That public health agencies assume active roles in all types of accident prevention programs—" and

"That consideration be given to the advisability of establishing within the Federal Government, a national accident prevention center, to coordinate the activities of various accident prevention agencies in order to improve the safety of the people of the United States, through conducting research, investigations, experiments, and demonstrations relating to the cause of and means of preventing accidents."

Other details of this and the remaining nine resolutions will be found in appendix A attached to this document.

I am not going into a lengthy elaboration of statistics demonstrating the importance of death, disability, and economic loss to the Nation from accidents; nor shall I give numerous details of the variety of accidents which lead all causes of death in children, ages 1 to 24 years, accidents that in 1959 have killed over 92,000 persons, injured 45 million, and caused 400 million days of restricted activities and 100 million days of bed disability.¹ I am sure none of the committee question the importance or extent of this cause of death and disability.

The bulk of these accidental deaths and injuries are associated with a variety of technical, industrial, and scientific advances that have brought so many benefits to us. I am convinced that proper application of the technical and scientific know-how that developed the hazards of automotive accidents, electrical and even atomic accidents, can be harnessed, to a much greater extent than heretofore to uncover their causes and methods of prevention.

I feel confident that Dr. Luther Terry, the Surgeon General of the U.S. Public Health Service, representatives of the National Safety Council, and of many other State and local safety groups, will provide further detailed documentation of the seriousness of the accident problem and of the need for intensified and expanded efforts in this area. Rather than restate in voluminous fashion, data similar to that which others will present to you, I would like to give two or three specific examples of how such an Accident Prevention Center might be able to help, taken from fields of my own interest and experience.

"EPIDEMICS" OF ACCIDENTAL LEAD POISONING IN CHICAGO

There were 305 persons with lead poisoning reported to the Chicago Board of Health in 1959 and 1960 combined. Of these 17 died in 1959 and 28 in 1960. A substantial percentage of those that lived suffered permanent brain damage, some of whom will be doomed to a life of mental deficiency for the rest of their years. Similar cases of lead poisoning have been occurring in Chicago for many years and in Baltimore, New York, and many other older cities. We know that most of these cases can be traced to children who eat chips of dry paint containing lead and from inhaling lead fumes or dust particles from plaster coated with leaded paint. However, the question of why some children will eat paint while others do not; how to develop reliable accurate, quantitative tests for lead in urine and blood that can be duplicated and are available easily, and the relationship, for example in Chicago, between a specific area where most of the cases of lead poisoning come from and slum appearance or highway construction has only very recently been determined.

It is quite probable that had a national accident prevention center existed 7 or 8 years ago, the epidemiologic work on lead poisoning that has been done in New York, Baltimore, and Chicago, would have been much more closely correlated; experienced, well trained chemists, physicians, toxicologists, and epidemiologists would have analyzed the various factors to a much greater and more detailed extent than occurred. Not one laboratory in a hundred can do an accurate test for lead in blood or urine. If such a center existed, they might have developed nationwide laboratory services, research and epidemiologic surveillance facilities; as the Communicable Disease Center in Georgia has done in the case of polio, in the case of infectious hepatitis, and in the case of influenza. They might thus have saved many children from deaths or from years of mental deficiency in State institutions.

¹ Figures from the Developmental Research Section, Division of Accident Prevention, U.S. Public Health Service, November 1961, based on data from the National Office of Vital Statistics and the National Health Survey.

PREVENTION AND TREATMENT OF INJURIES FROM HOME WRINGER WASHING MACHINES

The U.S. Public Health Service estimates that there are approximately 100,000 injuries to children from the wringers on home washing machines that occur annually and a similar number among adults in the United States. I suspect that several of you on the subcommittee have had a relative or a close friend whose arm or other part of their body has been caught in the wringers of a washing machine. Only a few months ago a child in a neighboring suburb (Arlington Heights) caught his sweater in the wringer and was choked to death when it was pulled tight around his neck.

Appendix B includes a newspaper clipping on this case and a leaflet on wringer accidents which took 4 or 5 years to develop. In my opinion, had a national accident prevention center existed, not only would this leaflet have been developed much earlier, but a safety project which only now is getting underway might already have made a substantial impact on these injuries. The project seeks to determine whether most of these wringer injuries may be prevented by a special type of "instinctive" safety release which automatically stops the wringers as soon as there is an instinctive pull-back on the rollers when the fingers are caught. Because of the lack of adequate financing and personnel, among other things a project to determine the efficiency of this safety mechanism has been delayed for several years and is only now beginning as a joint project between the Evanston and Chicago Health Departments.

The fiscal resources available on a national scale for the problems of accident prevention are pitifully limited. The budgets for several tax-supported and voluntary national health and safety agencies are shown in the table below which clearly indicates that accident prevention efforts have been treated as a sort of fiscal stepchild.

Budgets of selected tax-supported and (voluntary) non-tax-supported national agencies in the area of health and safety

[In millions]

	Extramural research ¹	Intramural research ¹	Other activities	Total	Voluntary agencies ²
Arthritis and Metabolic Diseases.....	58.0	10.0	13.0	81.0	4.1
Cancer.....	64.0	15.0	59.0	138.0	34.4
Heart.....	85.0	9.0	39.0	133.0	27.7
Mental Health.....	45.0	9.0	54.0	108.0	5.7
Accident prevention.....	1.9	.3	1.7	3.6	5.7

¹ Budget for fiscal 1962 of the National Institutes of Arthritis and Metabolic Diseases, Cancer, Heart, and Mental Health, respectively.

² Arthritis and Rheumatism Foundation, American Cancer Society, American Heart Association, National Association for Mental Health, and the National Safety Council, respectively; figures for the 1st 4 for the fiscal year of 1960 from "Voluntary, Health and Welfare Agencies in the United States," Robert H. Hamlin, M.D., study director, Citizen's Committee, Rockefeller Foundation, Schoolmaster's Press, New York, 1961.

³ National Safety Council expenditures for 1960 (\$2,300,000 of this represents costs of publications and materials).

PARTNERSHIP OF VOLUNTARY AND OFFICIAL (TAX-SUPPORTED) AGENCIES

You may hear statements from others appearing before you that in the area of the development, collection, and transmission of publications and safety programs, there already is a national voluntary agency, the National Safety Council, that with congressional sanction is active in this area. This is entirely true, and this respected and experienced agency is doing an excellent job. I have for years been a member of their home safety conference and have unstinted praise for their efforts and their trained professional staff. Nevertheless, this is a voluntary agency, appropriates and expends no tax funds and its fiscal resources, especially those available for research and field consultation, are relatively limited. I am confident that the U.S. Public Health Service Accident Prevention Center supported by tax funds would supplement and strengthen the efforts of the National Safety Council just as the programs and services of the Institute of Arthritis and Metabolic Diseases are used to achieve the same objectives as the Arthritis and Rheumatism Foundation and the American Diabetes Association or those of the Cancer Institute supplement the services of the American Cancer Society. In a like manner scientific projects under the

aegis of the congressionally chartered National Academy of Sciences are supplemented and enriched without harmful competition or undue duplication by the USPHS Institutes working on similar problems.

Gentlemen, one of the penalties of progress associated with technical advances, mechanization and electrification is the increase in the extent and nature of potential accidental injuries. You have it in your power as representatives of the people who are subject to these increasingly complex accidents to help turn some of the scientific public health resources of their Government to their aid and protection. Accidents now act as the "captain" of all causes of death of persons from ages 1 to 24. The American Public Health Association hopes that you will see fit to recommend this piece of legislation.

Thank you.

APPENDIX A

RESOLUTIONS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

1952

HOME ACCIDENT PREVENTION PROGRAM

Whereas home accidents constitute a major national health problem; and
Whereas the public health nurse has unique opportunities for preventive education in this area: Therefore be it

Resolved, That the American Public Health Association urges local public health nursing services to give increased emphasis to this aspect of their program; and be it further

Resolved, That other public health workers be encouraged to similarly increase home accident prevention programs.

1955

PREVENTION OF INJURY AND DEATH DUE TO MOTOR VEHICLE ACCIDENTS

Whereas motor vehicle accidents have become a major hazard to public health, since approximately 1 million persons are injured annually in the United States, of which between 35,000 and 40,000 die as the result of motor vehicle accidents; and

Whereas the objective of the American Public Health Association is to protect and promote public and personal health; and

Whereas trends in current research indicate that a substantial proportion of deaths and injuries could be prevented by alterations and improvements in design of motor vehicles and related accessories and by utilization of proper restraining devices: Therefore be it

Resolved, That the American Public Health Association recommends the further development of motor vehicle accident prevention programs and encourages the extension of the efforts of the automotive engineers and manufacturing companies directed to the prevention of injury and death, and that a copy of this resolution be sent to the respective manufacturers and engineering associations.

1955

ENDORSEMENT OF POISON CONTROL CENTERS AND HEALTH DEPARTMENT PARTICIPATION IN THEIR DEVELOPMENT

Whereas the great variety and wide use of natural and synthetic chemical and pharmaceutical products today in industry, farms, and homes constitute, through accident and misuse, an important problem of public health; and

Whereas poison control centers are being established in a number of cities of this country to provide physicians and hospitals with prompt information on diagnosis and treatment; and

Whereas it is essential for the proper study and control of poisoning that information on cases be collected systematically and used to prevent other accidents or misuse: Therefore be it

Resolved, That the American Public Health Association encourage the development of poison control centers and urge health departments to actively participate in the development of their services to secure epidemiologic data concerning poisoning and to establish preventive measures for the health protection of the community.

1956

EXTENSION AND COORDINATION OF ACCIDENT PREVENTION ACTIVITIES

Whereas accidents rank first in the United States as the cause of death in persons 1 to 35 years of age, and fourth as the cause of death among all age groups, and in 1955 caused 93,000 deaths, and disabled for a day or longer an estimated 9 million persons, of whom 320,000 were permanently disabled; and

Whereas accident prevention programs of all types have distinct health aspects and therefore should be actively supported by health agencies; and

Whereas the efforts to solve the many complex problems involved in preventing accidents are in need of coordination: Therefore be it

Resolved, That health agencies assume active roles in all types of accident prevention programs; and be it further

Resolved, That consideration be given to the advisability of establishing within the Federal Government a National Accident Prevention Center to coordinate the activities of various accident prevention agencies in order to improve the safety of the people of the United States through conducting research, investigations, experiments, and demonstrations relating to the cause of and means of preventing accidents.

1957

ACCIDENT PREVENTION

Whereas accidents are now the leading cause of death in all age groups from 1 to 35; and

Whereas accidents kill more children than all diseases combined; and

Whereas accidents are the greatest single cause of loss of productive years of life; and

Whereas accidents cost the Nation more than \$10 billion a year; and

Whereas public health departments can, by the application of present knowledge, make a significant contribution to a decrease in the present annual toll of accidental deaths and injuries: Therefore be it

Resolved, That State and local health departments give high priority to the orientation and training of staff members in accident prevention principles and techniques and inaugurate State and local accident prevention programs as rapidly as available funds and personnel will permit.

1958

USE OF SEAT BELTS IN AUTOMOBILE

Whereas the effectiveness of seat belts in minimizing the degree of injury and the number of deaths resulting from traffic accidents has been demonstrated: Therefore be it

Resolved, That the American Public Health Association urge Federal agencies and the State and territorial health officers and other interested groups of the several States and territories of the United States to encourage the equipping of all official city, county, State, and Federal automobiles with seat belts which meet acceptable standards; and that every effort be made through techniques of health education to encourage the wider use of seat belts by the general public in each State and territory.

1958

BEHIND-THE-WHEEL DRIVER TRAINING

Whereas the effectiveness of behind-the-wheel driver training has been conclusively demonstrated: Therefore be it

Resolved, That the American Public Health Association ask the State and territorial health officers and other interested groups to cooperate with departments of education and other State and local groups and agencies to make behind-the-wheel driver training opportunities available to all high school students; to encourage the development of behind-the-wheel driver training courses, meeting minimum standards of effectiveness, for all persons prior to the granting of an operator's permit, to all licensed operators who desire to take such courses, and to all licensed operators recommended by the courts for such training.

160 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

1959

FULL-TIME DIRECTION OF ACCIDENT PREVENTION PROGRAMS IN STATE HEALTH DEPARTMENTS

Whereas accidents which cause more than 90,000 deaths per year are the fourth cause of all deaths in the United States and the first cause of death in age groups 1 through 35; and

Whereas injuries resulting from accidents are of even greater consequence than the aforementioned deaths; and

Whereas much existing knowledge concerning the prevention of accidents and accidental injuries is not being applied and many gaps in our knowledge as to the causes and prevention still exists; and

Whereas the programing of accident prevention activities has been retarded by the lack of full-time personnel assigned to accident prevention: Therefore be it

Resolved, That the American Public Health Association again request all State health departments to inaugurate and maintain accident prevention programs including accident prevention research; and be it further

Resolved, That each State health officer is urged to appoint one or more full-time staff members to promote, develop, and coordinate accident prevention projects and activities with adequate financial resources.

DATA ON COMPOSITION OF PRODUCTS FOR POISON INFORMATION AND CONTROL CENTERS

Whereas poison information and control centers must maintain index files with up-to-date information regarding toxic constituents of substances which may produce accidental poisoning; and

Whereas the National Clearing-House for Poison Control Centers is unable with present resources to assemble all the information needed for these indexes; and

Whereas there is particular need for adequate information regarding the constituent elements of cosmetics and household components: Therefore, be it

Resolved, That all concerns and industries which manufacture these products be urged to release routinely to the National Clearing-House for Poison Control Centers detailed information regarding composition of their products and percentages of constituents in advance of appearance on the market; and be it further

Resolved, That national industrial associations be urged to collaborate in this effort; and be it further

Resolved, That the relevant Federal agencies and the Appropriation Committees of the U.S. Congress be urged to provide the National Clearing-House for Poison Control Centers with the financial and administrative resources necessary to prepare and distribute comprehensive listings of information about toxic constituents of manufactured products.

1961

ACCIDENT PREVENTION TEACHING IN ENGINEERING SCHOOLS

Whereas industrial practices embrace various aspects of safety and are translating accident prevention principles into practice on a large scale; and

Whereas strengthening of systematic instruction in accident prevention in curricula of schools of engineering would insure the better indoctrination of future plant management personnel with good safety attitudes: Therefore be it

Resolved, That the American Public Health Association endorses the concept of including systematic instruction on accident prevention in the curricula of all colleges of engineering.

APPENDIX B

COMMANDMENTS FOR WRINGER SAFETY

(By Edward Press, M.D., public health director, Evanston Health Department)

1. Do one thing at a time

Concentrate on the job at hand—washing clothes. If you let your mind wander, try to cook or help a child while operating the washer, you are more likely to have an accident. The wringer is more likely to catch a finger, strand of hair, or loose clothing.

Try to do the laundry when you're free of other household chores. No one's busier than a housewife—but no one's more valuable, so give yourself a break. If children are around, and you must leave the washer—even for just a moment—turn the switch off and pull the electric plug from the outlet.

2. Check the wringer's safety release

Test the release each time you start washing. Be sure it works properly. Practice releasing it until your action will be instinctive in case of accident.

Every member of the family old enough to understand should be familiar with that release mechanism.

Use the safety release in case of accident. Do not reverse the rollers.

3. Keep children away

Your washer is not a toy, but the wringer can be dangerous. Warn the children to stay away from it and never let them play with it or operate it.

4. Dress appropriately for the job you're doing

Wear a hair net or cap when you are working around the wringer-washer. Be sure your clothing, whatever you wear, has no loose sleeves or belt-end or trim which might be caught in the wringer.

5. Check the floor area of your home laundry

Be sure that the floor near the wringer-washer is dry, providing no danger of your slipping. There's particular danger that it can become slick with soap and water or other slippery substances you may be using.

This is an important accident prevention measure in general, but particularly so if you use a wringer.

6. Consider replacement for increased safety

As the rubber rollers on your washer become worn, they will not wring your clothes adequately. That's the time to replace them. DON'T just keep tightening the rollers.

If circumstances permit and your water supply is adequate, replace the wringer machine with a fully automatic one. It is safer than the wringer type.

But in case you're caught: Trip that safety release immediately. Shut off the electric current. Call your doctor at once.

WHILE WAITING FOR THE DOCTOR

1. Elevate the injured hand or arm and apply cold compresses.
2. If the skin is broken, cover the injury with a sterile bandage. If none is at hand, a freshly laundered towel may be used to wrap the injured part of the body.

3. But this is not enough. Medical attention is needed at once. The fingers or arm caught in the wringer may look normal, but it is very possible that underlying muscle or bones may be seriously damaged. Swelling and more serious effects may occur later.

Doctor's telephone number.....

Hospital's telephone number.....

Every housewife owes it to herself and her family to read this leaflet carefully. Discuss it with your family. Then post it beside your wringer-washer in case of an emergency.

[Chicago Tribune, February 11]

BOY STRANGLER BY A WRINGER—SWEATER IS TWISTED LIKE A TOURNIQUET

A 4-year old boy died yesterday after one of his arms was caught in a washing machine wringer in his home, and a sweater was twisted around his neck, apparently strangling him.

Michael Sokolski, 726 N. Chicago Avenue, Arlington Heights, was pronounced dead in Northwest Community Hospital an hour after arrival. Surgeons had opened his chest to massage his heart in an attempt to revive him.

The boy, was one of five children of Joseph and Pauline Sokolski, was being minded by a sister, Christine, 14. His mother had gone to a Chicago hospital where her sister had undergone surgery.

PLAYING IN BASEMENT

Michael went to the basement while his sister was house-cleaning, after getting her permission to play with his train. He apparently turned on the washing machine.

Christine went downstairs to replace a blown fuze and found her brother lying near the washer. She called the telephone operator who summoned police.

Patrolman Norman Busse who responded to the call with his partner, Patrolman Dougall, said he was met at the door by Christine who shouted that her brother was dead in the basement.

BOY STILL ALIVE

Busse said the boy was still alive, but a woolen sweater he had been wearing was twisted around his neck like a tourniquet. One of his arms was caught in the wringer up to the shoulder. Busse reasoned that the accident occurred when the sweater was caught in the wringer.

Busse used a butcher knife to cut the sweater away from the boy. An inhalator and ambulance were summoned and the boy was rushed to the hospital. He never regained consciousness.

The CHAIRMAN. Thank you, doctor. I appreciate the fine statement you have made and I think you touched on some matters which have not been commented on before, particularly in this illustration you used about the wringer-type washing machine, and also lead poisoning; but there are other areas such as the lawnmower accidents which are taking a very big toll every year.

Of course, we went through the experience with the plastic-type bags and, as you point out, the new recreational activities which are expanding every year are going to cause, I think, a tremendous rise in accidents in many fields. I could not agree with you more that this has been a field that has been tremendously neglected, so I want to compliment you on your statement and tell you how much I appreciate the fact that you helped make a record for this bill.

I think particularly the chart where you show the budgets of selected tax-supported and voluntary non-tax-supported national agencies will be very helpful, the one on page 4.

I thank you very much. Are there any questions, Mr. Nelsen?

Mr. NELSEN. I was wondering as to the American Public Health Association or the affiliates with this association—I am just curious about its background, how extensive it is, who belongs, and so forth.

Dr. PRESS. Yes, sir. The American Public Health Association is an association of primarily professional people in public health. They would be doctors, public health nurses, public health nutritionists, public health engineers, public health dentists, and so on, that are working for health departments and voluntary health agencies.

There are about 13,000 members of the American Public Health Association. Then they have these State affiliates, like the Illinois Public Health Association, or the Minnesota Public Health Association, and in Minneapolis, for example, there will be a meeting of a regional branch which is called the Middle States Region of the American Public Health Association, and it just happens that this will be this June. That is a region of several States.

In addition to the 13,000 members of the American Public Health Association there are 25,000 members of these 48 State affiliates and 3 regional branches. When they pass a resolution like this one, that

consideration be given to the advisability of a National Accident Prevention Center, this is done in their general conclave, which is held once a year.

There are about 150 members of the governing council. Many of them are elected, one representing each of the State affiliates, and they have an open reading and discussion in a way, on a much smaller scale, similar to your House of Representatives and there are some for and some against. These over the last 10 years are resolutions that have survived the debate and controversy, and this one in 1956 bears specifically on this problem.

Mr. NELSEN. Thank you.

The CHAIRMAN. Mr. Rogers?

Mr. ROGERS of Florida. Doctor, I have enjoyed your statement, too. It has been very helpful. Would you think it would be advisable to expand the language of the bill to include not only the study of the cause and prevention of accidents, but also to include the diagnosis and treatment of accidents?

Dr. PRESS. Would the language of the bill exclude it at the present time in your opinion, Mr. Rogers?

Mr. ROGERS of Florida. There have been some suggestions that it might and it has been testified by some that they thought this language might be helpful to make sure that you get a complete trajectory of the problem from beginning to end.

Dr. PRESS. The treatment, and Dr. Wade, whom, incidentally, you heard before with the joint committee, which includes surgeons that specialize in the treatment of traumatic accidents, American College of Surgeons and National Safety Council is primarily concerned with treatment, is important; but it is in a little different area than the cause and the prevention.

The first aid treatment, I think, would be important, and perhaps the medical treatment. I think that my answer, as I am thinking, would probably be "Yes". In this case of wringer injuries, for example, you will notice that the last page of my statement has a newspaper article about a little boy who got his arm and sweater caught in a wringer. It went up to his armpit and he was then choked to death. This just happened a few months ago in a suburb of Chicago and that same pamphlet that you see back there, although it stresses prevention, does on the last page have something about first aid treatment. In a way, treatment is part of the prevention of the ill effects of an accident.

I would say that if the language prohibits it, other language should be put in, but that there would be other agencies, and that would be the area of coordination. The coordination would, we hope, not result in duplication. That would be the only reservation, but I think it is important because especially early treatment has an important effect on final results.

Mr. ROGERS of Florida. Do you think it might be a good idea to set up this National Accident Prevention Center almost as we set up the National Institutes of Health, like one of the Institutes there, such as the cancer work is done, so that there can be a complete coordinating body for all research?

Dr. PRESS. I would like to see it set up something like either one of the Institutes or perhaps the Communicable Disease Center which is in Atlanta, Ga. If there is, say, an epidemic, if you want to call it that, of lead poisoning, or an epidemic of wringer injuries, or an epidemic of inhalation of fumes when the new automatic drycleaning machines come out, for example, then you can send out people, epidemiologists, if you want to call them, policemen, so to speak, and find out why are there a lot of wringer accidents.

On this epidemic of lead poisoning, they found when we looked into it that most of the people who died and who had lead poisoning lived right along the area where the Congress Street superhighway was being built and what happened was there was a slum clearance project. They were tearing down old tenements. They had been repainting with cheaper paint, and so when they platted the areas where these children had lead poisoning they found they practically were plating the superhighway in which project they tore down the tenements.

Of course it took a little while to find it out, but if we had something like a Communicable Disease Center devoted to accidents, perhaps when they first started, 4 or 5 years ago, they would have found it. Instead of waiting 3 years to find it out, we might have been able to find it out the first year and then have taken steps to prevent it.

So I feel that there should be an organization like either the Institutes or the Communicable Disease Center that can act as a coordinator of the efforts, as well as do intramural research if necessary. I would not see them doing a lot of it, but just as they do research in the Heart Institute and in the Cancer Institute, if necessary I would like them to be able to have the facilities and then I would also like them to act as a clearinghouse for the universities.

Southern Illinois University, Northern Illinois University, and the University of Illinois, for example, I know do some work in accident prevention. I am not sure that each one of them knows what the other is doing and in the field of accidental poisoning there are a lot of areas.

Even though I am in this field I think each week I learn something I did not know and should have known, and so I see a double function, coordination and intramural and extramural research.

Mr. ROGERS of Florida. Thank you very much. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. You have been most helpful. We appreciate it very much.

Dr. PRESS. Thank you.

The CHAIRMAN. Our next witness will be Dr. William Haddon, director, epidemiology residency program, Department of Health, State of New York, Albany, N.Y.

Dr. Haddon, I would like to say that I know of the fine work you have done in your State and it is my understanding that you have been of considerable help to Governor Rockefeller in the effort that has been made in your State to do something about this tremendous problem, and we are certainly appreciative of your interest in this field and for your appearance here today.

You may proceed with your statement.

STATEMENT OF DR. WILLIAM HADDON, JR., DIRECTOR, EPIDEMIOLOGY RESIDENCY PROGRAM, DEPARTMENT OF HEALTH, STATE OF NEW YORK, ALBANY, N.Y.

Dr. HADDON. Thank you, Mr. Chairman. Because of the length of the preceding testimony during the past 2 days I would like to submit my statement for the record with your permission and limit my comments to several of the points which it contains, and also to any questions you might care to ask.

The CHAIRMAN. Without objection your statement will appear in the record.

(The statement referred to above follows, and the attachment submitted may be found in the committee records.)

STATEMENT OF WILLIAM HADDON, JR., M.D., NEW YORK STATE DEPARTMENT OF HEALTH

Mr. Chairman and members of the subcommittee, I first wish to thank you for the opportunity to appear here today in support of the proposed legislation. I am testifying as a member of the staff of the New York State Department of Health, whose commissioner is Dr. Herman E. Hilleboe. In that department I am responsible, under a program approved by the American Board of Preventive Medicine, for the training of physicians entering careers in public health research. From 1957 to 1961 I was director of the driver research center, an interdisciplinary accident research group administered by the New York State Department of Health in cooperation with the State department of motor vehicles. It is through my experience in both of these positions that I am very familiar with the issues under discussion.

As a department and as public health workers, we are concerned with accidents because of their continuing and exceptional prominence as a cause of death, injury, disfigurement, and disability. In the United States today, accidents are the most frequent cause of death, for all ages between 1 and 35. They are the fourth leading cause of death in the total population, exceeded only by heart disease, cancer, and vascular lesions of the central nervous system. More than one-half of all deaths among those aged 15 to 25 are caused by accidents, and among males in this age group accidents cause over 60 percent of all deaths.

The cost to the United States from accidents of all types is staggering, no matter which dimension of the problem is considered. In addition to the more than 90,000 killed each year, approximately 46 million persons are injured, according to the national health survey, the only scientifically based study of the magnitude of this problem. Each year accidental injuries alone result in more than 420 million days of restricted activity, and approximately 110 million days of bed disability. At a time when we are attempting to maximize our national productivity, we are losing almost 110 million workdays per year. These totals clearly indicate that either we do not now have the answers to this problem, or that, if we do, they are not being successfully applied to its solution.

In addition, with our increasing national recognition of the problems of providing adequate medical care for the ill and injured, and also of providing rehabilitation services for those with the resultant disabilities, these totals assume a new significance. If we are to succeed in reducing these end results with their manifold costs in human suffering and economic waste, we must for the first time squarely face the issue of learning to understand and prevent each of the many types of accidents which continue to result in these losses.

The numbers of persons killed in accidents of all types have, on a per capita basis, shown but relatively small decreases from decade to decade, although accidental deaths of some types, for example, those involving streetcars, have substantially decreased. Even with respect to motor vehicle accidents, where we are led to believe that we are making substantial progress, the situation has shown little major change in recent years, despite many claims to the contrary. While it is true that there have been decreases in the accident rate per vehicle mile driven, the true and more meaningful measure of the burden we are carrying, namely, the number of motor vehicle accident deaths per capita, has shown

but relatively small changes in recent years. For example, we are losing annually at present approximately 21 persons killed for each 100,000 members of the population, a rate which we first reached in 1927.¹ In addition, we do not know whether or not there have been any decreases, or increases, in the numbers of persons injured in motor vehicle accidents during the same period. In short, although substantial progress has been made with respect to certain aspects of the problem, for example, those concerned with highway design and vehicle mechanical reliability, we have made very little progress with respect to the understanding of the human factors conceded by all concerned with the subject to be of major importance in the overwhelming majority of such accidents.

What little acceptable work has been done with respect to human factors in highway and other accidents has come very largely from professional and academic groups outside of the very many enforcement, licensing, and engineering agencies customarily concerned with this subject. Such groups, for example, that which I headed during recent years, have demonstrated clearly that the concepts and methods developed by public health workers and by those in collateral disciplines are highly applicable to the study of accidents. They have also demonstrated that when such techniques are applied, new and useful understanding is brought to the subject. As an example of this, I wish to submit for the record a reprint of our report, just published in the *Journal of Chronic Diseases*, demonstrating this point with respect to fatal pedestrian accidents.²

Although such accidents had been with us for more than a half century, it is remarkable that no one of the groups given responsibility for their understanding and prevention had conducted any scientifically acceptable research designed to determine the ways in which those killed differed from those who though similarly exposed to the same hazards were not so involved. When we completed the first investigation of this type we were able to document the existence of major differences between pedestrians killed and those not involved, differences of considerable pertinence to the development of rational countermeasures. We have also now completed the first investigation of the ways in which drivers killed differ from similarly exposed drivers not involved in accidents, and have also found very large differences.³ These are merely two indications, not only of the potential profit to be obtained through the application of the methods and know-how of the public health profession, but also of the fact that we have just not been getting the answers from the groups heretofore responsible for these matters. It is unreasonable to presume that the maintenance of the present status quo will suddenly lead to reductions in our present, substantially static accident burdens.

With respect to motor vehicle accidents, it helps to place the problem in perspective to mention the percentages of the tens of millions of vehicles manufactured each decade in the United States which will, during the periods of their use be involved in injury or fatality producing accidents. As Dr. James Goddard, Civil Air Surgeon, Federal Aviation Agency (who has testified in the past before this committee) and I recently pointed out, 4 percent of all vehicles manufactured subsequently strike pedestrians, and in addition, between one-quarter and two-thirds of such vehicles are involved in accidents in which their occupants are injured, in many cases fatally, by being thrown either through their opened

¹ The number of persons killed by motor vehicles per 100,000 population during recent years has been as follows:

1945	21.2	1953	24.0
1946	23.9	1954	22.1
1947	22.8	1955	23.4
1948	22.1	1956	23.7
1949	21.3	1957	22.7
1950	23.0	1958	21.3
1951	24.1	1959	21.5
1952	24.3	1960	21.2

Source: "Accident Facts," 1961 ed., National Safety Council, Chicago.

² Haddon, W., Jr., Valien, P., McCarroll, J. R., and UMBERGER, C. J., "A Controlled Investigation of the Characteristics of Adult Pedestrians Fatally Injured by Motor Vehicles in Manhattan," *J. Chron. Dis.* 14: 6 (December) 1961.

³ This work was a joint undertaking of the Driver Research Center and the Department of Public Health, Cornell University Medical College, with the cooperation of the New York City Police Department and the office of the chief medical examiner.

⁴ McCarroll, J. R., and Haddon, W., Jr., "A Controlled Study of Fatal Automobile Accidents in New York City," *J. Chron. Dis.* in press.

doors or against their hard interior surfaces.⁴ This specific situation hardly suggests that we now have the research answers which we need, or, that, if we do have them, that they are being successfully applied.

In yet other accident areas, there is little evidence that we are making substantial progress in understanding the sources of our problem. For example, with respect to childhood accidents, falls among the elderly, drownings, and sports injuries, we know very little, although we are all certainly aware, for example, of the more than two dozen football deaths during recent months. In fact, this entire subject of sports injuries has been so little investigated that the scientific investigation of skiing injuries in which we are now cooperating under contract with the U.S. Public Health Service will be the first work of its type in the entire field of sports injuries.

The little research now underway with respect to the human and medical factors in accidents of all types is almost totally uncoordinated, and there is almost no scientific activity with respect to large segments of the accident problem, including some of those which I have just mentioned. Research facilities and adequately trained scientific personnel are in most areas scarce or nonexistent. Adequate library resources especially developed for this purpose are for most practical purposes completely unavailable to all but small groups in a few centers. There is no scientific journal devoted exclusively to original research articles concerned with this subject, and it is doubtful that sufficient work of quality is now underway with respect to such medical and human factors to fill the pages of a single monthly journal of high standards. This problem is particularly difficult because of the obscurity of the sources in which the results of most of the scientifically acceptable research completed to date has been published, and is accentuated by the fact that such reports are often lost in the flood of safety propaganda issued by special interest groups.

Nationally, as a generously high estimate, there are probably not more than 50 scientifically trained research workers with adequately broad experience in this field, and only a handful of relatively small groups are now engaged in accident research. With few exceptions these are poorly funded, and are themselves not only short of personnel, but also of the resources which would greatly facilitate their work.

These conditions testify fully to the pathetic inadequacy of our existing national resources for understanding and rationally dealing with this major problem. Unless we wish to admit that we are satisfied with our present small progress, and with our small research expenditures per individual accident victim in comparison with our effort with respect to other causes of death, we must favor the development of resources of the types proposed in the legislation under consideration. We know from our past experience with such other human afflictions as TB and polio that coordinated, medically directed, and well financed efforts pay off. We also already know that accidents are very susceptible to the same general approach. It is for these many reasons that we support this measure, since it would, for the first time in this country or abroad, make possible the national coordination, support, and development of accident research and prevention activities.

Thank you.

Dr. HADDON. I will not recite for you the figures which you have heard repeatedly as to the exceptional and continuing prominence of this cause of death, disfigurement, and disability; nor will I add to the comments of my two predecessors this morning with respect to the millions of working days which we are losing per year.

I would say, however, that the totals which have been cited clearly indicate that either we do not now have the answers to this problem, or that if we do have them they are not being successfully applied.

The question has been repeatedly raised as to whether or not we, as a nation, can afford expenditures of this type. I think we, as a

⁴Goddard, J., and Haddon, W., Jr., "An Introduction to the Discussion of the Vehicle in Relation to Highway Safety," Joint Conference on Automotive Safety, Evaluation of Automotive Design and Research, West Point, May 1961, to be published by the Association for the Aid of Crippled Children and Consumers Union.

nation, cannot afford not to make expenditures of this type. Substantial Federal funds are now going directly to the care of the injured not only during their immediate hospitalization, but also in connection with their subsequent rehabilitation.

Large portions, as has already been indicated this morning, of the funds being expended, for example, under the Hill-Burton Act are going for hospital construction necessitated by the exceptional prominence, for example, of accidents among the elderly. It will probably be the misfortune of some of us in this room to, in our later years, be the victims of accidents of the type so common in that age group.

These are accidents, as you know, which involve exceptionally long hospital stays with broken hips, for example, with all of the manifold complications which this involves. This is not a pretty business.

I would also like to say that we are being led to believe in this country by many public announcements that we are making substantial progress in each of the several areas under consideration.

For example, we are told that the motor vehicle accident picture is showing progressive and appreciable improvement. I would merely in this connection call your attention to the fact that the true measure of the burdens to our population, the true measure of the burdens from accidents involving motor vehicle crashes, is the number of persons killed per capita. Has this shown any improvement?

There has been no consistent picture as far as we can detect. During the last decade or two we have been losing annually approximately 21 persons for each 100,000 members of the population. This was a rate which we first reached in 1929. We have exceeded it. We have gone as high as 26 or so persons killed per capita, but consider what has happened since the end of World War II. The figures are in the footnote of my prepared statement.

To pick off a few of these, in 1945, for example, we killed 21.2 for every 100,000. Our rate increased and came down again in 1949 to 21.3; in 1954, 22.1; in 1958, 21.3; 1959, 21.5; and in 1960, the last year for which I had figures available, 21.2.

This hardly suggests that we are making substantial progress in this particular area. It also, again for this particular area, suggests that if we do have the answers they are not being applied. I would maintain that we have some of the answers, but even these are not being applied and that we need, as you know, more research to find out exactly what is going on and what we can do about it.

Accidents of this type have been an exceptional and prominent cause of death for more than a half-century, as mentioned by so many of us here. This is beginning to be a very long-standing problem.

The basic question in disease research or in accident research is how do the people that experience such events differ from those who do not? In the polio field it was the question of what infectious agent did polio cases have that other people did not? This is the basic question. We had killed almost one and one-half million people in the United States and injured probably in the hundreds of millions before any one had conducted a scientifically adequate study of the ways in which people involved fatally in motor vehicle accidents, either as pedestrians or as drivers, differed from those who drove by the same places, or who walked by the same places, at the same time of day, and so forth; and who were not so involved, the basic question again in accident and disease research.

With associates at Cornell University Medical College, as footnoted in my prepared statement, we have conducted such research and we find major such differences of considerable pertinence to the problem.

We asked ourselves why did we need to lose $1\frac{1}{2}$ million people before we asked these research questions and sought their answers.

Let me mention one more statistic with respect to motor vehicle accidents. I think it places the problem in a bit of perspective to mention the percentages of vehicles manufactured which during their subsequent periods of use are involved in accidents in which they either strike pedestrians or in which their occupants are injured. This is the sort of statistic which, surprisingly enough, is not told to the American people. With Dr. James Goddard, I believe well known to this committee, civil air surgeon of the Federal Aviation Agency, I calculated several months ago what these percentages were.

Four percent of the vehicles manufactured, during their subsequent periods of use injuriously or fatally strike pedestrians; 4 percent, 1 in 25. When you look at the long lines of vehicles coming out of our plants it is remarkable to think that 1 in 25 of them will be involved in such events.

Between one-quarter and two-thirds of such vehicles are involved in accidents in which their occupants are injured, in many cases fatally, either by being thrown through their inappropriately opening doors, a story with which you are quite familiar, or by being thrown against their inappropriately hard interior surfaces; between one-quarter and two-thirds of the vehicles manufactured.

This again hardly suggests that if we have the answers they are being applied.

Now, there are many other accident areas. We have just heard about lead poisoning, a tragic problem, an expensive problem, and there are many others. With respect to childhood accidents of other types, falls among the elderly, drownings, and sports injuries, we know almost nothing. In fact we do not know really how to prevent the more than two dozen tragic high school and college football deaths which we have had during the past several months; another tragic situation.

This whole area has been so little investigated that the study under a very small contract of \$3,600 from the Public Health Service, which we are conducting of skiing injuries, is the first such study begun in the entire area of sports injuries of all types: \$3,600.

That is how little work has been done previously. There is very little research now underway with respect to the human and medical factors in accidents of all of these types. It is almost totally uncoordinated. There is almost no scientific activity with respect to large segments of the problem; including some of those which I have mentioned, and many others.

Research facilities and adequately trained scientific personnel are in most areas of the country scarce or nonexistent, and I am certain that this would apply to some of the areas represented by the members of this committee. There is no scientific journal devoted exclusively to original research articles concerned with this subject; in comparison literally with the hundreds or thousands in the medical area, and it is doubtful whether there is sufficient work of quality now underway with respect to such medical and human factors to fill the pages of a single monthly journal of high standards.

This problem is particularly difficult because of the obscurity of the sources in which the results of most of the scientifically acceptable research completed to date have been published, and it is accentuated by the fact that such reports are often lost in the flood of safety propaganda issued by special interest groups.

Nationally, as a generously high estimate, there are probably not more than 50 scientifically trained research workers with adequately broad experience in this field, and only a handful of relatively small groups are now engaged in accident research. These are almost without exception poorly funded and are themselves not only short of personnel, but also of the resources which would greatly facilitate their work.

I think that it is obvious that these conditions testify fully to the pathetic inadequacy of our existing national resources, and I might interject here and point out that the situation internationally is no different, and that we have an opportunity in this respect to lead the way, so to speak, in the understanding of this essentially worldwide problem.

We have come to think of it as a problem of the postindustrial society of the Western World. This is no longer a tenable position. There is a paper being published by Dr. John Gordon, professor emeritus at the Harvard School of Public Health, in about 2 months¹ reporting works supported by the Rockefeller Foundation in the Punjab, in rural semitropical India, in which they have for the first time looked to see whether accidents are prominent in such areas. The answer they get is that they are just as prominent as a cause of death and morbidity as they are in the Western World.

They are so prominent that they are, even with many tropical diseases, and with tuberculosis, approximately the sixth cause of death, even in areas of that type. So essentially we have an opportunity here and I think it would be tragic if we did not take this opportunity.

It is for these many reasons that we, as a department and individually, support H.R. 133; since it would for the first time in this country or abroad make possible the national coordination, support, and development of accident research and prevention activities.

Thank you.

The CHAIRMAN. Thank you, Dr. Haddon. The Chair, and I am sure the committee, appreciates your statement very much. I am not going to ask you any questions. I think your statement is to the point and it is helpful to the committee, and I simply want to thank you for your appearance.

There may be some questions by the other gentlemen of the subcommittee?

Our next witness will be Col. John Paul Stapp, Brooks Air Force Base, San Antonio, Tex. Colonel, it is a pleasure to have you come to the committee today. We always welcome your appearances. We have always found you extremely helpful to the committee.

I think the first appearance you made was when we held a hearing on seat belts in 1956 or 1957 and it was a very fine piece of work you did in that hearing. We have followed your work, your testing of

¹ Gordon, J. E., Gulati, P. V., and Wyon, J. B., "Traumatic Accidents in Rural Tropical Regions: An Epidemiological Field Study in Punjab, India." *American Journal of Medical Sciences*, March 1962, in press.

training devices, and the work you have done with reference to how much punishment the human brain will stand.

I am also pleased to know that in, I believe, the balloon ascent which was made by the Navy commander, of 102,500 feet, I believe it was, you had a great deal to do with the efforts to prepare not only the information, but a lot of the physical parts of that successful experiment.

A good bit of your work has been utilized in the work at Cape Canaveral and other bases, and you have had lots to do with our successful trips by Commander Shepard and Captain Grissom and certainly we hope in the next one by Colonel Glenn.

It is a real pleasure to welcome you here and you may proceed as you desire.

**STATEMENT OF COL. JOHN PAUL STAPP, BROOKS AIR FORCE BASE,
SAN ANTONIO, TEX.**

Colonel STAPP. Thank you very much, Mr. Roberts, and members of the Committee on Health and Safety.

To begin with, I am presently assigned as Chief Scientist, Aerospace Medical Division, Air Force Systems Command, stationed at Brooks Air Force Base, San Antonio, Tex. My commander is Brig. Gen. Theodore C. Bedwell, Jr.

From the standpoint of research, accidents remain the neglected epidemic. When we consider how effectively research has brought about two ways of preventing poliomyelitis, two different vaccines, and how this is going to curb the dread and damage of this disease, we can anticipate a great deal more for the effects of research on our neglected epidemic of accidents.

Furthermore, we speak of death and taxes as being inevitable; but they are not mutually inevitable. When death occurs, we no longer collect taxes.

Last year, according to the report of a previous witness, 92,000 people died from accidents in this country. If we figure \$1,000 of income tax per person as the loss through these deaths, this crop failure is costing us \$92 million a year, and surely would justify the cost of even reducing it by 10 percent.

We can consider how much more anxiety would be immediately manifest over the death of 92,000 citrus trees, which might get disaster area treatment and immediate help. We also lose through 46 million people being injured and disabled.

I will not attempt to estimate tax losses, personal losses, or others in such a large variable figure, but it is bound to be a good deal more than the \$92 million that I postulate for the 92,000 deaths, so that there is a good economic basis for investing in the saving of citizens of this country, considered only as taxpayers and not from any other standpoint.

Getting down to cases on direct losses to our Government occurring in the U.S. Air Force, I have these figures submitted by the Biometrics Division of the Surgeon General's Office of the U.S. Air Force, dated February 6, 1962.

In 1960, 454 deaths from motor vehicle accidents; a cost is assigned of \$31,500 per death, giving a total of \$14,301,000. We had 5,557 military personnel hospitalized for a total of 172,940 days.

The CHAIRMAN. That is Air Force alone?

Colonel STAPP. Air Force military alone, not dependents. For these an assigned cost of \$30 a day comes to \$5,188,200; in 1961, the first three quarters, 237 deaths at the assigned cost of \$31,500, equals \$7,465,500; hospitalized military personnel, 3,834, for 99,724 days at \$30 a day comes to \$2,991,720.

The CHAIRMAN. Was that the first quarter?

Colonel STAPP. First three quarters of 1961.

The CHAIRMAN. 1961?

Colonel STAPP. Yes, sir. Comparing aviation accidents and motor vehicle accidents, in 1960 we had in the first three quarters 656 aviation accidents and 3,919 motor vehicle accidents; that is 6 motor vehicle accidents for each aircraft accident. In the first three quarters of 1961, 619 aviation accidents to 3,834 motor vehicle accidents, or a ratio of 6.2 car accidents per aircraft accident.

Our total Defense Department loss in the 5 years from 1955 to 1960, according to Air Force ground safety, is \$127 million on motor vehicle accidents. This is a direct cost out of the Government budget and anything that can be done to reduce this cost is a direct saving to our Government.

We were able to do about 3 years of automobile crash research at Holloman Air Force Base in which we used salvage vehicles whose motors were beyond redemption, and we used anthropomorphic dummies and human volunteers. There our special contribution was unique because experiments on human volunteers are quite limited in any other place except in the Armed Forces.

With these human volunteer experiments, as we testified in August of 1959 before this committee, we were able to establish higher human tolerance limits to restraint by seat belt than had previously been estimated on the basis of experiments with dummies.

We exposed human volunteers to belt loads of 4,800 pounds during deceleration of 27 times gravity incurred in less than 1 foot distance from 18 miles an hour. Our data was supplied directly to the Society of Automotive Engineers through the seat belt committee, of which I have been a member since 1956, and that data has been used in establishing their standards for automotive crash protection seat belts.

This data has also been freely made available to any and all other agencies that wanted to use it. The approaches of all organizations to safety through public information, through statistics, through offering safety awards, through admonition, and encouragement toward safety, are all very commendable and have an appreciable effect on the deterrence of accidents.

However, if we were to halt all research in medicine the practice of medicine would still be a good thing, but one of its resources for advancement, its principal resource for advancement, would be dried up.

Likewise, an organization dedicated to promoting and fostering research on accident prevention, treatment, and reduction of casualties would be a fountain source for admonishing and advising public relation agencies in helping to improve their work.

It would also be a source of standards for industry. It would develop new treatment for the medical care of accident cases and it could even be a source of valuable information for legislation in traffic codes.

I have one pet personal project here, which is, and this is certainly not original, that a unified national traffic code adopted by every State would certainly facilitate both the obedience and the enforcement of traffic laws. This, of course, is within the province of other people to work on.

After spending 12 years in human research on impact and mechanical force tolerance as related to aircraft and automobile accidents, I very strongly endorse the creation of an agency for accident prevention, treatment, and research.

I have every confidence in Chairman Roberts and his committee in their selection of agencies or an agency for accomplishing this work and in the wisdom of Congress in following their recommendations.

This is the end of my statement and I am prepared to answer questions.

The CHAIRMAN. Thank you very much, Colonel Stapp.

I would like first of all if you would go back to your beginning in this field and tell us something about how and why the Air Force began to study the effect of accidents on the Air Force and how you started out, what your ideas were, and authorization for it, and tell us a little bit about the program which you conducted for some time.

Colonel STAPP. In 1945, several Defense Department agencies in the Navy, Army, Air Force Corps, and Civil Aeronautics, came together on the mutual problem of aircraft accident losses, particularly in training accidents, and to consider certain evidences gathered from aircraft accident investigations which showed that proper protection of the occupants might reduce injury and loss of life.

When engineers were approached with this data, they wanted quantitative answers about human tolerance to mechanical force so that these could be used as design criteria for the seats, restraints, and cockpits of aircraft.

A 2,000-foot replica of a V-1 launching track had been constructed in the desert at Rogers Lake, now known as Edwards Air Force Base, Calif. This was surplus at the end of that experimental program and available for a rocket sled research program where the rocket sleds could be accelerated to the same speeds as flying aircraft and then with powerful mechanical friction brakes decelerated abruptly through the same speed change as observed in aircraft crashes.

Such a sled was constructed by a contractor after a competitive bid, the Northrop Aircraft Co. Between March of 1947 and June of 1951 we accomplished 254 experiments; 73 of these with human volunteers, 88 of them with chimpanzees anesthetized for the experiment, and the remainder with anthropomorphic dummies, in order to arrive at voluntary tolerance limits, beginning-of-injury limits, and even lethal limits of abrupt deceleration.

At the same time we worked out optimum body positioning and optimum crash restraints for protecting the sled occupants against these abrupt decelerations.

The CHAIRMAN. As a result of these studies, you came to the conclusion that seat belts and restraining devices would give the human occupants of a vehicle greater protection than would be afforded otherwise?

Colonel STAPP. Without seat belts or comparable restraints on our sleds, the experimenter, rather than the experiment, would have come to a conclusion.

The CHAIRMAN. What was the greatest force that you discovered could be withstood by a human volunteer? I believe you had one particular experiment that you mentioned a few moments ago where you had a human volunteer.

Colonel STAPP. Yes, sir; in one experiment the sled was decelerated from 154 miles an hour to 34 miles an hour in 31 feet with a peak force during one-quarter of a second of 8,000 pounds, or 4 tons; and this was with restraints consisting of shoulder straps, chest belt, lap belt, and tiedown straps from the buckle, that is, the buckle of the belt to the seat pan. This restraint system, exactly as we used it, is now used in the Mercury astronaut couch for holding down the occupant.

The CHAIRMAN. This information has been developed there with your experiment?

Colonel STAPP. Yes, sir.

The CHAIRMAN. You also did some work in automotive crashes. How did you obtain the automobiles? Were they purchased by the Air Force, or how did you obtain them?

Colonel STAPP. We called the Air Force salvage yards, not just for vehicles that no longer could be operated, but for those that had completely irredeemable motors, because we could tow the vehicles for the crashes; and therefore we did not even take automobiles off the salvage market.

The CHAIRMAN. About what was your cost per fiscal year? What ranges? From what low to what high did it run?

Colonel STAPP. Between \$30,000 and \$50,000 a year, including two university contractors that we supported in some developments, some of which were patentable.

The CHAIRMAN. That type of work has now been eliminated?

Colonel STAPP. One of the contractors is now being supported by the National Institutes of Health with a good deal of increase over the modest help which we were able to give him. That is the University of California at Los Angeles.

The CHAIRMAN. But the Air Force is no longer doing this particular type work that you carried on?

Colonel STAPP. No, sir; we are not.

The CHAIRMAN. Because of lack of appropriations?

Colonel STAPP. That and lack of authority or authorization to do it, and preoccupation with other problems.

The CHAIRMAN. The results were made available to all the branches of the services that you mentioned?

Colonel STAPP. Yes, sir; through technical reports.

The CHAIRMAN. And to other agencies of the Federal Government?

Colonel STAPP. Yes, sir. We prepared some suggested Federal standards for GSA in 1956.

The CHAIRMAN. Thank you, again, Colonel Stapp. We appreciate very much the fine contribution you have always made to the work of this committee.

Mr. Nelsen?

Mr. NELSEN. I was wondering about the comparisons as to accidents, the 6-to-1 ration. Of course there were more automobiles, were there not, involved in that study than there were airplanes involved or individuals; or was this comparison made strictly vehicle to vehicle?

Colonel STAPP. These were just totals.

Mr. NELSEN. So actually that comparison would not exactly be a fair one on a 6-to-1 basis?

Colonel STAPP. No, except that in the Air Force we spend so much more on accident prevention research on the aviator than we do on the same man when he is driving his car.

Mr. NELSEN. Yes, I understand. Thank you. I enjoyed your statement very much.

Colonel STAPP. Thank you.

The CHAIRMAN. The gentleman from Pennsylvania, Mr. Rhodes?

Mr. RHODES. No questions.

The CHAIRMAN. The gentleman from Florida?

Mr. ROGERS of Florida. Thank you, Mr. Chairman. Colonel, I appreciate your testimony. Do you see a need for a coordinating agency to supervise all of the research on accident prevention in the governmental departments?

Colonel STAPP. Yes, sir, although I would like to make it clear it is a matter of policy of the Defense Department that we leave the selection of such an agency to your committee and have full confidence in your judgment.

Mr. ROGERS of Florida. Would you think it might be feasible to set up an accident research institute similar to the way we have done it with cancer and with heart at the National Institutes of Health, and be a coordinating body for the Government?

Colonel STAPP. Such approaches justify themselves with the results that they have produced and I should think that we could extrapolate to the accident situation and say that we could do at least as well.

Mr. ROGERS of Florida. You think some approach along that line would be helpful?

Colonel STAPP. Yes, sir, I am quite in favor of such an approach.

Mr. ROGERS of Florida. How did you coordinate the work you were doing with similar work done by other governmental departments at the time you were doing the work?

Colonel STAPP. Before we even attempted to start any automobile accident research work we spent 3 months in sending around our selected project officer to coordinate with all agencies and get their concurrence.

Mr. ROGERS of Florida. Do you know how many agencies he had to contact? Do you recall offhand?

Colonel STAPP. He contacted all the Air Force agencies, and Navy agencies, Army, U.S. Public Health Service, and even certain extra-governmental agencies, such as the National Safety Council.

Mr. ROGERS of Florida. But there was no one place that he could go to have a coordinated program?

Colonel STAPP. It took 3 months.

Mr. ROGERS of Florida. It took 3 months?

Colonel STAPP. Yes, sir.

Mr. ROGERS of Florida. Thank you very much, Colonel.

The CHAIRMAN. Thank you again, Colonel Stapp.

Colonel STAPP. Thank you.

The CHAIRMAN. At this point we have four more witnesses, or perhaps five. I would like to know if all of you gentlemen, Mr. McCrary, Mr. Sheehe, Dr. Schreiber, Professor Borkenstein, and Mr. Latimer can come back at 1:30 and be available to the committee at 1:30? Is that agreeable?

Fine. The committee will stand in recess until 1:30 in this same room.

(Whereupon, at 11:50 a.m., Thursday, February 8, 1962, the subcommittee was recessed, to be reconvened at 1:30 p.m. the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

Our first witness this afternoon is Dr. V. Eugene McCrary, president of the Maryland Optometric Association. We will be glad to hear you now.

STATEMENT OF V. EUGENE McCRARY, O.D., PRESIDENT, MARYLAND OPTOMETRIC ASSOCIATION, COLLEGE PARK, MD.

Dr. McCrary. Mr. Chairman and members of the committee, my name is V. Eugene McCrary. I am an optometrist, practicing in College Park, Md. I am also president of the Maryland Optometric Association, a member of the board of examiners in optometry for the State of Maryland, and an optometric consultant to the industrial vision program of the U.S. Naval Research Laboratory here in the Nation's Capital. My appearance here is as trustee consultant to the Department of National Affairs of the American Optometric Association.

As the result of the testimony of Dr. Alfred Rosenbloom, dean of the Illinois College of Optometry, in support of optometry's amendments to H.R. 4999, you are well aware of the size and objectives of the organization which I represent, the minimum educational qualifications required to practice optometry in any part of the United States, the services which our profession renders to the Armed Forces, and the need for more optometrists to serve the visual needs of both the military and the expanding civilian population. These subjects will not be included in this presentation.

The economic cost sustained by this Nation by reason of accidents (the vast majority of which are preventable) is tremendous and fully justifies the establishment of a national accident prevention center by the Federal Government. I want to emphasize that one of the most tragic accidents which a person can suffer involves the loss or serious impairment of their vision. However, the question being considered by you gentlemen here today is the prevention of accidents. We are all aware of the old saying, "An ounce of precaution is worth a pound of cure." Defective or impaired vision is a contributing factor in a great number of highway and industrial accidents, as well as those connected with hunting and other outdoor activities.

Ninety percent of the decisions which must be made by an automobile driver come to his attention through his eyes. The same is true of other forms of transportation. How often do we hear the explanation, "I didn't see him;" or, "I didn't see it," following an accident. The speeds involved in highway travel and particularly those in air travel require a response to a visual warning to be made in a split second. The effects of glare on the vision of the driver or pilot, both day and night, are subjects which have been and are being intensively investigated by members of our profession, but as yet standards have

not been completely established for determining the glare tolerance of individuals.

Our profession is not only concerned with the examination of eyes and analyzing their visual functioning and the subsequent prescribing of lenses, visual exercises, and developmental visual guidance. We are also vitally interested in proper lighting, colors which can serve as warnings of danger, visual implications of the size and shape of lettering, interrelationship of vision and body posture, and other factors which contribute not only to safety in transportation but in the factory, in sports, schools, and in the home.

These things which I have mentioned pertain to the sight of the individual. There is also the example of protective and corrective eyewear. This facet of vision care has developed primarily in the field which is known as industrial vision. Management has found that eye accidents can be greatly reduced, if not entirely eliminated, by the use of corrective-protective eyewear made of glass that will not shatter. They have also found that the visual correction incorporated in this type of eyewear improves visual capacity, increases employee efficiency and decreases waste. This type of eyewear is also being used for boys and girls who are required to wear glasses which, if equipped with ordinary lenses, may be broken on the playground or in the rough-and-tumble of every day play.

Broken limbs will mend, lost teeth may be replaced by bridgework, but if the sight of an eye is destroyed by accident, there is practically nothing that can be done to replace it.

The activities of our association are carried on through departments and committees. Among those which have to do with accident prevention are the committees on motorists' vision and highway safety, occupational and industrial vision, contact lenses, research, standards, vision aid to the partially blind, vision problems of children and youth, and visual problems of aeronautics and space.

The profession of optometry endorses the concept contained within this bill. We feel that if it is enacted, a National Accident Prevention Center can render a valuable service to the American public. Our profession is dedicated both to the improvement and the preservation of the vision of our fellow citizens. For this reason, I am authorized to appear here today to urge the passage of the bill now under consideration and to express the hope that when the National Accident Prevention Center is established, a place will be found in it for one or more members of our profession in order that we may continue and expand our services in ministering to the visual welfare of our fellow citizens.

The CHAIRMAN. I appreciate your appearance here today. I know of the kind of work that your association has done in the primary and secondary grades in school, in an effort to try to discover the effects of bad vision and to get as early a history as possible of the children in schools.

I wonder if you have any idea how many States require a scientific examination of drivers' vision at the present time, either for the issuance of a new license or for a renewal of a license?

Dr. McCrary. I would say that all of the States require, to a greater or lesser degree an investigation of an individual's visual capacity, so far as his ability to operate a motor vehicle is concerned. There

is quite a difference in testing performed in the various States. Some States will require a minimum vision correction, speaking in terms of visual acuity, of 20/30, whereas in other States, such as my own State of Maryland, it requires a minimum of 20/70, which is a pretty good gap between States' requirements. It is my understanding that all States do require some form of examination, or, at least, a cursory certification as to an individual's visual ability to handle the driving situation.

Our association feels very strongly that this is a productive area in which to work, as far as any aspect of highway accident prevention work is concerned, because we know that through the years visual problems change in their nature and in their severity.

I have had the experience of having nearsighted students who were patients of mine who would enter the freshman year of college and, perhaps, be able to read 20/30, that is, their visual acuity, and in a few years be up to 20/100 or 20/200, so that vision is subject to changes due to the various strains and stresses that occur during the aging process, and so forth.

For this reason we feel very strongly that a reexamination periodically is most important, thinking in terms of prevention.

The CHAIRMAN. Do you know of any State which has a color blindness test in connection with the renewal of driving licenses?

Dr. McCrARY. I cannot specifically name one State. I am sure that some States do require a color blindness test.

The CHAIRMAN. Does Maryland require this test?

Dr. McCrARY. No.

The CHAIRMAN. I am under the impression that most of the States, for the renewal of a license, do not require it. For example, in my own State of Alabama, you can get your license each year, by the payment of \$2.50, and that is it.

Thank you again for your statement. We appreciate your coming before us.

Dr. McCrARY. It was a pleasure to be here.

The CHAIRMAN. Our next witness is Mr. Gordon H. Sheehe, professor at Michigan State University. It is a pleasure to welcome you here. I appreciate your being here today.

STATEMENT OF GORDON H. SHEEHE, PROFESSOR, MICHIGAN STATE UNIVERSITY

Mr. SHEEHE. Mr. Chairman and members of the committee, I am Gordon H. Sheehe, professor at Michigan State University and former director of the highway traffic safety center. Since the dissolution of the center July 1, 1961, my title has been head of the traffic center program. This change in title and role reflects the financial crisis at our university which called for drastic curtailment of some programs. At present, some of the diverse activities in accident prevention and traffic improvement are being continued on a limited scale, and efforts are being made to obtain financing to reestablish the highway traffic safety center and its full program. I make this explanation principally because it relates to one of the matters I wish to present to you.

My comments are offered as my own opinion, based upon 25 years of work in the traffic and safety field, and especially 6 years experience

in directing a university highway traffic safety center. I am confident that I express the viewpoint of members of Michigan State University associated with the highway traffic safety center.

I shall first give my views about the bill, H.R. 133. The objectives of the bill are excellent. There is a great need for a national accident prevention center to carry out the functions specified in the bill. Federal funds for needed research, which directly and indirectly will help prevent accidents, are necessary. Safety research has long suffered from financial malnutrition.

I should like to mention two features of the proposed National Accident Prevention Center plan which might not be in the best interests of the total accident prevention effort nationwide, which requires the collaboration of many groups and agencies. One relates to function No. 5, involving an information center which would "collect and make available through publications and other appropriate means information as to, and the practical application of, activities carried on under this part."

There is a need for a correlation and information service on accident prevention research which is not now being met. So I am in accord with this objective of the plan. But I am concerned lest the information center would eventually, if not soon, duplicate what is being done in closely related areas. As one example, I shall refer to the collection of accident data and publication of it by the National Safety Council as well as the informational materials the council produces pertaining to programs advocated to prevent certain causes. I am confident no one would wish by what might seem competitive action to discourage the continuation of endeavors of such agencies or the financial support of them by private fund donors who might think such programs or services were no longer needed because the National Accident Prevention Center would take them over.

The second feature which might cause problems pertains to the establishment of the National Accident Prevention Center in a department of the Federal Government. Would not the National Accident Prevention Center foster more harmonious and collaborative effort as well as encourage the several national offices, governmental departments, independent research organizations, and State and local official and nonofficial agencies to do more research and development work if it were set up in an independent agency, such as the National Research Council of the National Academy of Sciences?

I am seeking, as you see, to avoid the possibility of discouraging in any way research and development effort on the part of any agency or institution, and at the same time to provide the means for financing research and the interpretive, correlation, and information services needed. I am assuming, I hope not erroneously, that Federal funds could be provided for the Center if it were set up in an independent agency.

If I am not in error, then it would seem that the National Accident Prevention Center, in an independent agency with a strong advisory board, such as proposed for the National Center, would be a strong force for achieving collaboration and supporting research funding not only for the National Accident Prevention Center but also as warranted for governmental agencies interested in doing more research appropriate for them to do.

It is with some hesitancy that I voice these views, for I expect that this committee has already considered these points and concluded that the proposed plan is not subject to these possible hazards.

Another matter I wish to present to the committee pertains to using research findings. It is not enough to determine the causes, circumstances, and conditions producing accidents, and to supplement this research effort with correlation and information services. It is equally important if accidents are to be prevented to determine what techniques, approaches, motivational appeals, equipment, et cetera, are needed to remove the accident producing causes, conditions, et cetera. Accident prevention requires the development of action programs and projects which incorporate the results of research and then testing their effectiveness. This applies to every means of preventing accidents whether it be public safety education, driver education, changing social attitudes, enforcement or driver license administration.

This developmental work must be carried on in collaboration with those responsible for the activity whether they be educators, driver license people, enforcement officials, public information specialists, social action groups, or medical people. Most administrative and operating people are not able to translate scientific data and findings and develop modified or new techniques or programs incorporating them. There is, therefore, a need for people who understand research terminology and methodology, and who understand the objectives and methods of the various accident prevention control or persuasion activities to bridge the gap between research and governmental or social action by developing practical programs and techniques based upon sound research.

While on this point of the kind of people needed and the process involved in effectively using the products of research, I should emphasize the scarcity of researchers sufficiently oriented to and interested in the problems which collectively generate the accident toll. There is great need for interesting more researchers in these problems and training graduate students to become accident prevention researchers in the future.

Isolated researchers working on single small projects will not suffice. Establishment of groups of researchers, each working in a favorable setting, will be conducive to multidiscipline and team research, to study of larger parts of the total problem, and will provide the setting and opportunity for better training of additional researchers.

One very important means of developing this kind of research and development staff is the creation of safety education, research and services centers in universities. Not only are universities a natural setting for these activities, but many of them, especially State universities and land-grant educational institutions, are interested in helping solve the problems affecting the people of their respective States. Furthermore, most of these institutions have good rapport with State and local agencies whose help is needed both in the data collection phases of research and in the experimental testing of programs or techniques developed as a result of research findings.

As this relationship between researchers and the accident prevention action people is fostered in some places and improved in others, better research will be accomplished, and what is equally important,

the action people will become more interested in research findings and in utilizing them in modifying existing accident prevention methods or experimenting with entirely new approaches in their functional efforts toward accident prevention. In Michigan, for example, millions of dollars and man-hours are being expended annually on public safety education, driver education, enforcement, driver licensing activities, etc., in the traffic accident prevention field, not to mention that which is expended in trying to prevent fires, home accidents, recreational accidents, etc. Many of those engaged in all these accident prevention activities would like to know how effective are their activities and would like to have the continuing assistance of researchers in determining this and in helping improve techniques and programs of accident prevention.

To develop this relationship and to assure real benefits from it requires a permanence of the research and development program that exists in very few places now. To encourage more research and development work carried on in conjunction with operating agencies, there must be financial support on a permanent basis, which will assure both the university people involved as well as the accident prevention action people of opportunity to work together on knotty problems over a period of years if necessary. University faculty people need to be assured that research benefiting accident prevention is wanted and that there will be a need for their assistance in this field throughout their professional lifetime. Otherwise, they will devote their energies to other fields in which such opportunities are well known.

A university safety center can and should do many things to help prevent accidents. Some of these are:

1. Research and development, surveys and special studies focused upon the basic causes of traffic accidents and other traffic problems, the social and economic considerations in obtaining safe and efficient highway movement, the psychological aspects of driver behavior, improvement of techniques and discovery of new ones for overcoming traffic problems, and the development of the means and factual basis for better planning and administration of traffic movement and accident prevention.

You will note that I seem to be emphasizing traffic accident prevention. I do not mean to minimize the need for prevention of all types of accidents. What I say about research and other needed activities to help prevent traffic accidents applies well to prevention of other types of accidents.

2. Educate students for career work in all phases of accident prevention, such as teaching at both the undergraduate and graduate level, research, technical work, and administrative responsibilities in agencies responsible for some aspect of accident prevention.

3. In-service training through short courses and conferences of those presently employed and having some responsibility for safety and accident prevention matters, such as teachers, police, judges, engineers, driver licensing personnel, public information specialists, and safety organization managers.

4. Field assistance to both official and nonofficial agencies at the State, county, and community levels—extension type work—offering counsel to State and local agencies on their problems, helping them with special studies or surveys, helping them plan and execute acci-

dent prevention activities, and assisting local citizen safety committees.

5. Information and materials services through operation of a library service of publications, films and instructional materials; preparation of manuals; development of public education materials suitable for newspapers and radio and TV presentation.

This brief explanation may suffice to indicate the many ways in which a university safety center can be effective in helping prevent accidents. If no university in a State provides these services, a necessary part of the accident prevention effort will be missing. University people can provide the nonpolitical, nonbiased assistance and leadership which is respected and wanted. They can be the energizers and idea people needed to stimulate and assist many groups in improving their accident prevention methods.

My plea today is that you take into account the need for helping develop and support financially university safety centers which will have the many kinds of people needed for the various accident prevention activities I have briefly outlined. The staffs of these centers should include extension specialists, statisticians, sociologists, psychologists, engineers, and specialists in education and training, public administration, enforcement, communications arts, urban planning, and so forth, interested in and oriented to the problems underlying accidents, and the practical governmental and social means of solving them.

A national accident prevention center as proposed is needed, but so is its counterpart in almost every State. Its State counterpart, as I have indicated, could and should engage in activities beyond research and development if marked progress in accident prevention is to be achieved.

Staffs of safety centers in State universities could and should provide the continuing assistance needed in all aspects of the accident prevention program through close contact and working relationships with the State and local governmental and social groups responsible for action.

I propose that serious consideration be given to providing Federal financial aid on an assured continuing basis to encourage and help State universities establish and maintain safety centers. Land grant colleges for decades have had this kind of support for research and extension in the field of agriculture. Now motor vehicle transportation and traffic accidents have become such a serious public problem that similar support seems warranted. Though traffic accidents are only a part of the total accident problem—although a sizable part—university safety centers would be more than justified if they dealt only with traffic safety problems. However, with adequate staff and financing, safety centers could provide assistance in the prevention of all types of accidents.

Safety centers to be really effective must have an adequate number of competent people at work and must have adequate facilities, equipment, and operating funds. This calls for realistic appropriations and sizable amounts. In the more populous States, an annual budget of \$400,000 would be needed. In Michigan this would mean a per capita investment of 5 cents. Universities hard pressed to provide educational opportunities for the ever-increasing number of students

cannot be expected to allocate scarce dollars to the entire support of safety centers out of their regular operating funds. Therefore, if centers are to be created and continue effective work, special appropriations or grants are needed. I believe State legislators would provide the tax dollars needed for safety centers if matching Federal funds were to be made available. All people of a State are affected by traffic accidents, either directly or indirectly. Since traffic accidents are such a universal public problem, their prevention will benefit all people. Therefore, I maintain that tax dollars are warranted for support of safety centers in universities in addition to a national accident prevention center.

I should add that I am a member of the Traffic Safety Education and Research Committee of the American Association of State Universities & Land Grant Colleges, which with the help of the Automotive Safety Foundation and the National Commission on Safety Education has been making a study of university safety centers. We find that a number of universities through their centers, bureaus, or institutes already are giving attention to prevention of accidents and fires or to transportation problems. There is no common pattern in the way their efforts are organized, the extent of their activity, or the size of the budget for the activities. Pennsylvania State, Purdue, New York University, Michigan State, Northwestern, Texas A. & M., and University of California have rather extensive programs. Other universities and colleges in Ohio, Oklahoma, Illinois, Iowa, West Virginia, California, Wisconsin, Maryland, and Florida either have incipient safety centers or through some departments of the university are offering safety courses but doing very little research or extension work.

The report of this study by the association will be completed in two months. Its purpose is to encourage more universities to set up safety centers and provide them some guidance in doing so. If some means such as I have suggested to help finance proposed university safety centers is provided, the establishment of more safety centers will soon become a reality.

Thank you for this opportunity to discuss these urgent matters with you.

The CHAIRMAN. Thank you, Mr. Sheehe.

Do you believe that the establishment of the center as proposed in H.R. 133 would lead to or result in the establishment of safety centers in more States than now have the centers established?

Mr. SHEEHE. I'm not sure that I know what financing the National Accident Prevention Center would provide, or what limitations there would be upon the uses of its funds. I am told by the Public Health Service people that, at the present time, though they have funds which are available to university people interested in doing worthy research, funds are not available for the establishment of centers and maintenance of their staffs. In order to encourage the growth of centers I think some practical provision will have to be made for some matching Federal funds for the centers as I proposed in my earlier remarks.

The CHAIRMAN. Do you think the fact that most States do not establish these safety centers is due to a lack of financing or a lack of interest on the part of the States?

Mr. SHEEHE. I think it is both, Mr. Roberts. I know of a dozen States in which there is high interest in setting up a center, but financing proves to be the crucial problem.

I think it is fair to say that during the last legislative session in the State of Ohio and the State of Pennsylvania that financing of the proposed centers was the crucial problem. Many people in each of those States seemed to be desirous of having a full-scale center, but when it came down to priorities in the use of the limited funds, safety centers came out second best, apparently.

The CHAIRMAN. It appears to me that the people in the States feel that the voluntary organizations are taking care of this need and that there is no need for State effort in that respect. Do you feel that is the situation?

Mr. SHEEHE. That may be the case in some States. But, it is quite evident in our own State of Michigan, and in other States where I know what is going on, that these voluntary efforts alone are not enough.

It is quite apparent there is great need for better information, more reliable data for research, plus the development of the ideas generated from research into action programs, and then a social action program. There was some talk here a few minutes ago about driver licensing requirements in response to your questions concerning the extent of the testing of vision by driver licensing agencies throughout the country. That is a typical example of the kind of shortage. But in order to get a State to adopt a sound system of testing vision requires considerable social action type of work in that State so that the people will support that kind of requirement, plus the cost of putting in the kind of equipment in the testing station. We have that sort of problem in Michigan. Improving driver licensing standards is one of our big problems. It is not that many people are not desirous of having better driver licensing and, particularly, vision tests, but the question is one of getting the approval for the dollars necessary for the equipment and the training of the people to conduct these tests.

And this points out the need for the people in rural areas and the communities saying to their legislators, "we wish to see this done at the expense even of something else in our State."

The CHAIRMAN. May not one of the reasons be for a lack of public support for better licensing that a good many people feel they are qualified to drive—is it not due to that, perhaps?

Mr. SHEEHE. I think so. Some but not all people have a mistaken notion that driving is the simplest of tasks, and requirements that they undergo certain tests and education seems to them somewhat uncalled for.

The CHAIRMAN. Do you feel that driving is a right rather than a privilege?

Mr. SHEEHE. No; but many people feel that way.

The CHAIRMAN. Of course, we recognize that for many it is a means of making a living, and any restriction on that means would cripple them financially and limit their activity in their field.

Mr. SHEEHE. We have pressure exerted upon our legislature in nearly every session to minimize or even cut out the point system which we have had in effect in the driving improvement work in Michigan for more than 6 years.

This is a manifestation of the point you are making. Many drivers are constantly trying to protect their so-called right even when they have a record of many violations in the central driver record file.

The problem we are concerned with at the moment then is building up enough understanding and support among our people, so that those who would set back the little progress we have made will not succeed. This is one of the things I have attempted to emphasize—that what we need is statewide and grassroots kind of implementation programs and support of programs. It does not come about just through newspaper or radio activity alone. It is based on research, yes, but then we have to obtain social action which will support these necessary activities.

The CHAIRMAN. Is it your opinion then, Mr. Sheehe, that in identifying our efforts on a National Accident Prevention Center basis with other effort that there is a real chance that we could cut down the number of deaths and other injuries in this field?

Mr. SHEEHE. I am confident of that.

The CHAIRMAN. I want to thank you very much for your appearance and your statement. Do you have any questions, Mr. Rogers?

Mr. ROGERS of Florida. Mr. Sheehe, I noticed that you suggested that it might be perhaps wise to have an independent agency rather than just to have an accident prevention center in one department. The purpose in that was to seek coordination of all of the activities of the Government as well as those within the independent agencies; is that correct?

Mr. SHEEHE. Yes, sir.

Mr. ROGERS of Florida. You were the director of the traffic safety center for 6 years, were you not?

Mr. SHEEHE. Yes.

Mr. ROGERS of Florida. What accomplishments do you feel were made by such center?

Mr. SHEEHE. We were active in the five kinds of areas in which I stated university centers can engage, and in which it was appropriate for them to engage. It is most difficult to calculate the number of lives saved or injuries prevented by the contribution of any one of the members of a State's accident prevention team. I would not like to claim that the highway traffic safety center had any greater part than other agencies in the reduction we achieved in Michigan since 1955 in the number of traffic deaths. In 1955 there were 2,016 people killed in Michigan. In 1958 it was as low as 1,382, a phenomenal reduction in 3 years. Since that time the number of deaths has been gradually increasing again, but the death rate on a 100 million miles basis has remained low, between 4.7 and 5 as contrasted with the former figure of 7.1 in 1955 and previous years.

In addition to the creation of the highway traffic center, the legislature in November 1955 also established universal high school driver education and authorized 200 more State police. A statewide speed limit was enacted. Our highway building program began to develop more rapidly. So it would be impossible for me to say that the center was responsible for this much or that much of the accident reduction. I could describe in terms of activity what we did. We believe that each of our activities were a contribution.

Mr. ROGERS of Florida. I wondered if you could submit for the record information which might be helpful to the committee, that is, to some of the activities that you carried on.

Mr. SHEEHE. I will be happy to do so. At an earlier time I did send to Congressman Roberts our last fiscal year report of activities, which is rather extensive. I will be happy to provide additional copies.

Mr. ROGERS of Florida. Was your traffic center financed through tax dollars or did you have grants made to you—just how was it financed?

Mr. SHEEHE. It was financed almost entirely from tax dollars. Initially it was by an appropriation earmarked for the center from the legislature to the university, but in the last 3 years the center budget came out of the university's general appropriations.

In addition to that, we have received grants from the Public Health Service for specific research projects. We also had a contractual arrangement with the highway department for a cooperative research program which utilized road moneys as well as Bureau of Public Roads matching dollars. We have had very limited contributions from private sources. Each year we have had one Automotive Safety Foundation fellowship for a student pursuing graduate work in highway traffic administration and we received small grants from the Michigan Interindustry Highway Safety Foundation for television programs.

This Michigan foundation each year also has provided \$5,000 and the Allstate Insurance Foundation \$2,500 for scholarships for teachers to come to Michigan State for basic and advanced study in driver education. Those moneys did not go to the center, but to the teachers for tuition and partial defrayment of the expense of room and board.

Mr. ROGERS of Florida. Is there a need for training personnel in this field in research?

Mr. SHEEHE. Tremendous. This is one of the great shortages now and in addition to the scarcity of traffic researchers there is a shortage of other kinds of safety personnel. Whenever there is a vacancy on any of the national association staffs or a vacancy in a safety council or a vacant administrative post in a driver licensing agency, there is frequently no one available with the proper background, training, and so forth.

We can do some good, obviously, by inservice training of existing people, but we have a great need to train today for 10 years hence the young people who have the capabilities and the interest to be the professional traffic people and technicians of the future.

In addition I have spoken in my presentation about the need for educating "development" people. It is one thing to have research, but the gap between researchers and their product and the action people and their kind of work is a tremendous one. We need "development" people who can bridge this gap, who can see the problems, who can understand research and make application of research findings by developing action programs or projects at least on a pilot and experimental basis and subjecting them to tests of effectiveness. This kind of person has got to be developed. Where shall we do it except in a setting where there are people interested in doing this. Safety

centers would have the staff necessary for training the "developers" of the future.

Mr. ROGERS of Florida. Thank you very much.

The CHAIRMAN. Thank you, Mr. Sheehe.

Our next witness is Mr. Robert J. Schreiber, executive director of research, Public Service Research, Inc., Stamford, Conn.

Mr. SCHREIBER. May I submit the statement of Dr. Jacobs and myself for the record and summarize it?

The CHAIRMAN. Yes; you may.

Mr. SCHREIBER. Thank you, sir.

The CHAIRMAN. Yes.

STATEMENT OF DR. ROBERT J. SCHREIBER, EXECUTIVE DIRECTOR OF RESEARCH, PUBLIC SERVICE RESEARCH, INC., STAMFORD, CONN.

Dr. SCHREIBER. Mr. Chairman and members of the committee, I am sorry that Dr. Jacobs was not able to be here, but he had to be out of town.

I come before you today as an "angry young man." We have been in the accident research field for some 10 years and we are rather angry and getting very lonely, not seeing much progress being made.

This committee, plus the entry of the Public Health Service into the field in the relatively recent years, has been the only glimmer of hope which we have seen on the horizon.

We know that we have had, generally, little accident research in the past 20 or 30 years. We have achieved relatively little new knowledge. The same rigorous standards which are applied before a public health program is accepted are rarely applied in accident prevention and control.

One might inquire why it has required so much effort to reach this conclusion, why we are so lonely, why there are not more people doing research.

The reason for this is that there are no career opportunities in accident research. In our organization, we have trained, I would guess, between 10 and 15 scientists. We have lost some of these to the defense activities, to teaching positions, and to other kinds of activities because we could provide no continuity in their career in doing accident research.

Dr. Haddon, who spoke here today, has left the field, and as he told you, is now running a program in preventive medicine.

The only place where such career opportunities could exist is in some sort of center. Where that center is is usually unimportant, but in this particular case I think it has great relevance. The Public Health Service has long been a leader in health research activities and has stimulated research of many kinds in the universities throughout the country. The establishment of an accident prevention center within the Public Health Service, I believe, would do much to stimulate the establishment of similar centers (perhaps on a smaller scale) and specialized activities in other organizations throughout the country.

The Public Health Service, I am sure from its past experience, has not usurped the functions of other agencies. The Public Health

Service, in my experience, has furnished a service to other agencies and has not endeavored to control the activities of either State, municipal, or voluntary health organizations.

We feel very strongly that this bill should be enacted. I feel, personally, that although the cost of research—any kind of research—is high, the returns which we get for it would be very large, indeed.

One of the previous witnesses mentioned that we might have to go into debt, that is, increase the national debt, to pay for this. And like some of the other previous witnesses I have no concern on that point at all, because it will benefit the future population. If it will benefit my children and my children's children, I am willing to go into that debt.

Other witnesses have referred to duplications of functions of this agency with other agencies. I fear very little of that. The Public Health Service has many activities related to those in other agencies, but I have rarely, if ever, seen a case of where they have been accused of duplication. The national voluntary cancer organizations, the heart associations, and so forth, work extremely well with the Public Health Service.

In addition, the Public Health Service's interest in certain kinds of medical activity relates to, but do not duplicate those of the Federal Aviation Agency and other governmental agencies. This one governmental organization has a history of service without duplication which is, probably, unparalleled in most governmental organizations.

The problems of information exchange for a researcher are problems which concern me personally. And as some of the previous speakers have mentioned, it is extremely difficult at this time to find out what is going on in other organizations, to find out who is doing what kind of research, and to lay your hands on it. It is published in a wide variety of journals, ranging from the American Journal of Psychology at one extreme, to the Journal of Chronic Diseases at the other. No one, to my knowledge, is familiar with all of them. And, as stated earlier, we must maintain a great deal of effort to find out what people are doing.

The gap between research and action which Mr. Sheehe mentioned, I think, is an important one. I think it is one which must be bridged. We researchers are oftentimes guilty of not providing our research results in a manner which the action people can understand. We have been very lax in this regard. However, I think that this can be modified and the situation can be improved by the establishment of an organization, one of whose primary functions is to interpret research information for the practitioner, in the same way that the Public Health Service interprets research results on cancer, on tuberculosis, and communicable diseases, et cetera. The Public Health Service sees to it that this information gets into the hands of the general practitioner. It does not necessarily do so by disseminating that information directly, but by providing it to the professional associations of the practitioners. The Public Health Service could operate in accident prevention in the same way.

This concludes my remarks. I would like to thank you for the opportunity to make them.

The CHAIRMAN. The Chair would like to state to you that at times the work has been rather frustrating. There were five of us who

started out on the lonesome trail. We, certainly, agree with you that it has been a very frustrating experience. I am not putting a garland of roses on the members of the committee, but I well remember that we came out with the safety belt report, which received a lot of comments and the like.

I do feel that we are now beginning to perceive some excess in the reception of this on the part of the public and certainly the people in your field in realizing that this committee has proposed something that is necessary.

I might say that I have been encouraged a lot by the strong support I have received from the gentleman from Florida. I know that you have been in this, I believe you said for about 10 years.

Dr. SCHREIBER. Yes.

The CHAIRMAN. I am glad to have had your support and endorsement of this bill. I think that the bill will accomplish a great deal. Undoubtedly it will mean that it will pay its costs many times over in benefits received.

Do you know of any training center for people of your ability and training to get into this field of accident prevention work?

Dr. SCHREIBER. No, sir. I do not. In fact, this is one of the problems we have, because we would like to add some people to our staff, and we just cannot find them. We can find people with doctorates in various academic disciplines, but with no exposure to the unique problems of accident research. This is not new to public research people, as a cancer researcher, for example, just fresh out of school in microbiology, must work in the field and learn the peculiarities of the field. There is no place where this further training can be obtained, to my knowledge. On a grant or project basis, yes. There are some opportunities. We employ people to work on research projects, to work on grants, as well as do the universities, but these are not career opportunities, and are not devoted to training young people. They are essentially hand-to-mouth kinds of existences, and this is not conducive to attracting people into the field.

The CHAIRMAN. Is it your opinion that it is going to take a good many years of intense research work to get a breakthrough in this problem?

Dr. SCHREIBER. Yes, sir; I do. I think that it would be a mistake to assume that the establishment of a center would produce results within a few years, in the same sense that, I am sure, your illustrious predecessors in Congress did not believe that the National Cancer Institute would produce a cure or the prevention of cancer in a few years. It is a tough problem that we have had for a long time, and we are going to have for a considerably longer time unless some imaginative and bold action is taken.

The CHAIRMAN. Is it not true that in practically all of the scientific programs, say for example the immunization program, eliminating polio and other scourges of mankind that we have had to go through a period of resistance and opposition, and finally we began to show people that it could be done; is that not true of this program?

Dr. SCHREIBER. This has been my observation. I hope this is the end of that period of existence, in this particular case.

The CHAIRMAN. I hope you are right. I certainly thank you again for your statement.

Mr. Nelsen.

Mr. NELSEN. Mr. Chairman, I certainly feel that there is a need for consolidation, as mentioned. I am just wondering if there is any report on the amount of research work that is being done; and if there is, is there any possibility that there may be areas where a compilation of these statistics can be accomplished, whereby we can at least get started?

I do not know whether you can answer the question, but I think it would be well for the committee to ask the staff to accumulate as much information as possible, so that we might examine the work of other agencies who are now conducting research in other areas, to see what needs to be done to accomplish the objectives of this bill.

I am sorry I missed your testimony, but I wish to welcome you and to thank you for putting in your appearance here today.

The CHAIRMAN. The Chair would like to say, with reference to the query of the gentleman from Minnesota, that it is the chairman's intention to call up the department heads, at least their representatives, of all of the interested Federal agencies, to try to find out what they are doing in the field of accident prevention, how much money they are spending, what programs they have under way at the present time, and what programs they propose.

I think that would produce helpful information, and that will shed some light on this proposition.

The gentleman from Florida.

Mr. ROGERS of Florida. Mr. Schreiber, what exactly does your organization do?

Dr. SCHREIBER. We are involved in a number of research problems of public health and public welfare. One of the major ones is accident prevention research and accident causation research. We are a contract research organization working primarily with funds from outside of our own walls.

Mr. ROGERS of Florida. Are you doing any research for the Government?

Dr. SCHREIBER. Yes, we are. Of our accident research over 10 years of time, over 90 percent of it was supported by Federal funds, I would say.

Mr. ROGERS of Florida. How many personnel do you have?

Dr. SCHREIBER. We have approximately 20 professional persons on our staff.

Mr. ROGERS of Florida. What particular projects are you doing now for the Government?

Dr. SCHREIBER. We are currently engaged in examining the bases of an analysis of the driver task.

We have recently ceased operations on two other projects supported by the Public Health Service, one on the accident inducing characteristics of motor vehicles, the effects of power steering, power brakes, optional features, and so forth, and another one on the evaluation of advanced driver training for fleet motor vehicle operators.

Mr. ROGERS of Florida. Do you have laboratory facilities?

Dr. SCHREIBER. We do, indeed, sir.

Mr. ROGERS of Florida. You feel that it would be wise for us to approve a research center where we would also have research carried on?

Dr. SCHREIBER. Very definitely, because this would provide the continuity of career opportunities that we cannot as a contractor provide.

Mr. ROGERS of Florida. How many research laboratories are there, would you say? Like yours?

Dr. SCHREIBER. Ours is the only one of its kind in the sense that we are the only one that is a private organization, not a tax-exempt organization. There are approximately six or eight groups throughout the country who are well known for accident research, and who have had continuously over some years some projects going on.

Mr. ROGERS of Florida. Do you coordinate any of your work with the National Safety Council?

Dr. SCHREIBER. We supply them with an abstract of our research programs or projects upon request, approximately every year, when we are requested to do so.

Mr. ROGERS of Florida. They request you to do so?

Dr. SCHREIBER. Yes. They send a blank form to be completed.

Mr. ROGERS of Florida. Are you aware of what projects are going on?

Dr. SCHREIBER. Through the National Safety Council?

Mr. ROGERS of Florida. Yes.

Dr. SCHREIBER. Some of them we have found through the National Safety Council, but there are many other sources. As a matter of fact, that information is not complete in this regard. We obtain some help from the Bio-Sciences Information Exchange which supplies abstracts of research sponsored by some Federal agencies. Our best source of information is from communications with individual research people. Incidentally, this hearing has proved very valuable to me because I have been able to talk with researchers here. I have learned about a number of studies that I did not know of before this.

Mr. ROGERS of Florida. There is a definite need for coordinating this effort, you feel?

Dr. SCHREIBER. Very definitely.

Mr. ROGERS of Florida. Do you think that research should cover not only the cause and the prevention, but also the diagnosis and treatment in the accident field?

Dr. SCHREIBER. Diagnosis and treatment of those injured?

Mr. ROGERS of Florida. To get the whole action field.

Dr. SCHREIBER. I would say that the activities of the Center ought to range from very basic research, at one end, into the kind of human behavior, for example, which leads people to do things, to what I would call countermeasure research, at the other end, where, on the basis of research results and cooperation with various jurisdictions, accident prevention techniques would be tried and rigorously evaluated to see if they worked.

I think the entire area of activity should be covered by such a center.

Mr. ROGERS of Florida. Thank you so much.

The CHAIRMAN. Thank you.

(The prepared statement of Robert J. Schreiber and Herbert H. Jacobs follows:)

STATEMENT OF ROBERT J. SCHREIBER, EXECUTIVE DIRECTOR OF RESEARCH, AND HERBERT H. JACOBS, SENIOR RESEARCH SCIENTIST, PUBLIC SERVICE RESEARCH, INC., STAMFORD, CONN.

I. INTRODUCTION

We are in favor of the passage of H.R. 133. The national accident problem has grown to such proportions that bold and immediate action is required. However, we are research people and will, therefore, confine our comments to a brief discussion of how this bill will affect accident research, and traffic accident research in particular.

II. CURRENT STATE OF ACCIDENT RESEARCH

It is generally agreed that we have learned relatively little about accident causation in the last 20 to 30 years. Our knowledge is insufficient to have much hope about an immediate reduction in accident incidence.

Secondly, it is generally agreed that we know relatively little about the effectiveness of specific accident prevention programs. The rigorous standards which are applied before a public health program is accepted are rarely applied in accident prevention and control.

There are a number of reasons for these two problems. First, accident causation is a very complex problem. In addition to the problems posed by inadequate data which arise due to the fact that investigators can rarely observe an accident, the single most important complexity is that accidents are probably not caused by a single factor or even a small group of them. Historically, it is this latter problem which has been the major pitfall; most accident research has been devoted to finding a single human characteristic which differentiates between persons most likely to incur accidents and those who are least likely. We know now that this search for the "magic bullet," a measure of accident proneness, is not very likely to be successful.

One might inquire why it has required so much effort to come to this conclusion. In fact, not very much effort has been expended. Most of the studies in the literature have been carried out by scientists who have had only a peripheral interest in accident prevention. They generally occupy positions as professors of psychology, of engineering, etc. Almost none hold professorships of accident prevention or safety. Accident research is not a very respectable professional discipline; there are no degrees granted in it, no scholarly journals of it. It is, at best, a spare-time occupation for all but a few. At professional society meetings, it is difficult to find even a half a dozen scientists interested in discussing it.

As a result, until the Public Health Service began its support of accident research, the studies were generally small and not very bold. This has changed somewhat in the last few years, but the basic problem still exists. Although research grants provide "project" opportunities, they do not provide career opportunities. A junior man may work on accident research this year, but next year when the study is completed, he'll probably be involved in something unrelated to accidents. In short, accident research is a precarious way to earn a living.

This kind of research effort will provide bits and pieces of knowledge which, in time, will provide the kind of background this field badly needs. However, it is an uncoordinated approach. Many important problems are not being studied. For example, consider the problem of exposure: we know that 100 miles of driving in Arizona is different from the same distance driven in New York City. Until we can treat this difference quantitatively, we are not going to be able to progress as rapidly as we would like. Another example is the effects of alcohol; there is ample evidence that alcohol is involved in a disproportionately large number of accidents. We don't know about causation, however. Does the alcohol cause the accident, or does the person on his way to an accident stop for a drink? In a research program like the current one, if no one chooses to study these problems, they may not be studied.

Our second contention dealt with the paucity of accident prevention evaluation. We know very little about the effectiveness of routine and common accident prevention programs such as point systems, periodic physical examinations, high

school driver education, and many others. We believe these programs help, but we do not have rigorous evidence.

For the most part, accident prevention programs are controlled by the States. In each State government, many departments have an interest in accident prevention; for example, consider the following partial list: attorney general, court system, State police, motor vehicle department, highway department, safety coordinator, safety commission.

The people in charge of the programs in these departments are conscientious; they want to use the most effective methods of accident control. However, they are not research people and research people have very little to tell them. Research people have devoted very little effort to the evaluation of programs. This is beginning to change, but the rate of change is painfully slow.

III. THE ROLE OF A NATIONAL CENTER IN RESEARCH

The establishment of a national center could do a great deal for the problems we have cited. Its primary role will be to stimulate much more and better research. Specifically, it could provide career opportunities for research scientists. This would have several effects: first, it would induce more students into the field; second, it would give scientific respectability to accident research and thus encourage universities and other research organizations to establish similar recognition. A national center could carry out a sustained program of research, completely covering one area before moving on to the next. It could provide an organized assault to supplement the fragmented program now in existence.

A very important research function of the center could be the provision of a plan of research involving the voluntary cooperation of the States. (Public Law 85-864, the Beamer resolution, permits a compact among States for the purpose of accident prevention.) This would encourage the large-scale field experimentation needed to evaluate accident prevention programs.

In short, the establishment of a national center staffed by high quality research people and stimulated by the intellectual boldness that characterizes the Public Health Service can do more to promote the eventual control of accidents than can any other recent proposal.

IV. SPECIFIC COMMENTS ON H.R. 133

First, we believe that the term research should appear in the title of the center, in order that the connotation not be that of a Federal agency directing accident prevention. As I understand the intent of the bill, such a center would be a service agency and not one which controls local efforts.

The term "national" in the center's title may imply some conflict with other Federal agencies which have accident prevention programs (e.g., the Federal Aviation Administration); although this is outside our area of competence, we suggest that this implication be considered.

We would suggest that item (4) in section 382 (provision for grants-in-aid) be amended to include contract authority as well, if such authority is not covered by section 382 (6) or section 386. In the course of intramural research, it is almost a certainty that some research projects might best be carried out by outside groups, if for no other reason than their proximity to an accident situation of interest or because the outside organization might possess unique resources.

In section 384: We suggest that some persons on the Accident Prevention Advisory Board be persons with accident research background, so they will be able to advise other members of the board on the feasibility and advisability of various research efforts. This need not be included in the text of the bill.

V. CONCLUSIONS

We urge the passage of this resolution. Its deficiencies are minor ones and its benefits are major ones.

Although a national center is needed now, it is important to appreciate that the effects of the center on the national accident toll are not going to be appreciable in the next few years. Just as the National Cancer Institute has not yet "solved" the cancer problem, the accident prevention center is not going to "solve" the accident problem in just a few years. Many years of hard work will be required. However, without the center, it would require a very much longer time, if indeed the incidence of accidents would ever be controlled.

The CHAIRMAN. Our next witness is Mr. Robert F. Borkenstein, chairman of the Department of Police Administration of Indiana University.

Mr. SHEEHE. Mr. Borkenstein asked me to announce that he would not be able to get back. He had another conflicting appointment. He would like to have his prepared statement inserted in the record.

The CHAIRMAN. Very well, that will be done.

(The prepared statement of Robert F. Borkenstein is as follows:)

STATEMENT OF ROBERT F. BORKENSTEIN, CHAIRMAN, DEPARTMENT OF POICE ADMINISTRATION, INDIANA UNIVERSITY

This presentation is intentionally limited to one facet of the total accident prevention program because it is the only one with which I am intimately acquainted.

The explosive growth of the American highway transportation system has generated problems that in terms of property loss approach catastrophe and that in terms of loss of life certainly constitute an epidemic. It is the charge of traffic policing agencies to move this mass of man and material as rapidly as possible in reasonable safety. This obviously has not been satisfactorily accomplished in spite of sincere efforts by traffic police officials to use the information, tools, and police power available to them.

Few social problems reach as many people in their everyday lives as safety in motor transportation. Involvement in a crime is highly unlikely but participation in a motor vehicle accident is never over a few feet away. Yet, like so many great problems, little is actually known about the fundamental causes. Salving the sore is about as far as the remedy goes. Most of the accident-prevention panaceas applied today have no lasting effect, or partially solve the problem by impeding the rapid flow of traffic, thereby defeating the very purpose of regulation. Of course, there are exceptions to this in which imagination and intelligent ideas have been applied.

There is urgent need for more fundamental information that will put real meaning into efforts to prevent accidents through traffic regulation. The areas of driver behavior, driver training, fundamental accident causes, penology in traffic offenses, and traffic laws based on scientifically developed evidence including the eliciting of voluntary compliance, all warrant careful study.

The coordination of organizations capable of recognizing the problems and of investigating them systematically is urgently required. Moreover, such coordination must encourage the development of research teams that can stay together for continuity over years. The lack of such continuity limits the ability to interest high-caliber scientists to engage in this type of research.

It is not enough to permit the agencies faced with the problems to try to solve them empirically from their limited and often biased points of view. It is not enough to permit scientists with little knowledge of the complex "real world" of the subjects they are studying to try to solve them in their laboratories independently. These must be a central agency capable of supporting those organizations capable of producing valid information and that can bring this information to the attention of those who can translate it into action programs useful on the firing line of traffic policing.

We are in the process of developing an undergraduate course in this very area in the face of a real dearth of research information.

There are vast untouched factfinding resources ready to tackle these problems in private and university organizations. Intelligent direction by a coordinating organization could focus the accumulated information on the problems by acting as a clearinghouse and disseminating agency. The Department of Police Administration at Indiana University has a definite interest in such information as part of the body of scientific evidence teachable in a logical way to present to future police officials.

For these reasons, as well as our interest as American citizens in our national welfare, we are most enthusiastic over the possibility of the establishment of a national accident prevention research center.

As longtime members of police agencies and now as members of an academic institution, we recognize the need of one for the other. There must be liaison between them and an agency such as the one proposed could effectively be just that.

The CHAIRMAN. Our next witness is Mr. J. Austin Latimer, counsel for the Automotive Service Industry Association.

We will be glad to hear you now.

STATEMENT OF J. AUSTIN LATIMER, COUNSEL, AUTOMOTIVE SERVICE INDUSTRY ASSOCIATION

Mr. LATIMER. Mr. Chairman, gentlemen of the committee, thank you for the opportunity to appear. My name is J. Austin Latimer and I am a practicing lawyer in the city of Washington, and have been for the last 20 years. I appear here today as counsel for the Automotive Service Industry Association.

This statement is made on behalf of the Automotive Service Industry Association, located at 168 North Michigan Avenue, Chicago, Ill. ASIA, as it is known, is a nonprofit trade association serving manufacturers, wholesalers, warehouse distributors, and rebuilders of automotive parts, equipment, tools, supplies, accessories, chemical and refinishing materials, with membership affiliations of over 10,000 firms, representing nearly a half million people, employed in the automotive aftermarket.

Obviously, as an association in the automotive service field, we have both an individual's interest and stake in highway safety, as well as a professional concern. Our thousands of firms and members and their families make up a great segment of the motoring public. Our association's safety slogan has long been "Highway Safety Is Our Business."

It is our segment of the automotive business which, since the early days of the auto industry, has contributed so much to highway safety by making available through the years products which have become standard equipment on today's motor vehicles—items such as the windshield, the headlight, taillight, direction signals, horns, windshield wipers, and so on. Like Marconi and his radio, certain circles scoffed at some of these items and action was deferred for years, before they were accepted.

We have a long history of interest in legislation pertinent to the motor vehicle and its appurtenances. That explains our interest in appearing at this hearing on H.R. 133, because it may well affect the research necessary, the coordination desirable, and the stimulation long overdue to cut the needless slaughter on our highways.

As you know there are many groups active in safety work, with a long line of "credits" to whom they contribute or with whom they cooperate, as well as studies they have made of the many facets of automotive safety. We are not devoting ourselves to driver education, although we favor it; we are not working actively for improvements in the vehicle registration methods nor highway engineering, although we admit changes may be desirable. We are not developing counter-agents for the drunken driver problem, much as we oppose it and many other accident problems. We are devoting ourselves to a concentrated effort to foster State regulated periodic motor vehicle inspection, because motor vehicle maintenance and the inherent safety values therein, is something we know about.

Slightly over 37 million motor vehicles, 3 to 9 years old were on our highways at the end of 1960, compared with 29.7 million 5 years

earlier. Today's automobiles are soundly engineered and sturdily built, but as with any machine, wear and constant use inevitably take their toll in safety and efficiency.

The mechanically unsafe car has always been a contributing cause to highway accidents and it will grow in that role as the vehicle registration increases through the years ahead. Among the 18 States and the District of Columbia which already have periodic motor vehicle inspection, studies have revealed as high as 55 percent of the vehicles inspected are unsafe because one or more parts affecting safe-driving conditions required immediate attention.

The U.S. Commerce Department's Bureau of Public Roads suggests that vehicle condition plays a more important part in accidents than has been believed. We know that in the reporting procedure of traffic accidents, unsafe vehicle conditions have not been given proper recognition as a contributory cause of traffic accidents. There are a number of reasons for this, including:

- (1) Vehicles are often damaged beyond the point of determining their true condition at the time of accident;
- (2) Accident investigations tend to concentrate on the driver and driving conditions;
- (3) Many investigators are not trained to recognize evidence of unsafe vehicle conditions;
- (4) Accident reporting procedures in different States are not uniform;
- (5) Drivers are reluctant to admit maintenance neglect, fearing assertion of contributory negligence in civil law suits;
- (6) Vehicles are often defective because of the lack of proper inspection.

The expansion and improvement of our highway system is increasing; the number of motor vehicles on the highways is increasing, more and more people are driving more frequently and longer distances. The problem of highway safety is growing and destined to grow for years.

There will be additional burdens placed on the many fine organizations in the field of safety. The time, effort, and moneys they will need to continue and to expand their efforts will become more and more burdensome.

For that reason the establishment of a central clearinghouse under Federal Government auspices, to coordinate all the manifold aspects of probing the causes of highway accidents and their prevention, could be beneficial.

It would be easy to say to this committee that any action taken by any group, be it private, municipal, State, or Federal Government, designed to prevent traffic accidents and thereby save lives, prevent injuries to persons and to property would thus save the taxpayer a staggering burden, and so is to be commended.

However, we urge strongly upon this committee that the members consider the possibility of duplication by the proposed National Accident Prevention Center of activities already being performed and responsibilities assumed by such organizations. We heartily oppose unnecessary duplication, and waste of taxpayers' moneys.

In the field of proper periodic motor vehicle inspection legislation the research studies to implement it, there is much room for help with little danger on overlap of responsibility or activity.

Many Federal agencies and officers have already become aware of the problem of inspection and have endorsed the principle of periodic motor vehicle inspection. Among them are Secretary A. Ribicoff (HEW), and President Kennedy's own Safety Committee, headed by William Randolph Hearst, Jr.

Knowing that this committee's purpose is to construct legislation in the public interest, and knowing that since 1900 we have killed well over 1,300,000 people on our highways, injured countless millions, and that unless something is done about it 700,000 of our friends, neighbors, relatives, and business associates, will meet death on the highways by 1975, we respectfully urge the committee to consider the effect of any legislation in the safety field on the needs of the Nation for periodic motor vehicle inspection. It is a herculean task and we do not wish to demean any of the fine private and State or Federal organizations which have worked long and hard in this field. We do know that the goal of effective periodic motor vehicle inspection is yet a long way off and that it is, strictly speaking, vital for many Americans living and as yet unborn.

The CHAIRMAN. Thank you, Mr. Latimer. I appreciate your appearance and your statement. I believe that you are the first witness to testify on the matter of periodic motor vehicle inspection.

I am sure that you would agree with the chairman that this is primarily a State matter, with which the chairman agrees. However, do you not feel that in this accident prevention center work, that many of the same goals which your organization would like to reach could well be stimulated and aided by the creation of this, in the Public Health Service?

I believe that many of the findings and results of the research work would be found in this work, would make a strong argument for not only periodic motor vehicle inspection, but also for inspection of the drivers, as well.

Again I want to thank you for your statement.

Mr. Nelsen.

Mr. NELSEN. Mr. Chairman, I wish to thank the gentleman for his statement. I wish particularly to refer to page 4, where you pointed out the possibility of duplication, and suggested that we should proceed carefully to examine the possibilities of duplication.

In our hearings on the educational bill, we found, I think, that there were some 60 different agencies involved in educational work in the programs we presently have. And at the present time I think there is an effort being made to find out just what we are doing and what duplication there is.

In this particular field, I commend you for your observations, because the thing that I want to be sure of is that we are not doing a lot of the same things in different areas, and possibly by proper organization and attention, we can do the job without additional expense of any consequence, and probably do a better job, as the chairman pointed out.

The intention is to gather all of the information possible.

I want to thank you for your statement, because I do think that the preventing of accidents on the highways can be helped, because many of them are because some automobiles are in such mechanical condition that they are not properly controllable, and that they cause many of our accidents.

The CHAIRMAN. Mr. Rogers of Florida.

Mr. ROGERS of Florida. Mr. Latimer, I was impressed with the fact that the programs you are carrying on in trying to bring about a regulated periodic motor vehicle inspection is a worthy one. I believe that you said that you are pretty much concentrated on this program now.

Do you have a research work going on?

Mr. LATIMER. Yes. I am not conversant with the exact details of it. I know that there is considerable research going on in connection with our association. We are a national trade association with a membership composed of wholesalers, distributors, manufacturers in the field. A great deal of research is going on.

Mr. ROGERS of Florida. How much of your budget would you say is devoted to research?

Mr. LATIMER. I will be very happy to furnish that information, Mr. Chairman. I do not have it with me. Our headquarters are in Chicago. That would be there, and not here.

I represent them almost entirely in a legal and legislative capacity.

Mr. ROGERS of Florida. If you can furnish that to the committee, I think that would be very helpful, and give us perhaps a little run-down on some of the research you are doing in this field, so that the committee might be aware of it.

Mr. LATIMER. I will be very happy to do that.

(The information was not furnished for the record.)

Mr. ROGERS of Florida. I wondered what you had particularly in mind when you mentioned duplication?

Mr. LATIMER. Well, I think that Congressman Nelsen touched on it about as well as I could by simply saying this—and this is from myself, personally; it is not from the association—I think there is a tendency too often for the individual and every citizen, whether he is an automobile driver or not, is a taxpayer—there is a tendency too often for the individual citizen not to realize that every tax dollar spent, whether it is local, State, or Federal, that a proportion of that is going to come out of his pocket; and therefore, I think that there is a constant need for everyone to emphasize the importance of not overlapping, because overlapping, featherbedding, or whatever you want to call it, usually results in unnecessary expenditures.

I am not prepared to say, and I did not imply, that there was anything necessarily in H.R. 133 that would cause overlapping, but I think what we were trying to do was to point out the need of constantly watching for that type of thing.

Mr. ROGERS of Florida. I would certainly agree with that. We would not want to spend money doing the same thing more than once.

I wondered if you had any specific item in mind when you made this point?

Mr. LATIMER. I have no specific item in mind.

Mr. ROGERS of Florida. It is just a general statement?

Mr. LATIMER. A general statement. And if we have any specific item in mind, we will attach that to the other information.

Mr. ROGERS of Florida. That will be very helpful, because certainly we would not want to get any duplication. Of course, it is my thought that this is the purpose of the bill, to try to prevent duplication, even in governmental departments, to get in an orderly program and to get all of the information available.

The State university centers would have more knowledgeable information on what is going on, so that if one State is doing research in a particular field, it would not be necessary for this State No. 2 to take up exactly the same research.

So I think the purpose you bring out is probably one of the main items of the bill. I agree with you. We want to do away with duplication, so far as we can.

Thank you.

The CHAIRMAN. Thank you, Mr. Latimer.

Mr. LATIMER. Thank you, Mr. Chairman, and gentlemen of the committee.

The CHAIRMAN. I would like now to call Mr. Moore to present a statement.

Mr. Moore has been of great help to the committee on many occasions. I think one of the first trips the subcommittee made was to the automotive trade research project at Cornell University. Mr. Moore was in charge at that time.

It will be a pleasure for us if Mr. Moore will come around and make a statement to the committee.

Mr. ROGERS of Florida. May I add a remark to that which the chairman has made about Mr. Moore and his fine work.

I remember very well your research at Cornell University. The information received from you was most helpful to this committee.

I want to say that I am sorry I have to leave, but I will read your statement in the record.

STATEMENT OF JOHN O. MOORE

Mr. MOORE. Mr. Chairman and gentlemen of the committee: I am the former director of the Cushing Research at Cornell University, consultant on cockpit design, chief of the crash research of the U.S. Air Force, director of the flight safety research, and I now earn my living as a consultant in the safety field.

I have been privileged by education and by a sense of obligation to concern myself with a very important national problem. I do not propose to talk this thing to death.

I believe the predecessor witnesses of this committee have amply stated the magnitude of this problem on a national level. There can be no controversy or argument about it.

We are engaged in a struggle for survival, and that struggle is going to be primarily solved by the resources we have and the primary resource we enjoy in this country consists of human beings.

We are now in our complex system of mechanization treating this resource. We now thoroughly recognize that this is a national medical problem. We have no place to go, and we have no place to belong.

When I described myself as a former researcher, I am telling the literal truth.

We need to observe that there are three ways that we know to solve problems, and this testimony was given before this committee when we discussed research needs in just one aspect of this overall problem that is being considered by this bill.

We solve problems by finding facts. We analyze those facts, and we utilize that information. And if in this particularly complex field dealing with man and a mechanized environment we do not have

a national agency to do this, it is my personal, deep and abiding conviction that we should have done so many years ago—but that we did not do so years ago is no reason for not doing it today.

I would give you my personal endorsement based on many years of active research and dedication to the way of living in which I hope to raise all of my own that this is necessary. It borders on national disgrace that we do not have such a facility.

I would, in view of my personal bias, encourage the extension of the terminology of the bill to include accidents and injury prevention, because we in the medical field—and I use the term “we” in the medical field rather liberally, because I am not a physician, although my education has been there and my work has been there—we in the medical field many times find it expeditious to control the results of these events before we can find the causes, but this should never prevent us from looking for the final cause.

We have heard some of the most unusually well-qualified, dedicated people I have ever been privileged to be associated with, appear before this committee the last few days. We may have some disagreement as to the mechanisms by which we go about this task, but I believe that it must be undertaken and the techniques which Colonel Stapp described this morning, and the data which I was privileged to work on for the Air Force for many years, are now being applied to other segments of our problems.

We are dealing with problems that are on the order of magnitude that warrants continuity, to get to a place so that you will not deal with tired and discouraged people like me.

I do not intend that I shall leave this field.

I feel gravely responsible for a great many young men whom I tried to train in this field who have become discouraged and have left it. I know that there is no problem that man's mind can conceive of that cannot be solved, but he needs to be fed and he needs to be clothed and he needs to have some professional dignity.

There are many skillful people who would devote their time to this national problem if there existed a center of continuity, which is not in existence at any place today.

I thank you, sir, for indulging yourselves by letting me appear.

I apologize for my vocal presentation. It may be I have worn my voice out crying in the wilderness. I do not think so. I think that this is the end of the wilderness and that the passage of this particular piece of legislation could no more to encourage and strengthen our activities in this field, to conserve our most important national commodity, human beings.

Mr. ROBERTS. Thank you, Mr. Moore. We appreciate your statement.

Mr. MOORE. Thank you, Mr. Chairman.

Mr. ROBERTS. I have a statement here from Mr. John H. Venable, director of the State of Georgia Department of Public Health, which I shall read:

DEAR CONGRESSMAN ROBERTS: I am writing in support of H.R. 133, which provides, among other things, for the establishment of a national accident prevention center.

We in public health have been concerned for some time about the morbidity and mortality arising from accidents which should be preventable. However, too little is known about the effectiveness of our present procedures, even though

many of these could be effectively evaluated within a short time at relatively low cost.

We would, therefore, appreciate whatever support you may be able to give this bill in an effort to curb this unnecessary group of illnesses and deaths.

Mr. ROBERTS. The Chair would like to announce that at the proper time, notice will be given as to future hearings.

The Chair hopes to have representatives of other departments of Government affected by this legislation to appear, to give us some statement as to what accident prevention activities they are now engaged in, and other pertinent data.

The Chair will at this time state that the subcommittee will stand in recess until a date to be announced.

We would like, before concluding, to thank all of you, especially those of you who have helped us make a fine record of these hearings.

We thank all of you. I know that some of you have come from long distances and at personal sacrifice. The members of this committee appreciate that and thank you. I hope to see you on another occasion.

(Whereupon, at 3:10 p.m., the subcommittee adjourned.)

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TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

TUESDAY, FEBRUARY 20, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

The CHAIRMAN. The Subcommittee on Health and Safety is meeting this morning to continue hearings on H.R. 133, to establish a national accident prevention center.

We have heard a number of public witnesses urge the need for an expanded Federal safety research program.

Some of the Government agencies; however, did not share the enthusiasm expressed by these witnesses.

The Department of Commerce was one of the Federal agencies making an adverse report on this bill. In a letter to the committee, the Department said:

Since legislation was first proposed to establish a national accident prevention center within the Public Health Service, the need for such a center, insofar as traffic accident prevention is concerned, has been met by the establishment of the Interdepartmental Highway Safety Board and the Office of Highway Safety.

The subcommittee is interested in having a detailed report on how the need has been met and what these two organizations have done and are doing. To give us this information, we have with us this morning Mr. D. Grant Mickle, Deputy Federal Highway Administrator, Bureau of Roads, Department of Commerce, who is accompanied by Mr. Charles Prisk, of the Bureau of Roads staff.

STATEMENT OF D. GRANT MICKLE, DEPUTY FEDERAL HIGHWAY ADMINISTRATOR, DEPARTMENT OF COMMERCE; ACCOMPANIED BY CHARLES PRISK, BUREAU OF PUBLIC ROADS

Mr. MICKLE. Mr. Chairman and members of the subcommittee, I am D. Grant Mickle, Deputy Federal Highway Administrator, Bureau of Public Roads, U.S. Department of Commerce. This, Mr. Chairman, is my first appearance before you and I welcome the opportunity.

I am here to present some of our views on highway safety and specifically on H.R. 133, the bill to establish a national accident prevention center in the Public Health Service. My remarks are de-

signed to amplify the views previously expressed by the Department on this bill in a letter of February 6, 1962, from Acting Secretary Edward Gudeman to the Honorable Oren Harris, chairman of the House Committee on Interstate and Foreign Commerce. My statement will also cover the questions you have since raised concerning the Department's position on highway safety, the important field to which your committee has made significant contributions during recent years.

The central objective of the Bureau of Public Roads is to administer the Federal highway program in such a way that safe and efficient highway transportation service will be the result. With wisdom and foresight, the Congress has consistently passed legislation that has held us to this objective for nearly 50 years.

As a result, highway safety always has been of great concern in many of our activities. Current problems in operation of streets and highways rival the highway improvement program in importance and are closely related to the planning of future highways. Evidence of this concern is found in the Bureau's research into highway safety, which has been increasingly directed toward this area. The special emphasis you have been giving to this and other aspects of highway safety with which the Bureau is engaged is a notable public service.

Now, with respect to your first question, the highway safety research presently underway in the Bureau of Public Roads is largely oriented to highway design and traffic control, but related considerations of vehicle characteristics and performance and human factors are an important element. One significant study currently under contract and nearing completion is a comprehensive library-type research project that will bring together in concise form published as well as unpublished findings of projects that relate traffic accidents to highway and roadside features, signs, signals, markings, and similar elements of highway improvement.

From a systematic research undertaking of this nature, must useful knowledge will be made more generally available, but, what seems a great deal more important, we shall be able to identify more readily the deficiencies in present knowledge, and thus more intelligently plan future research.

The highway safety research conducted by the Bureau of Public Roads does not normally involve part-time employment of consultants. Safety research is performed by contract with private research firms, universities, foundations, and others, and cooperatively with State highway departments, and through them with State motor vehicle, police, and public health departments. For special research investigations such as those that are probing the practicality of automatic highways and others experimenting with closed circuit television for safer and more orderly management of traffic on expressways, our research projects often employ highly skilled industrial specialists.

In independent research, the Bureau naturally has direct supervision and control, but in other cases provides only the technical advice and assistance needed to assure a successful research effort.

Your second question relates to our accomplishments in safety research in the last 2 or 3 years. A major project accomplishment was the 1959 report on "The Federal Role in Highway Safety," nearly 5,000 copies of which have been sold by the U.S. Superintendent of

Documents. This report contains the findings of a number of significant safety researches conducted by the Bureau of Public Roads in response to a congressional directive, as well as results of other safety research underway in our normal program.

A national conference on driving simulation to explore the values for research of simulation techniques was jointly arranged by the Bureau of Public Roads, the Public Health Service, and the Automotive Safety Foundation about 1 year ago. We are following the developments in this area closely through an interdisciplinary committee of the Highway Research Board.

Another accomplishment, the culmination of many years of research, is represented by the "1961 Manual on Uniform Traffic Control Devices," which sets the national standards for street and highway signs, signals, markings, and other devices necessary to the safe management of traffic. While this does not represent the effort of the Bureau of Public Roads research alone, the committee leadership and staff works was almost wholly within the Bureau and a very substantial research contribution was made. The major research for a somewhat similar manual developed and just now being reprinted in its second edition for the Interstate System was based on research independently conducted by the Bureau of Public Roads.

Up until recently we have had very few professional employees devoting their entire time to highway safety, but there have been approximately 30 engineers, several psychologists, and other supporting personnel who are employed by Public Roads on projects where safety is a major objective. The best estimate that can be made of our annual expenditure on highway safety in recent years is \$1.75 million, and research expenditures have been approximately one-half that amount.

Your third question relates to our plans for the next fiscal year. Less than 2 months ago, a major reorganization occurred in the Bureau of Public Roads, and for the first time an Office of Highway Safety was established as a principal part of the Bureau structure.

This new Office brings together components of the Offices of Research, Administration, and the Bureau personnel assigned to the President's Committee for Traffic Safety. In the coming year, we shall be giving more emphasis to the identification, conduct, and application of highway safety research, to the gradual centralizing in the Office of Highway Safety of appropriate functions previously dispersed in other offices of the Bureau, to the development and promotion of standards conducive to increased safety, and to a combined effort with other Federal agencies to use official programs and resources more intensively and systematically for the advancement of highway safety.

The Interdepartmental Highway Safety Board, mentioned in your fourth question, was created by Executive order during the previous administration. Early in 1961, plans were initiated for reorganization of the Bureau of Public Roads, and from the outset it was contemplated that the central staff for the interdepartmental board would be located in the proposed Office of Highway Safety.

Approval of the reorganization was not given until December 6, 1961. Since that date the Office of Highway Safety has been formally established and plans are going ahead now for a meeting of the Board in the very near future.

The Office of Highway Safety is just being organized but is already leading an important program for the Bureau in the nationwide promotion of the new "Manual on Uniform Traffic Control Devices." A series of 13 regional conferences has been organized with the American Municipal Association, the National Association of County Officials, and the American Association of State Highway Officials, in cooperation with other organizations having major interests in safety.

In addition, the Driver Register Service activity, which is now a part of the new Office of Highway Safety, is increasing its services to the State motor vehicle departments by assisting them with advice on driver license records and procedures. I am sure you have a particular interest in this function of the Office of Highway Safety because the activity is a result of legislation recommended by your committee.

Nearly all States are participating and the number of requests from the States for searches of the Register is increasing steadily, which suggests something of the future for this function. Consideration is being given to useful research that will be possible as the records available attain a sufficient level as to quantity and quality.

The Office of Highway Safety also plans to direct special effort toward a number of high priority areas that have been recently identified by the President's Committee for Traffic Safety. Perhaps most fundamental among these relates to basic improvement in accident records, starting with the kind of reporting the routing of information and findings, accident analysis, and the multitude of useful applications that are valuable to achieving safer highway transportation.

We look forward in this new Office to widening our contacts with all officials, nonofficial groups, the automotive industry, and others with legitimate interest in accident reduction. The growing volume of mail on highway safety matters now reaching Public Roads is an indication of the breadth of public concern that exists in this important problem. It would hardly benefit our public responsibility in the area of Federal highway administration to neglect to study, and wherever possible, to work to reduce the hazards that arise in the use of highways.

In question 6, there is reference to possible interference between the National Accident Prevention Center proposed in H.R. 133 and the Interdepartmental Highway Safety Board. A recent report of the Department of Health, Education, and Welfare on H.R. 133 addressed to Chairman Harris alluded to their concern over the "possible issue of duplication of authority and responsibility of other Federal agencies."

We are quite ready to agree that research into highway safety can be and is highly productive when pursued from disciplines other than engineering. It is our sincere feeling that greater success than we have yet realized in the solution of the traffic accident problem is most likely to result from a better joining of the competence available in the physical, social, and medical sciences. This is the root of our belief that an interdepartmental effort would be desirable.

In response to question No. 7, the highway safety research program of the Bureau of Public Roads is coordinated with the work of others through liberal participation in the highway safety efforts of many official and nonofficial organizations. We are assisted greatly by meet-

ings with and advice of technical committees of the Highway Research Board, the Institute of Traffic Engineers, the American Public Works Association, the National Safety Council, the American Bar Association, the American Association of State Highway Officials, the Society of Automotive Engineers, the American Psychological Association, the National Committee on Uniform Traffic Laws and Ordinances, and other similar organizations.

In addition, the Bureau of Public Roads has, since 1957, had a member on the Accident Prevention Study Section for the review of grant applications on highway safety research projects of the National Institutes of Health.

Sources of research information available to us include our highway transportation library, widely acknowledged as the finest in the world, the summary materials available in the Accident Prevention Division of the Public Health Service, the reports of the National Safety Council's Research Correlation Service which, incidentally, is supported in part by Public Roads funds, the excellent publications, bibliographies, and other references of the Highway Research Board, the Society of Automotive Engineers, and similar professional organizations both in the United States and overseas.

The Bureau of Public Roads has been represented in several recent international conferences dealing with the development of improved scientific approaches to highway safety, and we find that the need for fully adequate communication among safety research personnel is a pressing one.

With regard to your ninth question, I believe that wasteful duplication of research can only be fully avoided by a closer tie of communication among those concerned. This purpose will be one of those served by a joint staff named by the departments and agencies comprising the Safety Board. One of the defects noted in our 1959 study of highway safety activities in the Federal Government was the near lack of communication among Federal officials with highway safety responsibilities. The joint staff serving the Board will be a device for exchange of research information and plans, which should forestall the very real difficulty you foresee.

Your final question asks whether we are satisfied with the present situation as to the availability of information on safety research. We are not. However, through our Office of Highway Safety, through the Interdepartmental Highway Safety Board, through an expanded effort in the National Safety Council's Research Correlation Service, a good start can be made to overcome this fault. Because of the diverse, sophisticated nature of modern methods for improving highway safety, we believe that every feasible avenue should be pursued to bring new knowledge to the large audience concerned with its best application.

As previously noted, Secretary Ribicoff in his letter to the committee recognizes an area of possible duplication of efforts. The Secretary states that the legislation should clearly provide that the responsibilities assigned to the Public Health Service do not supersede or repeal the authorities of other Federal agencies for accident prevention activities within their own areas of responsibility.

The bill as it is presently written does not, we feel certain, make this clear. As indicated in the report of the Department of Health,

Education, and Welfare, we have a mutual concern in this area—which, as I have already stated, is one in which Federal agencies could work together to considerable advantage.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Mickle. How long have you been with the Department?

Mr. MICKLE. I joined the Bureau of Public Roads on November 1, 1961.

The CHAIRMAN. And how long have you been in the field of highway accident research?

Mr. MICKLE. I was with the Automotive Safety Foundation since June 15, 1943; about 18 years, sir.

The CHAIRMAN. In the reply contained in your statement you make the statement that you feel that the need for the Accident Prevention Center has been met by the establishment of the Interdepartmental Highway Safety Board, or substantially to that effect. I am trying to find your statement now. I want to be correct in reading it back to you.

No; it is in the letter from the Department. Do you have that before you, the letter addressed to the chairman of this committee, Mr. Harris?

Mr. MICKLE. Yes, sir.

The CHAIRMAN. You say, and I quote:

Since legislation was first proposed to establish a National Accident Prevention Center within the Public Health Service the need for such Center as far as traffic accident prevention is concerned has been met by the establishment of the Interdepartmental Highway Safety Board and the Office of Highway Safety.

In what ways do you think the establishment of that Highway Safety Board and the Office of Highway Safety meets the problem that the Center would be directing its attention to?

Mr. MICKLE. We believe that the Interdepartmental Highway Safety Board can serve as a very effective coordinating agency among all Federal groups involved in highway safety. It will provide an opportunity for all Federal programs to be brought together under one coordinating body and will provide an opportunity for interchange of information for the determination of research needs and then assigning the actual research work to the appropriate department of Government that can best handle that area of research.

The CHAIRMAN. Has this Board held a meeting?

Mr. MICKLE. No; it has not.

The CHAIRMAN. When do you think it will meet?

Mr. MICKLE. As I said in my statement, Mr. Chairman, the Office of Highway Safety was just approved in the Bureau of Public Roads on December 6 and it is the intent that the Office of Highway Safety will serve as the staffing for the Interdepartmental Safety Board since the Secretary of Commerce is the chairman, and it is hoped that we can have a meeting of that Board very, very soon.

I cannot give you a precise date, but it is planned to have one very soon, within the next few weeks.

The CHAIRMAN. Will this Board be concerned with the medical and clinical research and the causes of accidents?

Mr. MICKLE. Insofar as the Board will have on it representatives of the Department of Health, Education, and Welfare; yes, sir.

The CHAIRMAN. Is the Department to be represented by medical and clinical people?

Mr. MICKLE. The Board has on it the representatives of all the Federal agencies that have an interest in highway safety, and that area that you are discussing would be represented by the Health, Education, and Welfare people who would be on the Board.

The CHAIRMAN. Do you agree that there is a need for research in the field of the causes of accidents?

Mr. MICKLE. I am sorry, sir, would you repeat the question?

The CHAIRMAN. Do you agree that there is a need from a medical and clinical standpoint for research into the causes of accidents?

Mr. MICKLE. Yes, indeed.

The CHAIRMAN. How could you possibly say that this need has been met by the establishment of a Board which has never even held a meeting?

Mr. MICKLE. I think in response to that point that we would assume that research in the area that you have mentioned would continue to be carried on by the appropriate Federal agency, which in this case I suppose would be the Health, Education, and Welfare people.

The CHAIRMAN. Do you not think it would be a little bit nearer correct to say that the need may be met, instead of saying "has been met?" The Secretary is Chairman, you say, of the Board but he has been in office over a year now and not even a meeting has been held of this so-called Board.

Mr. MICKLE. Yes, sir; I would accept that.

The CHAIRMAN. Would you accept that correction, that it may possibly somewhere out in the future be met by the formation of this Board?

Mr. MICKLE. I certainly would; yes, sir.

The CHAIRMAN. What are the approaches, or will be the approaches, let us say, since it is not in being, of this particular Board other than what you outline as an exchange of information?

Mr. MICKLE. Mr. Chairman, this work will be carried on under the direction of our Office of Highway Safety, as I have indicated, and with your permission I would like to ask Mr. Prisk to describe that activity to you because he will be the man directly in charge of handling it for the Bureau.

The CHAIRMAN. We would be glad to have that.

Mr. MICKLE. Thank you.

Mr. PRISK. Mr. Chairman, and members of the subcommittee, I would start by saying that this Interdepartmental Highway Safety Board was intended to be fully representative of all of the interests of the Federal Government in the highway safety problem.

The actual members of the Board are high-level officials in each of the departments, and in addition to those persons there is provision for organization of a staff of persons technically competent representing each of the agencies also on the subject of concern to that agency insofar as highway safety is involved.

The program of the Board, of course, I think would properly rest as one for determination precisely by the Board, as was suggested in the statement; but I would say that initially we would like to see what each of the agencies is concerned with in the highway safety field at the present time, attempt to find out where there are areas of mutual

interest, where there are deficiencies in the present program and activity at the Federal agency level, and then attempt to work through this technical staff and later the policy level and make recommendations which would be appropriate for meeting these deficiencies.

This would take account certainly of research needs, which I think is one of the very natural acts and ways in which the Federal Government can be of assistance.

The CHAIRMAN. Mr. Prisk, would not most of the approaches of such a Board be along the lines of statistical and applied research?

Mr. PRISK. I think they need not be. It would be my hope that full capabilities of any of the Departments could be applied. This, in some cases, would involve, certainly, what we refer to very often as basic research, as well as applied research. I think we would perhaps be doing a disservice to the field, however, to say that most of the problems in the highway safety field are of an applied nature. I mean the problems are there. They await the need for solution.

The CHAIRMAN. Would you not be concerned primarily with the work of the Interstate System of Defense Highways as to safety control, and control of traffic signs and signals, the proper type of engineering, and some automatic controls? That would be your concern primarily, would it not, the field of interstate highways?

Mr. PRISK. This would be the interest of the Department of Commerce very largely.

The CHAIRMAN. Under the law you would be restricted primarily to the Federal highway system; is that correct?

Mr. PRISK. Yes; but I would point out that this Board is not a Commerce board. This is an interagency board.

The CHAIRMAN. I recognize that. I am talking about the aspects of the Commerce jurisdiction.

Mr. PRISK. Yes; you are right.

Mr. SCHENCK. Mr. Chairman, will you yield for a question there?

The CHAIRMAN. Let me finish this line of questioning.

Mr. SCHENCK. I am just wondering if you meant to limit your questions to the 90-10 highways?

The CHAIRMAN. Of course anything to which the Federal Government contributes.

Mr. PRISK. Federal-aid highways?

The CHAIRMAN. Federal-aid highways. Going back to my question on the Interstate System, how many thousand miles of highways would we be talking about actually? Some 41,000 miles?

Mr. PRISK. 41,000.

The CHAIRMAN. From your knowledge of the number of miles comprising our municipal, county, primary, secondary, and Interstate System, how many million miles of roads, streets, and highways would we be talking about on which vehicles move?

Mr. PRISK. Of course our total road network is about 3½ million miles, and this is what you speak of. The Federal-aid systems are concerned with about 780,000, I believe it is, of highways throughout the country, but there are very important carryover effects from these more important highways to other highways, both in urban areas and in rural areas.

The CHAIRMAN. And to go back to the original statement of 41,000 miles, when do we hope to complete that system?

Mr. PRISK. By 1973.

The CHAIRMAN. 1973. And even when completed it will be a mere fraction of the total of 3,699,000 miles of roads, streets, and highways actually on which this problem is present; is that correct?

Mr. PRISK. A fraction, but a most important fraction if considered in terms of the service that is provided, because this system, even though it is only a little more than 1 percent of our total mileage, will carry 20 percent of the total traffic.

The CHAIRMAN. Twenty or more percent.

Mr. PRISK. Of the total highway travel in the Nation.

The CHAIRMAN. Actually is not true from your study of the highway safety problem that perhaps a larger percentage of our deaths and accidents occur on roads over which the Department of Commerce would have very little, if any control?

Mr. PRISK. Well, you have limited the discussion to the Interstate System, and in addition to the 41,000 miles there are many, many miles of highways over which the Department of Commerce does have some control and so this 20 percent of total travel and the 1½ percent of the actual highway mileage that I speak of represents only a fraction of the total concern that the Department of Commerce would have in the highway situation.

The CHAIRMAN. Do you have any projected figures as to how much the death and accident toll might be reduced by the completion of the Federal system?

Mr. PRISK. Yes, sir. We have made a recent estimate that completion of the Interstate System will result in a saving of 5,200 lives annually by the year 1973.

The CHAIRMAN. And upon what do you base that estimate, with the knowledge that we are increasing the thousands of drivers every year and increasing the number of vehicles every year? That could very well explode that estimate, could it not?

Mr. PRISK. These factors you mention have been taken into consideration. The estimate of future travel has been projected from studies in the Bureau of Public Roads and has been used for calculation of these estimates. I might say that the saving of these 5,200 lives is an extremely conservative figure viewed against those of the National Safety Council, which are somewhat higher, and those that have recently been released by a prominent consultant who estimated that in excess of 9,000 lives would be saved by this same means.

The CHAIRMAN. Do you have that study that could be supplied the committee?

Mr. MICKLE. Do you mean the consultant's report, Mr. Chairman?

The CHAIRMAN. Yes.

Mr. MICKLE. I think a copy of that could be obtained for the record if you would like to have it.

The CHAIRMAN. I think that the committee would like to have that included for study by the subcommittee.

Mr. MICKLE. I might point out it was not made for the Government, so, therefore, we will have to see if we can obtain a copy for you, but we will make every effort to.

(The report referred to above follows:)

Anticipated benefits in 1980 of completed interstate system¹

Item	Location		Total
	Urban	Rural	
Miles of annual travel on interstate system (billions).....	188.0	107.5	295.5
Operating cost savings (billion dollars).....	\$4	\$1.1	\$5.1
Time cost savings (billion dollars).....	\$5.5	\$1.1	\$6.6
Total savings (billion dollars).....	\$9.5	\$2.2	\$11.7
Hours saved (billions).....	3.4	.6	4
Lives saved.....	3,760	5,805	9,565

¹ Source: Calculated from 1980 travel detailed in app. A, with Interstate System completed.

The CHAIRMAN. One more question before I leave that field. Do you have any idea whether this Board or the Office of Highway Safety which is being set up in the Department of Commerce has any plans for basic medical or clinical research into the causes of accidents?

Mr. MICKLE. Our own Highway Safety Office?

The CHAIRMAN. Yes.

Mr. MICKLE. None directly, no, I think not, none directly. This would be an area outside of the Bureau of Public Roads.

The CHAIRMAN. Recently in a hearing before this committee we had a statement by Dr. Robert J. Schreiber, executive director of research, Public Service Research, Stanford, Conn., on February 8, who said that one of our problems is a shortage of research workers and one reason we do not have more people doing research is that there are no clear opportunities in accident research. He said that the establishment of a National Accident Research Center would provide such career opportunity, thus stimulating and promoting research.

How would the program you propose meet this problem of providing career opportunities?

Mr. MICKLE. The Interdepartmental Highway Safety Board, as I have previously stated, is intended to bring about coordination among the Federal agencies interested in highway safety and any one of the agencies that is engaged in safety research presumably would provide opportunities for these research workers. That would include the Bureau of Public Roads, the Department of Health, Education, and Welfare, and other agencies of the Government.

The CHAIRMAN. Are you training any research workers now?

Mr. MICKLE. We are recruiting additional people in the Office of Highway Safety and are continuously putting on training programs for all of our personnel in all of the fields of the Bureau's activity.

The CHAIRMAN. However, are these people accident research workers?

Mr. MICKLE. We have about 30, I believe.

Mr. PRISK. These are the ones currently.

The CHAIRMAN. About 30 that are on now?

Mr. MICKLE. Yes, sir.

The CHAIRMAN. Could you supply us a list of those workers with their duties and salaries?

Mr. MICKLE. Yes, sir.

(The list referred to above follows:)

*Technical personnel engaged partime in highway safety research,
as of Jan. 31, 1962*

Name and title:	Salary
C. M. Billingsley, transportation economist.....	\$10,635
Daniel F. Bridges, research psychologist.....	5,355
Stanley R. Byington, highway research engineer.....	8,955
Arthur A. Carter, Jr., highway research engineer.....	11,155
Hary D. Cashell, Chief of Concrete Branch.....	12,210
Paul J. Claffey, highway research engineer.....	11,155
Edwin M. Cope, economist.....	13,250
Lee W. Cozan, research psychologist.....	9,475
Richard Desrosiers, highway research engineer.....	7,560
William G. Eliot III, supervisory highway research engineer.....	11,935
Richard C. Hopkins, electrical engineer.....	11,935
Carl F. Izzard, Chief, Hydraulic Research Division.....	15,030
Malcolm F. Kent, transportation economist.....	11,155
David R. Levin, Chief, Highway and Land Administration Division.....	14,380
Nathan Lieder, survey statistician.....	10,635
W.D. McCarthy, transportation economist.....	8,955
Richard M. Michaels, supervisory research psychologist.....	10,895
Olav K. Normann, Deputy Director, Office of Research.....	15,775
F. William Petring, Supervisory highway research engineer.....	11,935
Lawrence D. Powers, highway research engineer.....	8,955
Carl C. Saal, supervisory highway traffic research engineer.....	14,055
C. L. Shufflebarger, highway research engineer.....	11,155
David Solomon, highway traffic research engineer.....	11,155
G. P. St. Clair, supervisory highway research engineer.....	15,030
Burton W. Stephens, research psychologist.....	6,435
Asriel Taragin, Chief, Traffic Performance Branch.....	12,990
Samuel C. Tignor, highway research engineer.....	7,560
Richard A. Tompkins, highway research engineer.....	6,765
George S. Vincent, supervisory bridge engineer.....	13,510
William D. Whitby, highway engineer technician.....	7,560
Robley Winfrey, Chief, Highway Needs and Economy Division.....	15,030

The CHAIRMAN. How many has the Department of Commerce trained?

Mr. PRISK. I think we would have to check for that information. I do not have it available.

The CHAIRMAN. I would like to have that for the record, if we may.

Mr. MICKLE. We will get the information for you.

(The information referred to above follows:)

Of the personnel associated with the highway safety research effort, at least 12 employees have received or are currently receiving training or support for training through the Department of Commerce.

The CHAIRMAN. How many of your people are currently engaged full time in accident prevention research?

Mr. MICKLE. I would like to ask Mr. Prisk again, to answer that, if I may, sir.

Mr. PRISK. I think the best answer I can give to that is that we have essentially no people that are engaged full time on accident prevention research, but that almost from top to bottom in terms of our entire operation, research, and in other areas, there is a doctrine of safety that is being practiced which gives respect to the need for new knowledge and the desirability of applying new knowledge to going programs.

The CHAIRMAN. Where would a scientist interested in accident research go to do research with some expectation of a career in this field? Where would he go in the Federal Government at the present time?

Mr. PRISK. We meet a great many of them. I am sure that this would depend on the interest. There has been, as was mentioned in Mr. Mickle's statement, a close connection between the Bureau of Public Roads and the accident prevention grant program of the National Institutes of Health, and we have seen many persons who have come to that source as a means of support for their research undertaking.

We have similar contacts with research workers in the Bureau of Public Roads and have financed work of particular interest to us through our own funds.

The CHAIRMAN. But none of these people is in the the medical or clinical field?

Mr. MICKLE. None in the Bureau of Public Roads.

The CHAIRMAN. How do you get research results to the Public Health and State people at the present time, or how would it be done under this Interdepartmental Highway Safety Board?

Mr. MICKLE. How do we get information to them, the results of the research?

The CHAIRMAN. The health people and State people who are concerned with this problem at the local level.

Mr. MICKLE. This would be handled by each of the individual government agencies, again pointing out that the Interdepartmental Safety Board is merely a coordinating activity and that the direct work in medical research would continue to be the responsibility of the Institutes of Health. Research in the areas of accidents and their relationship to highway design or traffic control would continue to be the responsibility of the Bureau of Public Roads.

Accident research that might have a bearing in the field of labor, or the field of agriculture, or the Post Office Department would continue to be handled by those individual agencies and the Interdepartmental Safety Board would be largely a coordinating activity and a means of learning what areas of research were being carried on by the various departments and agencies; but the responsibility for research in each of these areas would continue to be the responsibility of the individual agencies.

The CHAIRMAN. Well, would you agree that there is very little coordination among the departments of the Federal Government at the present time?

Mr. MICKLE. Yes, indeed. We so stated. That is what we hope to correct through the Interdepartmental Safety Board.

The CHAIRMAN. Could you give us any idea of how this Interdepartmental Highway Safety Board will be staffed and how many people will be on the staff?

Mr. MICKLE. At the moment the Executive order specifies that the chairman shall be the Secretary of Commerce, and it is our intention that the staffing would become the responsibility then of the Department of Commerce and more precisely the Bureau of Public Roads. May I quote from the Executive order? It states:

Such assistance—
this is staff assistance—

may include detailing employees to the Board, one of whom may serve as executive officer, to perform such functions consistent with the purpose of this order as the Board may assign to them.

That we interpret to mean that as more staffing is required staff personnel could be drawn from the various Government agencies that comprise the Board.

The CHAIRMAN. If they are drawn from the Public Health Service who would take the places of the people who are doing the work in accident research in the Public Health Service?

Mr. MICKLE. I assume that they would detail only a limited number of people to the Board to begin serving in a coordinating capacity, not in a direct action capacity. The direct action, the research activity, normally the function of the Institutes of Health and the Department of Health, Education, and Welfare, would continue to be in that agency, such as research and highway work would continue to be in the Bureau of Public Roads.

I do not think this is a substitute for the activity of the various departments. That is what I am trying to say, I think.

The CHAIRMAN. Last April, when we had the Department up here, the Bureau submitted for the record a list of eight automobile highway safety investigations being conducted by the Office of Research, Bureau of Public Roads, and this is to be found on page 263 of the hearings.

As I understand it, the Bureau was conducting these investigations with its own personnel, or has it farmed them out under contract?

Mr. MICKLE. This, of course, was testimony presented when I was not with the Bureau and again I would like permission to ask Mr. Prisk to answer the question, if I may.

The CHAIRMAN. Can you give us that answer, Mr. Prisk?

Mr. PRISK. I would appreciate the last part of your question, Mr. Roberts.

The CHAIRMAN. In the hearings last April, and at that time I think we had quite a bit of talk about this Board and it was not in a much better state of formation at that time than it is today, you did state that the Bureau had a list of eight automobile highway safety investigations being conducted by the Office of Research, Bureau of Public Roads.

Do I understand that these investigations are being conducted by the Bureau with its own personnel, or has farmed them out under contract?

Mr. PRISK. These projects are conducted in various ways. The particular eight that you refer to I am afraid I cannot identify directly, but we work in terms of administrative funds with formal research contracts, with private research firms, with universities, and with other organizations and individuals.

Actually there is authority in the legislation to contract with anyone able and competent in this field. These particular details on those eight contracts I would be glad to get for you. As I remember, Batelle Memorial Institute is one of these where there is some important work being done with respect to the need for communications between vehicles on the highway. That would have an important

effect, I think, respected by industry, on the design of turn signals and other lighting equipment needed on the vehicle.

There are a number of other projects of this sort undoubtedly included among those eight. If you would like the detail I will see that you have it.

The CHAIRMAN. Could you give us a list of the results that have been obtained by these investigations and what disposition has been made of the reports made to the Bureau?

Mr. PRISK. We shall endeavor to supply that.

The CHAIRMAN. I would like to also have the cost of each project that has been farmed out.

Mr. PRISK. This is in the vehicle safety field that you refer to.

(The information referred to can be found in the committee files:)

The CHAIRMAN. Last April I asked about the progress being made in getting the Uniform Traffic Code adopted and was told that certain steps had been taken to breathe new life into the project with an enlarged budget. We went away with the feeling that there was definite hope for progress within the ensuing year.

I wonder if you can give us a rundown briefly on the major accomplishments in that direction during the past year?

Mr. MICKLE. Again I would like to ask Mr. Prisk to answer that question, if I may.

Mr. PRISK. The accomplishments, I think, can be summed up in this way: That committee has employed a new executive director, a highly competent person, to head the small staff that is maintained here in the Washington office, the headquarters office, of that committee. A number of subcommittees have been organized to deal with important fields of driver licensing, vehicle equipment, traffic control devices, rules of the road, and other areas of concern in the Uniform Vehicle Code.

Each of these committees has been activated and to a very considerable extent revitalized through the arrival on the scene of this new staff director. I would assure you that the upswing that has occurred in the committee's activities has been appreciated by the sponsoring organizations to the extent that there has been some additional support pledged to the activity of this committee and that I am sure, with a meeting coming up on the 21st of March of this group, there will be still more accomplishment recorded at that time.

Working committees are all ready to report and the major revision of the code, I would say, is in prospect. It was last revised in 1956.

The CHAIRMAN. It seems to me that the test might be not so much in the appointing of a director and the appointing of subcommittees, but what States have laws substantially in agreement with chapter 6 of the Uniform Motor Vehicle Code which relates to driver licensing. Have you made any progress in that field?

Mr. PRISK. I do not have that information.

The CHAIRMAN. You do not have that information?

Mr. PRISK. No.

The CHAIRMAN. As a matter of fact, you do not know of a single State that has passed a law saying that we will conform to chapter 6 of the Uniform Motor Vehicle Code, do you?

Mr. PRISK. I am sure there is continuing progress in this. I cannot name a State; no.

The CHAIRMAN. That is all the Chair has at the present time. Mr. Schenck?

Mr. SCHENCK. Thank you, Mr. Chairman. I am very interested in some of these answers. I think you indicated the number of personnel you now have in the Bureau of Public Roads working on safety, did you not?

Mr. MICKLE. Yes, sir. I have indicated that we had something in the order of 30 people who work on safety activities at some time or another. That is not full time, of course.

Mr. SCHENCK. Can you give us an indication of how much the budget has spent for this purpose?

Mr. MICKLE. Do you have the budget figure for the current year? The total budget, as indicated in the testimony, is about \$1 $\frac{3}{4}$ million for safety activities, in total, and about half of that, it could be said, is devoted to research in safety.

Mr. SCHENCK. By the Bureau?

Mr. MICKLE. By the Bureau; yes, sir.

Mr. SCHENCK. I think you also pointed out that the various other agencies of Government are doing their own research by their own specialists in various ways and that this interdepartmental board is merely a coordinating vehicle to bring this information together.

Mr. MICKLE. Yes, sir.

Mr. SCHENCK. And possibly to discuss expansion of that?

Mr. MICKLE. I am sorry.

Mr. SCHENCK. To discuss the possibility of expanding what might be done by individual departments?

Mr. MICKLE. That is correct, sir.

Mr. SCHENCK. I think you also indicated that there are some 41,000 miles of interstate highways in the process and that in the meantime, however, you are making substantial contributions to States for all other types of highways within the States?

Mr. MICKLE. All other Federal-aid highways within the States; yes.

Mr. SCHENCK. That would include primary, secondary, and farm-to-market roads?

Mr. MICKLE. Yes; and urban extensions.

Mr. SCHENCK. Is your safety research also related to the problems on those kinds of roads?

Mr. MICKLE. Yes. The safety research and the work done in highway safety is not confined to the 41,000-mile system. As a matter of fact, as Mr. Prisk pointed out, the Interstate System is inherently designed so as to provide the maximum amount of safety. He gave you figures indicating the projected saving in fatalities that will accrue when the system is completed.

This comes about by virtue of the kind of design that the Interstate System has, limited access feature, the separation of grades, and the separation of opposing movement of traffic, the elimination of pedestrians, and all those things, so it is inherent in the design of that system that it will be the safest that can be conceived of.

Where the real effort need to be put forth in the safety research field, in the safety activity in general, is on the rest of the system where we do not have those built-in safety features, and I mentioned in the earlier statement that one of the activities currently underway

is the carrying forward of the standards that are prescribed for modern sign signals and markings in the new "Manual on Uniform Traffic Control Devices."

That activity will go beyond just the Federal-aid highway system. We are hopeful, by improving the signs and marking on the Federal-aid highway system, that that in itself will encourage the counties and the cities to step up their activities in this field, and these standards are applicable just as much to the local county road and the local city street as they are to the Federal-aid highway system, so that this activity is one that we hope will spread over the entire highway network.

Mr. SCHENCK. Does this Interdepartmental Safety Board have any connection with the activity going on by and in individual States by their own offices, their highway departments, their highway patrol, and so on, and similar agencies within cities?

Mr. MICKLE. No; it would not. The Interdepartmental Safety Board would be a Federal activity and the work going on through the police organizations, and the motor vehicle administrators, and the traffic engineering groups, and so on, would be the responsibility of those particular officers in the individual States and cities. It would be hoped that research and information developed by the Interdepartmental Board would be made available to these other groups in the cities and States, however, as information.

Mr. SCHENCK. That leads right into my next question. How do you make that available to all these other interested public officials?

Mr. MICKLE. It would have to come about through working directly with their organizations, with their national organizations.

Mr. SCHENCK. You mean such as the American Municipal Association?

Mr. MICKLE. Yes, sir; and the International Association of Chiefs of Police, and the American Motor Vehicle Administrators, and the American Association of State Highway Officials, Institute of Traffic Engineers, all of the organizations that would have an interest in this field.

Mr. SCHENCK. I am not certain just to what research and development this figure applies, but apparently there is some \$12.365 million in the 1963 fiscal year budget requested by the President for research and development programs. Do you know anything about the possible percentage or part of that that is assigned to traffic safety?

Mr. MICKLE. I would only know about that part that would be in the Bureau of Public Roads, and in the appropriations for the Bureau of Public Roads the law provides that 1½ percent of the appropriations shall be reserved for research and planning. I do not have a breakdown of the percentage that is assigned to research and the percentage assigned to planning because there is an overlap in those terms. It is hard to distinguish sometimes what is planning and what is research or vice versa; but the budget for fiscal 1963 of the Bureau of Public Roads has an increase in it for research generally and for highway safety by virtue of the creation of this Office of Highway Safety in the Bureau.

I can get you the information regarding the amount that we have in the budget, but I would have to have it broken out of the budget.

Mr. SCHENCK. By dollars?

Mr. MICKLE. By dollars for safety activity, for safety research. It does not show that way in the budget precisely but we could break it down for you if you would like.

Mr. SCHENCK. During the course of your testimony we were also handed here a report by the Michigan State University Highway Traffic Safety Center for the 1960-61 fiscal year, a rather complete report containing some 25 pages. This report, I believe, refers to the fact that they have had certain grants from the Bureau of Public Roads to make certain research studies and they indicated that in this 1960-61 fiscal year they will spend some \$317,000 for highway traffic safety and research. Do you have any idea how much is being spent by other universities in total on this sort of thing?

Mr. MICKLE. No, sir; I do not. I think this is one of the areas of information in which we are lacking. There is not available at the moment any such information. We would hope that this again might be a function of the Board to try to obtain this kind of information, but it is not available at the moment as far as I know.

I would like to ask Mr. Prisk if he knows of any, if I may.

Mr. SCHENCK. There really is, therefore, no total picture of the amount being spent by universities, Federal departments, State governments, municipal governments, and so forth in the interest of traffic safety?

Mr. MICKLE. Not unless a figure of that kind can be obtained from the research correlation service of the National Safety Council, which does attempt to bring together information on all traffic safety research being conducted throughout the country.

I do not have a figure with me, but I am quite sure that they attempt to bring this information together from time to time.

Mr. SCHENCK. Certainly all the testimony indicates that there is careful attention being given to this very, very necessary field because of the high number of fatalities and injuries on the highways, and perhaps this work ought to be stepped up.

How do you transfer what you learn in your research over to the driver of the vehicle on the highway to make him more careful?

Mr. MICKLE. That is the \$64 question, sir. The information that you try to get to the driver is of such a diverse and varied character that it is hard to say any one specific way is the way to do it. You try to bring to him through the licensing procedure; for example, knowledge that you have gained through research of how license examinations should be made and having improved the licensing procedure, then you apply that through the motor vehicle administrators in their procedures where they are examining drivers. You bring to the driver the benefit of research in improved signs, and marking, and signaling by these series of conferences that I mentioned that bring to the States, and the counties, and the cities new standards of traffic control devices.

Having done that, the driver gets the benefit of those improvements. Education is another way you bring information to the driver, but you do not do it in any one single way. It is a variety of means with many, many groups and agencies working on the problem.

Mr. SCHENCK. I would just like to say at this point that it has been my very great personal privilege and pleasure to work extremely closely with the chairman of this subcommittee, my distinguished

friend and colleague, the Honorable Kenneth Roberts, ever since the formation of the first Committee on Highway Traffic Safety back in 1956. Our subcommittee has worked diligently and hard under the capable leadership of the chairman to develop a lot of information in a lot of different areas of mechanical devices on automobiles, highway conditions, driver's license laws, the need for uniform traffic laws, uniform placement of signs and signals, and so on.

I think we ought to pay a very special tribute to my very good friend and colleague here, Congressman Roberts of Alabama, for the very splendid work that he has done, and I know how very deeply he is interested in this whole subject, as I am also.

I can well appreciate that the bill he has proposed has a great deal of merit if it will save lives and reduce injuries. However, I am also a little dubious about the function of the Federal Government in developing a research program on traffic safety with the primary purpose of providing for some researcher or some trained person a job and an opportunity to do research.

It would seem to me that those opportunities ought to be provided in the private field of the automotive industry, and in the allied industries, and in the colleges, and in the several departments which are included in your Interdepartmental Safety Board. I just don't agree with my good friend here, and I say it in a most kindly way, that the function of the Government is to develop employment opportunities for researchers who have an idea they want to work in this field.

Mr. MICKLE. Mr. Schenck, I have known also for many years of the fine work of the chairman in this field and share your high opinion of the value of the job that he is doing.

Mr. SCHENCK. I have greatly enjoyed your testimony and appreciate your coming to the committee.

The CHAIRMAN. Of course the chairman would not be human if he did not appreciate the compliment of the gentleman from Ohio and of course what the witness said also.

I might say that it seems to me that the big problem that we have in this field has been pretty well illustrated here by the testimony of the witness and that is that we are spending a great deal of money, but it seems to me that we are using a very big load of shot and nearly a shotgun approach instead of using a scalpel. We are scattering our load all over the country and we are not accomplishing much.

We keep killing people by the thousands and injuring by the millions, and it seems to me that we are too much concerned with the effect and too little concerned with the causes. I know that the Department of Commerce has been interested in trying to get the States to achieve some uniformity by adoption of the Uniform Motor Vehicle Code. The Department of Commerce has long advocated that the States do just that.

As has been brought out here—I think it was first advocated back in 1924—we are just simply not doing the job, and it has been my experience that the doctors, physicians, and medical scientists, and technicians are quite concerned about the tremendous cost and the tremendous wastage, particularly in the lives of our young people. What good does it do to spend billions of dollars to educate our young and then waste their lives out here on the highways?

It seems to me we are paying too big a price for rapid transportation. It seems to me that if the States are content to allow incompetent and inadequate drivers to be licensed year after year without even a superficial physical examination, it is time that we say to the States, "You can let them drive on your highways, but you are not going to put them out here on Federal highways when they cannot see, and cannot hear, and cannot drive, and keep killing people in other States."

I am as much of a States rights advocate as any man on this subcommittee, but I do not think that we should use the philosophy of government that is not accomplishing results. I think that we have a right certainly when we are supplying 90 percent of the money for this Interstate System to say to the States that "You are going to put drivers on these highways who are competent," and the only way you are going to do that is to make the same approach that we make in the field of cancer, and arthritis, and mental health, and all the other things which plague humanity; that is, to find out something about what causes this waste of human life.

Mr. SCHENCK. Mr. Chairman, would you yield for just one question at that point, because of what you said?

The CHAIRMAN. Yes.

Mr. SCHENCK. I wonder if Mr. Mickle has any thought on whether or not we should have a Federal automobile drivers' license law, since most people at one time or another drive in interstate commerce.

Mr. MICKLE. We have never felt that a Federal drivers' license law was perhaps the answer to it. With all due respect to the chairman, the approach, it seems to me, would be in the direction of improving generally the driver licensing procedures, get them more uniform in the States, and none of us is satisfied with the progress that is being made.

I agree with the chairman on that. We need all the help we can get to move this whole program along faster, but to improve the driver licensing procedures in the individual States, the administration of it would be easier at the State level than it would at the Federal level. I think that again the matter of States' responsibility should remain at the State level.

The CHAIRMAN. I do not want to get into another bill, but I think there is a misunderstanding. Some reference has been made here to H.R. 9443, which is my bill, to require that States adopt some type of physical examination, that is, by complying with chapter 6. It does not contemplate any Federal license whatsoever. It simply says that the States will leave it in the hands of the commissioner of vehicles, or other similar State agency and he can prescribe any type of examination by the pertinent physician or any way he wants to handle it.

It simply says that unless the States do comply with chapter 6, a man holding a license from that State cannot drive on an interstate highway. It does not contemplate issuing a Federal license. We have followed this procedure and are following it already in the Interstate Commerce Commission because they require physical examinations of drivers who drive trucks, and it is just as easy for a passenger vehicle to become involved in a collision with a truck or with other vehicles.

It is just as easy for that to happen as it is for a truck to be involved, and it seems to me it simply does not make sense to follow the procedure there and not follow it throughout our system of vehicle laws.

The gentleman from Florida.

Mr. ROGERS of Florida. Thank you, Mr. Chairman. I have enjoyed the testimony this morning. I am very much concerned about this Board. In 1960, when we were going through the questions on the research and what is being done in our field of traffic highway safety, we were told, "Well, we are going to form a Board," so in December of 1960, I think, an Executive order came out.

Last year we went into it and they said, "Well, we have a Board for it. We just have not met," and now again this year we still hear that the solution for all these problems is still this Interdepartmental Board. It still has not met.

I am afraid I do not have very much confidence in the ability of this Board to do very much; particularly when it does not meet. Let me ask you this about this Board: When is it to meet?

Mr. MICKLE. As I indicated earlier, it is the intent to have the Board meet very, very soon. I cannot give you the date because one has not been set.

Mr. ROGERS of Florida. Who can? I thought your secretary was Chairman of this and would be the one to initiate the call for the Board.

Mr. MICKLE. The Board is chaired by the Secretary of Commerce.

Mr. ROGERS of Florida. Yes.

Mr. MICKLE. As I mentioned earlier, the Office of Highway Safety in the Bureau of Public Roads was created just at the end of the year and at the moment its staff is very, very limited, and because of staff limitations we just have not been able to put together the necessary paperwork to call the first meeting, but it is intended that the meeting will be called within weeks. That is the closest I can give you on it.

Mr. ROGERS of Florida. I am surprised because we have been into this. I am surprised that you have this staff difficulty because we went into this problem last year, but you did not join the Department until when? November of 1961?

Mr. MICKLE. November, that is right.

Mr. ROGERS of Florida. What staff do you propose for this? What actual plans have you made for staffing this Interdepartmental Board? Do you have anything on paper?

Mr. MICKLE. Of the Board it is contemplated that the staff for the Chairman will be provided by our office, by the Bureau of Public Roads.

Mr. ROGERS of Florida. The staff for the Chairman. You mean the Secretary of Commerce?

Mr. MICKLE. That is correct, in his activity and in his function as Chairman of the Board.

Mr. ROGERS of Florida. And what do you contemplate he will need?

Mr. MICKLE. I will have to ask Mr. Prisk, if I may.

Mr. ROGERS of Florida. What have you drawn up?

Mr. PRISK. What we have drawn up is essentially a plan of action for our own participation in the Board, which would line up with some of the objectives that have been held up by the President's Com-

mittee for Traffic Safety, which are pretty much the essentials of the action program of that Committee.

More specifically, the kinds of things that we are thinking in terms of are people who would have specific abilities and competence in the area of accident records and reporting. This was one of the things mentioned in the testimony this morning. These are the kinds of high priority areas that we propose to staff.

Mr. ROGERS of Florida. That is whom you would put on this Board; is that right?

Mr. PRISK. Yes. These are the kinds of contributions that we would back up the Board's work with.

Mr. ROGERS of Florida. I do not think you have gotten my question. I thought you said you were going to set up a staff for the Board.

Mr. MICKLE. I think, sir, that the image of this Board is perhaps not clear.

Mr. ROGERS of Florida. I agree with you there 100 percent.

Mr. MICKLE. It is intended that the Board shall be largely a coordinating activity.

Mr. ROGERS of Florida. Yes.

Mr. MICKLE. As such then it is not contemplated that it will have a large staff or budget.

Mr. ROGERS of Florida. How many? How many staff members would you have? That is what I am trying to get at.

Mr. MICKLE. Therefore, to staff the actual detail of preparing agenda, for preparing reports on the activities of the Board, and what-not, probably not more than one or two people out of our office would be assigned to this activity, but the Executive order provides for each of the other Department that are members of the Board to also supply people and we cannot determine what those other Departments will supply until we have had the first meeting to find out what the programs each of the other agencies are concerned with and how much personnel they will be able to assign to the Board's activities.

My own personal view is that it probably would not be more than one person from each of the other Departments, because it is a coordinating activity and not an action group.

Mr. ROGERS of Florida. In other words, the Chairman of the Committee has as yet no plans for a staff of how many people should be contributed by the other Departments?

Mr. MICKLE. It is very difficult to organize staffing of the Board until we have had the first meeting.

Mr. ROGERS of Florida. There is no suggestion?

Mr. MICKLE. We are suggesting at least one person from the Bureau of Public Roads.

Mr. ROGERS of Florida. At least one. Well, certainly you would have to have one I presume if you are going to have coordination.

Mr. MICKLE. You could have part-time, of course, but we do not contemplate that.

Mr. ROGERS of Florida. Do you contemplate full-time people?

Mr. MICKLE. Full-time man.

Mr. ROGERS of Florida. Where will they be housed?

Mr. MICKLE. In the Bureau of Public Roads.

Mr. ROGERS of Florida. Do you have sufficient space now?

Mr. MICKLE. Oh, yes.

Mr. ROGERS of Florida. So there is no problem of housing one member from each of the various departments?

Mr. MICKLE. I am sorry. I did not follow your question. The housing of the man supplied by the Bureau of Public Roads would be housed by the Bureau of Public Roads. The people supplied by the other departments would be housed in their own agencies.

Mr. ROGERS of Florida. How are they going to get together and coordinate if they are spread all over Washington? You are not going to have a very coordinating group, are you?

Mr. MICKLE. Through meetings.

Mr. ROGERS of Florida. Through meetings?

Mr. MICKLE. Oh, yes.

Mr. ROGERS of Florida. How often do meetings have to be held?

Mr. MICKLE. We anticipate once a month.

Mr. ROGERS of Florida. In other words, the staff is going to meet once a month?

Mr. MICKLE. No, the Board itself would meet once a month.

Mr. ROGERS of Florida. How often would the staff meet?

Mr. MICKLE. Do you have any plans on that, Charlie, specifically?

Mr. PRISK. I think conceivably the staff in the early going would meet much more frequently.

Mr. ROGERS of Florida. How many times?

Mr. PRISK. Perhaps they might meet continuously for a week or 10 days.

Mr. ROGERS of Florida. Where are they going to meet if you do not have any place for them to meet?

Mr. PRISK. We have plenty of accommodations for meetings.

Mr. ROGERS of Florida. You have no problems there?

Mr. PRISK. No problems at all.

Mr. ROGERS of Florida. What are they going to do? Is this Board going to decide what fields of research it will engage in?

Mr. MICKLE. Will they decide what fields of research should be engaged in?

Mr. ROGERS of Florida. Yes.

Mr. MICKLE. It depends on the reports from each of the departments; yes, sir.

Mr. ROGERS of Florida. Will they be the ones who actually decide what priorities should be put on what research?

Mr. MICKLE. Well, no. You see, generally the action program will be carried on by the individual agencies of Government.

Mr. ROGERS of Florida. What good will the Board do, then?

Mr. MICKLE. To provide a forum in which each of the agencies are informed about what the others are doing.

Mr. ROGERS of Florida. In other words, this is just a Board to kind of get together and say, "I am doing this and you are doing this?"

Mr. MICKLE. It is a coordinating activity.

Mr. ROGERS of Florida. With no authority to set priority of research?

Mr. PRISK. I think through agreement between the heads of the departments it would be possible to get a certain amount of priority.

Mr. ROGERS of Florida. Suppose they do not agree?

Mr. PRISK. I mean to the extent that they do agree.

Mr. ROGERS of Florida. Then you might be able to get something done?

Mr. PRISK. Yes, sir.

Mr. ROGERS of Florida. I realize this is not your doing. It has to be the secretaries and so forth, and so forth; but I have absolutely no confidence in the Board and I do not think the secretaries of the departments will have time to come together and devote the necessary effort, energy, and coordinating abilities to get a real program going in research, and I think this is just a sop to the Congress and I hope that perhaps we can come out with this legislation which can give us a coordinating agency. I cannot possibly conceive of these busy men who are secretaries of departments coming together once a month and bringing about any program of coordinated research and putting the necessary emphasis on the various fields that should have priorities set.

I do not see how they will have time to do it and certainly I do not see how we could do it with one member from each department who will come in and maybe meet a few times together. This is perhaps the great field that we have neglected in research, and, as I understand it, your research program is more concerned with engineering, highway safety, is that not true?

Mr. MICKLE. That is correct.

Mr. ROGERS of Florida. You are not concerned so much with the medical program?

Mr. MICKLE. No; that is correct.

Mr. ROGERS of Florida. Or various other phases, but it should be coordinated and where you are doing a particular thing, if this coordinating agency, now in the Public Roads they are doing it on highway engineering and this is the project they have. Now we need in conjunction with that a research program on how the driver is affected here, or the psychological influences, and so forth.

It seems to me that this could be a great coordinating agency to put priority in those fields where research is really needed and stop a great deal of duplication. I hope the Department will get off this idea of the fact that this is going to be a utopia due to the fact that we have an Interdepartmental Committee, which has never met and as far as I can determine for which no plans are definitized yet, even as to its operations, I just cannot conceive of it doing much good.

I hope we will try to develop something else. Let me ask you this. If you cannot furnish these figures now you perhaps can furnish them at a later time for the committee. I would like the figures of your budget for research in your highway safety program for the last 3 years and your anticipated budget coming up. I know you say your highway safety program now is about \$1,750,000, of which one-half is devoted to research.

I would like to know what the other half is used for and what programs are being covered in this research to which I guess you are devoting almost \$850,000. I would like to know if you do have any part-time consultants, and who they are, and what work they are doing. I understand too now that you have about 30 engineers that are doing work in highway safety work now in your department.

Mr. MICKLE. They are not all engineers, I do not believe.

Mr. PRISK. Part of the time, professional people; yes.

Mr. MICKLE. We will supply that information.

(The information referred to follows:)

U.S. DEPARTMENT OF COMMERCE,
BUREAU OF PUBLIC ROADS,
Washington, D.C., March 8, 1962.

HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
New House Office Building,
Washington, D.C.

DEAR SIR: The attached material is being submitted to you in response to Mr. Rogers of Florida who made the statement "I know you say your highway safety program now is about \$1,750,000 of which one-half is devoted to research. I would like to know what the other half is used for and what programs are being covered in this research to which I guess you are devoting almost \$850,000. I would like to know if you do have any part-time consultants and who they are and what work they are doing."

In answer to these requests we submit to you the following information:

1. Referring to Mr. F. C. Turner's letter of March 6 addressed to Hon. Kenneth A. Roberts, which you discussed with Mr. Prisk by telephone, the projects under heading C are conducted through contract agreement with the following organizations:

- (1) the Battelle Memorial Institute, Columbus, Ohio
- (2) Applied Psychology Corp., Arlington, Va.
- (6) Michigan State University, East Lansing, Mich.
- (8a and 8b) Cornell Aeronautical Laboratory, Buffalo, N.Y.
- (8c) Purdue Research Foundation, Lafayette, Ind.
- (9) National Committee on Uniform Traffic Laws and Ordinances, cooperation with the Automotive Safety Foundation, American Automobile Association, National Safety Council, and others.

2. The attached list shows the names of the part-time consultants employed in connection with the highway safety program. As you will note most of these consultants received only their transportation costs and per diem. Only three received any fees.

3. The \$1,750,000 referred to on page 225 is an average figure for fiscal years 1961 and 1962. The 1962 distribution is as follows:

Driver Register.....	\$400,000
Presidents Highway Safety Conference.....	150,000
Research by Bureau of Public Roads personnel.....	379,000
Research contracts by other organizations conducted for the Bureau of Public Roads.....	290,281
Research contracts by State highway departments and conducted with other organizations by State highway departments involving Federal funds (1½ percent planning and research funds but not including approximately \$250,000 State matching funds).....	584,941
Totals.....	1,804,222

Attached are tables showing the amounts spent for research separated by (1) research conducted by Bureau of Public Roads personnel, (2) contracts the Bureau of Public Roads has with other organizations and, (3) the State highway departments including contracts with other organizations through the use of the Federal 1½ percent funds. These projects are approved by the Bureau of Public Roads.

I hope this is the information necessary for you to complete the publication of the proceedings.

Sincerely yours,

O. K. NORMANN, Deputy Director of Research.

Part-time consultants utilized in connection with the Bureau of Public Roads, highway safety program.

	Per diem	Transportation	Fees
William H. Colvin: Chief clerk, Drivers License Division, Secretary of State's Office, Springfield, Ill. Mr. Colvin represented region 3 of American Association of Motor Vehicle Administrators, and was recommended for attendance by the Washington office of AAMVA. Also an authority on electronic data processing and driver license records.	\$46.25	\$103.10	-----
Glenn V. Carmichael: Traffic Institute, Northwestern University, Evanston, Ill. Mr. Carmichael is a nationally known expert on driver licensing and related fields. Staff member of Traffic Institute, Northwestern University.	27.25	-----	-----
James P. Economos: Director, traffic court program, American Bar Association, 1155 East 60th St., Chicago, Ill. Mr. Economos is an authority on motor vehicle law in the States and territories.	(0)	(0)	(0)
Howard B. Fletcher: Business manager, International Association of Chiefs of Police, Mills Building, Washington, D.C. Well known law enforcement official and authority on enforcement, identification matters, and enforcement record.	(0)	(0)	(0)
Paul Mason: Private consultant, Sacramento, Calif. Private consultant, formerly director of Motor Vehicle Department of California, and well-known authority on motor vehicle law and compacts.	50.00	278.00	\$100
E. R. Peele: Director, driver license division, Raleigh, N.C. Director, driver license division. Represented region 2 of AAMVA. Recommended for attendance by Washington office of AAMVA. Directs model manual driver license record division.	41.05	37.10	-----
A. J. Sherwood: Assistant director, enforcement, motor vehicle division, State House, Trenton, N.J. Mr. Sherwood represented region 1 of AAMVA. Recommended for attendance by Washington office of AAMVA.	34.95	16.20	-----
Fred P. Williams: Chief, driver license division, Sacramento, Calif. Mr. Williams represented region 4 of AAMVA. Recommended for attendance by Washington office of AAMVA.	61.00	236.20	-----

1 No charges.

Part-time consultants utilized during 1961

Paul Hill: Assistant general manager, National Safety Council, Chicago, Ill.	Per diem and travel (probably one trip).
J. Stamford Baker: Northwestern University Traffic Institute, Evanston, Ill.	Do.
Ed Kirby: National Safety Council, Chicago Ill.	Do.
Gordon Sessions: Public relations, Silver Spring, Md.	Worked 10 days in 1961 and received approximately \$450. Appointment terminated Mar. 10, 1961.
Dr. John J. Conger: Professor and head, Division of Chemical Psychology, University of Colorado, Denver, Colo.	Travel and per diem \$200.

Part-time consultants utilized during 1962

Dr. Ralph Richardson: President, Board of Education, Los Angeles, Calif.	April 12, 1962, St. Louis, Mo. Driver education participating as panel members at the annual meeting of the National School Boards Association.
John A. Kane, Jr.: President, Board of Education, Syracuse, N.Y.	Do.
Lawton Smith: National Safety Council, Chicago, Ill.	Paid travel and per diem for certain trips in 1962; receives only transportation and per diem.
Dr. John J. Conger: Professor and head, Division of Chemical Psychology, University of Colorado, Denver, Colo.	Received approximately \$300 in consultant's fees in 1962.

228 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

1. Research conducted by Bureau of Public Roads personnel

Traffic control and safety: 28 studies.....	\$80,000
To establish operational practices for getting the maximum utility and safety from existing streets and highways, to improve traffic control devices, to determine the economic value of accidents, and to promote national and international uniformity in vehicle regulation and traffic control.	
Human factors: 8 studies.....	53,000
To determine the efficiency and reliability of driving and traffic operations and to apply modern psychological techniques to the development of new man-machine relations that will improve the operation of the transportation system.	
Traffic performance: 14 studies.....	107,000
To investigate traffic performance and behavior as related to the traffic carrying capacity and geometric design features of the highway facility including automated vehicle and highway systems.	
Motor vehicle performance: 23 studies.....	64,000
To study the operating and performance characteristics of all types of motor vehicles under varying operating conditions for the application to highway and vehicle design, highway safety problems, and improvement of regulatory controls.	
Instrumentation research and development: 7 studies.....	75,000
To investigate the use of electronics for weighing vehicles in motion, control of traffic, automatic highways, and noise abatement and to provide special electronic and electro-mechanical instruments, not available commercially, for recording basic data for studies of traffic operations.	
Subtotal, traffic operations research.....	379,000

2. Research by the Bureau of Public Roads through contracts with other organizations¹

Performance of metal bridge rails—theoretical and analytical studies and impact tests on bridge rails—Cornell University.....	\$20,000
Develop mathematical model of dynamic loading of highway pavement and to obtain experimental data directed at validating the mathematical model—Cornell Aeronautical Laboratory.....	30,731
Uniform standards for registration and titling of motor vehicles—AAMVA.....	5,000
Determination of the value of travel time for driver and occupants of privately owned automobiles—Stanford University.....	34,344
Needs and methods for improving communications between drivers—Batelle Memorial Institute.....	24,000
Development of criteria for evaluating vehicle guidance and control systems—Applied Psychology Corp.....	24,000
Performance characteristics of commercial vehicles—University of Washington.....	28,561
Human factor criteria necessary for design of a simulator.....	14,000
Value of commercial vehicle time saved resulting from road improvement—Texas A. & M.....	16,770
Hydraulics of curb opening inlets—Bauer Engineering, Inc.....	6,000
Highway Research Board—NAS.....	86,875
Total.....	290,281

¹ Most of these projects are also conducted for purposes other than highway safety.

3. Research conducted by State highway departments including contracts with other organizations through the use of Federal 1½-percent funds

State letting the contract	Title of project	Contractor	Amount
Arizona.....	1st phase of accident experience related to control of access.....	(1).....	\$20,000
Do.....	Highway delineator placement cost study.....	(1).....	36,000
California.....	Value of minor improvements.....	(1).....	50,000
Connecticut.....	Highway delineation and illumination study.....	(1).....	11,000
District of Columbia.....	Accident cost study.....	(1).....	20,000
Georgia.....	A study of traffic flow on the Atlanta expressway system.....	Georgia Institute of Technology.....	9,000
Illinois.....	Widths and cross sections for medians of divided highways.....	University of Illinois.....	12,700
Do.....	Lane use controls.....	Northwestern University.....	8,600
Do.....	85 percentile speed study.....	(1).....	15,000
Do.....	Left-hand on-and-off ramps for expressways and freeways.....	Northwestern University.....	7,500
Do.....	Vehicular speed regulation.....	University of Illinois.....	24,800
Kansas.....	Pavement edge marking research.....	(1).....	28,000
Michigan.....	Television traffic surveillance and control study.....	(1).....	284,880
Do.....	(1) Fundamental characteristics of traffic flow (2) quality of traffic flow (3) effectiveness of lane control signals.....	Michigan State University.....	31,850
Nebraska.....	The study of the application of electronic devices to traffic control.....	(1).....	10,000
New Jersey.....	Traffic signal capacity study.....	Radio Corporation of America.....	8,000
New Mexico.....	Economic costs of motor vehicle accidents.....	(1).....	27,000
New York.....	Full-scale dynamic tests of highway barriers.....	Cornell Aeronautical Laboratory.....	186,000
Do.....	Night visibility of highway pavement surfaces.....	do.....	20,000
North Carolina.....	Research study F—Investigate the simulation on a digital computer of rural highway configurations and the movement of traffic.....	North Carolina State College.....	2,100
Do.....	Research study B—Investigate the effect of intensive commercial roadside development on traffic operations in North Carolina.....	do.....	17,500
Oregon.....	Shoulder use study.....	(1).....	5,000
Texas.....	Intersection illumination.....	Texas A. & M. University of Washington.....	23,300
Washington.....	Transport benefit study.....	(1).....	2,900
Wyoming.....	Shoulder delineation study.....	(1).....	500
	Total.....		\$835,630

¹ State highway department personnel, \$384,941 (70 percent).

Projects conducted by the Office of Research

General area of research	Number of studies	Estimated cost of safety research in fiscal year 1963
Physical research:		
Chemical, physico-chemical, and analytical properties of highway materials	11	\$5,000
Protective paints and traffic marking materials	6	\$18,000
Bituminous binders	12	
Design and performance of concrete pavements	10	\$5,000
Properties of cements, aggregates, and concrete	10	\$10,000
Soil test methods and data evaluation	7	
Soil and materials surveys	10	\$37,000
Physico-chemical properties of soil materials	13	
Soil mechanics	9	
Flexible pavements	7	
Compaction of soils and soil-aggregates	5	
Bituminous pavements	9	
Bridge design and performance	6	\$15,000
Use of radioisotopes for the evaluation and construction control of highway materials	10	
Design and manufacture of special equipment needed for various research efforts	1	
Highway planning:		
Research associated with highway planning operations	8	\$10,000
Urban transportation research	4	
Monitoring formal cooperative research		
Highway needs and economy:		
Studies of characteristics of motor vehicle ownership and use	6	
Engineering economy	2	
Highway transportation economics	6	\$2,000
Highway construction economics	3	
Highway taxation and finance	5	
Construction practices	9	
Maintenance practices	8	\$30,000
Production studies by junior engineers	1	
Highway management practices and performances	7	
Personnel practices and procedures	8	
Highway program planning	7	\$2,000
Service lives by surface types and systems	6	
Highway system investments	5	
Highway costs and economy	3	
Research reports:		
Dissemination of information and publication of reports and bulletins on the research work of the Bureau		
Traffic operations:		
Projects with studies in which safety is the predominant consideration:		
Traffic control and safety	28	\$3,000
Human factors	8	\$0,000
Projects with studies in which safety and operations are approximately equal considerations:		
Traffic performance	14	\$0,000
Motor vehicle performance	23	\$0,000
Instrumentation research and development	7	\$45,000
Projects with studies in which safety is an indirect consideration: Highway transport operating factors		
	13	\$0,000
Highway and land administration:		
Right-of-way acquisition research	8	\$2,000
Highway administration and management	7	
Highway laws research	5	\$10,000
Economic impact of highway improvement	7	
Hydraulic research:		
Hydrology	2	
Small drainage structures	4	
Hydraulics of bridges	4	
Hydraulics of channels	2	\$5,000
Engineering economy in drainage structures	3	
Sediment research	4	
Total		469,000

See the following:

¹ Includes one or more studies in which safety and other considerations are of approximately equal importance	\$219,000
² Includes 1 or more studies in which safety is the predominant consideration	221,000
³ Includes 1 or more studies in which safety is an indirect consideration	29,000
Total	469,000

TRAFFIC SAFETY RESEARCH

In addition to the projects conducted by the Division of Traffic Operations, the following studies relating to traffic safety are conducted by personnel of other divisions:

- Chemical reactions between ice-removal chemicals and concrete¹
- Development and properties of reflective elements in traffic lane marking materials²
- Accelerated laboratory test for evaluation of traffic marking materials²
- Performance of various classes of traffic marking materials²
- Development of roughness standards³
- Development of skid-resistance standards²
- Protection of concrete against disintegration by natural weathering and salts used in snow and ice removal¹
- Improvement of skid resistance of riding surface of concrete²
- Landslide investigations using geophysical test methods¹
- Full-scale testing of bridge rails²
- Spacing of ramps and interchanges¹
- Standards for secondary and local roads¹
- Determination and evaluation of the factors—economic, social, and governmental—that contribute to and control highway usage³
- Personnel manual²
- Urban sufficiency rating²
- Right-of-way acquisition procedures research¹
- Application of police power to transportation¹
- Land use planning and control at freeway approach and interchange areas³
- Roadway drainage²
- Study of headlight reflections in snowstorms²
- Training films for highway maintenance employees¹

Mr. ROGERS of Florida. I thought in your statement on page 4 you said:

But there have been approximately 30 engineers, several psychologists, and other supporting personnel who are employed by Public Roads on projects where safety is a major objective.

Mr. MICKLE. You are right.

Mr. ROGERS of Florida. If you do not have 30 engineers, you might tell us just what projects they are working on, what projects these psychologists are working on. Mr. Schenck brought out the fact that maybe this is going to create a lot of jobs, but I think also a coordinating agency might even reduce them, since it might not be necessary to have so many psychologists in the Bureau of Public Roads if we have psychologists in Public Health that could work on a coordinated research program.

So that these are even possibilities of perhaps saving money for the Government by a strictly well-run coordinated project. I think every one is agreed that there is a definite lack of communications, as you bring out in your statement on page 8. Do you have within your Department now any people on full-time work for accident prevention research?

When I asked the question last year you stated there were none. I am wondering if there are any this year on full-time accident prevention research within the Department?

Mr. PRISK. I would say not.

¹ Studies in which safety and other considerations are of approximately equal importance.

² Studies in which safety is the predominant consideration.

³ Studies in which safety is an indirect consideration.

Mr. ROGERS of Florida. You still do not?

Mr. PRISK. Yes.

Mr. ROGERS of Florida. Thank you very much. Thank you.

The CHAIRMAN. I thank the gentleman from Florida and the Chair would like to say that certainly I could not agree more with the gentleman from Florida in his statement about this so-called Interdepartmental Highway Safety Board. This committee feels very close to the Department of Commerce. We handle a good many major pieces of legislation affecting the Department of Commerce.

I followed very closely the study that was made under the Federal appropriation of I believe around \$200,000 and which ended in the 1959 report on the Federal role in highway safety. It seems to me that it was a very admirable piece of work that was done. If I remember correctly, the document even mentioned the fact that they thought that we could improve somewhat the structure of the vehicle, but it seems to me that every time we send down a bill having to do with safety research, trying to get an adequate breakthrough we have been faced with an adverse report from their Department.

There is nothing personal in what I have to say, Mr. Mickle, and Mr. Prisk. It is a policy that apparently has been followed not only in this administration, but in the other administrations.

It would seem to me that in coming here to this committee—and we think this is a pretty good committee; it was established, I believe, about No. 2 when the Congress established its committees—the Department could come up with a little better answer than saying that these matters can be referred to a board which has never even met, which so far as I know has no established policy other than you say it is going to be a high-level board where Cabinet members will meet, or delegate someone to meet, and I would like the Secretary to know this.

It is my feeling that we would like a little deeper and more penetrating look taken at the legislation we send down there. I do not say that you have not the right to make an adverse report, but it seems to me that in coming here with an answer like, well, referring to some nebulous Board, is a very poor answer to the questions that this committee has.

Again I want to emphasize there is nothing personal in my remarks. I recognize you gentlemen are doing your very best and I have the highest regard for you. I have known Mr. Prisk for a long time. I know he does a fine piece of work, and I am sure, Mr. Mickle, you are doing your job; but it is disconcerting when a committee, that has been in this field now for 6 years and has heard witnesses from every field of endeavor, comes up with a bill that we think is well-considered, is met with this idea of just let's put it over here in the old rolltop desk and put the top down and let it rest.

That is not the kind of an answer I think the Department should make.

Mr. ROGERS of Florida. I want to say, too, of course, there is nothing personal in this either because we have great respect for you gentlemen and the work you are doing. I think you have done an excellent job in engineering highway safety. The great progress you have made has been excellent; but we are thinking of moving and coordinating a greater area here in research, which I think is needed. I

think it is necessary to impress on the Secretary how strongly this committee feels. We will have to have him up here and I think it would be wise to let him know that, but we are going to have to move ahead quickly in this field because there is so much to be done. I think we are going to have to move quickly and I am sure this committee intends to.

Mr. MICKLE. Your views will be transmitted to him.

Mr. ROGERS of Florida. Thank you.

Mr. MICKLE. Mr. Prisk would like to make a comment, if he may, Mr. Chairman.

The CHAIRMAN. We are glad to have it, Mr. Prisk.

Mr. PRISK. I appreciate all you say and having attended a great many of these hearings, I think most of your hearings since 1956, that have been held here in Washington, at least. I have great appreciation for the background of your remarks as well as for the contributions, I am sure, that the committee in its operations has made.

I do not think anyone is more interested than our people in the Bureau of Public Roads in seeing that something is done about this highway safety problem. This extends not through me alone, or Mr. Mickle alone, but certainly through many of our people, certainly through our Federal Highway Administrator.

A great deal of the work that we do, however, is aimed at the facilitation of traffic movement as well as its safety, and we, in effect, are working to provide highway transportation that is in fact safe. The research that is performed, and I have a list before me here of some of the 1963 projects in which safety has been identified as a primary consideration, is part of a 5-year program of research in the Bureau of Public Roads, and there are other projects where safety is considered approximately in equal consideration with this matter of providing for better movement on the highway and less congestion.

Then there are projects in which safety is an indirect consideration, and I submit that it is extremely difficult to support any one figure that you might want to pick out of here by these arguments as to whether or not this is a safety project, or whether or not it contributes to the public comfort, or something of this sort.

This is the difficulty we find ourselves in as we talk about highway safety research with your committee. I think there is a desire to do a great deal. I think we have done a fair amount of research in the highway safety field. We certainly are desirous of doing a great deal more. Prospects for 1963 are good to do much more and you certainly have our heart with you in your work.

The CHAIRMAN. Thank you, gentlemen. Again we appreciate your appearance before the committee.

Tomorrow we will hear witnesses from the Department of Labor, Mr. Charles Donahue, Solicitor of the Department; to be accompanied by Mr. Motley, Director of the Bureau of Labor Standards.

The subcommittee will stand in recess until 10 o'clock tomorrow morning in the same place.

(Whereupon, at 11:55 a.m., Tuesday, February 20, 1962, the subcommittee was recessed, to reconvene at 10 o'clock the following day, Wednesday, February 21, 1962.)

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

WEDNESDAY, FEBRUARY 21, 1962

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SAFETY,
OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met at 10 a.m., pursuant to recess, in room 1334, New House Office Building, Hon. Kenneth A. Roberts (chairman of the subcommittee) presiding.

The CHAIRMAN. The committee will please be in order.

We meet again this morning to continue the hearings on H.R. 133, a bill to establish a National Accident Prevention Center in the Public Health Service.

We understand that various segments of the Department of Labor have been involved in such activities as the President's Conference on Occupational Safety, the Federal Safety Council, as well as providing leadership to the national occupational safety program.

With us to present the views of the Department of Labor is Mr. Charles Donahue, Solicitor of the Department. We would like to know how your Department performs these functions, what progress has been made in the occupational safety field, and what your Department feels has been its contribution toward the reduction of accidents. Also, we are interested in any research projects you have engaged or participated in and the extent of your participation in numbers of personnel, types of disciplines, and amount of money expended.

I might say at this point in the record, Mr. Reporter, I would like to introduce a letter, dated February 19, 1962, addressed to the chairman from Mr. Goldberg, Secretary of Labor. I will not read it all. He says:

I have asked Charles Donahue, Solicitor of the Department, to appear before your subcommittee in accordance with your request.

I regret very much that I personally will be unable to be present since it appears most likely I will be making an appearance before the Appropriations Committee of the Senate to testify on behalf of the Department's budget requests.

Yours sincerely,

ARTHUR J. GOLDBERG,
Secretary of Labor.

(The complete text of the letter referred to follows:)

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, February 19, 1962.

HON. KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety, Committee on Interstate and Foreign Commerce, House Office Building, Washington, D.C.

DEAR CONGRESSMAN ROBERTS: This is in reply to your letter of February 12, in which you requested that a representative of the Department testify before

your subcommittee regarding H.R. 133, a bill to establish a National Accident Prevention Center.

I have asked Charles Donahue, Solicitor of the Department, to appear before your subcommittee in accordance with your request. He will be accompanied by Arthur W. Motley, Director of the Bureau of Labor Standards.

I regret very much that I personally will be unable to be present since it appears most likely I will be making an appearance before the Appropriations Committee of the Senate to testify on behalf of the Department's budget requests.

Yours sincerely,

ARTHUR J. GOLDBERG,
Secretary of Labor.

The CHAIRMAN. Mr. Donahue, it is a pleasure to have you, as the Solicitor of the Labor Department, and if you would introduce the gentlemen with you so the reporter may have their names in the record, you may proceed.

STATEMENT OF CHARLES DONAHUE, SOLICITOR, DEPARTMENT OF LABOR; ACCOMPANIED BY FRANK S. McELROY, DIVISION OF INDUSTRIAL HAZARDS, BUREAU OF LABOR STATISTICS; AND ROBERT D. GIDEL, ASSISTANT DIRECTOR FOR SAFETY, BUREAU OF LABOR STANDARDS, DEPARTMENT OF LABOR

Mr. DONAHUE. Thank you very much, Mr. Chairman. It is certainly a pleasure for me to be here, too. May I introduce the two gentlemen who are with me? On my right is Mr. McElroy, of the Bureau of Labor Statistics, who is in charge of gathering facts and figures concerning accidents and their causes.

On my left is Mr. Gidel, who is Assistant Director of the Bureau of Labor Standards in charge of their various safety programs.

The CHAIRMAN. Thank you, Mr. Donahue.

Mr. DONAHUE. Mr. Chairman, Secretary Goldberg, as you know, has already written to the committee concerning the bill which is of major concern of this subcommittee, H.R. 133, and has expressed his agreement and the Department's position generally in favor of the objectives and the principles of the bill.

It is my purpose in coming here today instead to address myself to a request of the subcommittee sent to the Secretary of Labor under date of February 12, 1962, in which several questions were asked concerning the operations and the activities of the Department of Labor in the field of accident prevention and in the field of safety.

For the purpose of replying to that letter, we have prepared and I have submitted to the committee, and I assume you have before you, a statement which tries as best we can to answer in some detail each one of those questions.

In order not to impose upon the time of the committee, I would like to submit this statement for the record for your perusal in reading and then describe perhaps briefly in my own words the various activities in which the Department is presently engaged.

The CHAIRMAN. Without objection, Mr. Donahue, that will be made a part of the record.

(The statement referred to above follows:)

STATEMENT OF CHARLES DONAHUE, SOLICITOR OF LABOR

Thank you for the opportunity to appear before this subcommittee today to tell you of the activities of the Department of Labor in the safety movement. The

prevention of accidents and their deleterious effects on both the individuals concerned and the Nation is indeed a matter of serious concern to the Department of Labor, as well as this subcommittee and its distinguished chairman. We are pleased to participate in these hearings and to discuss this problem with you.

This subcommittee's hearing have been helpful in focusing national attention on the fact that accidental injuries constitute a major problem in the United States.

The Department of Labor has long been concerned with accident prevention. The congressional mandate establishing the Department charged it with the responsibility for improving the working conditions of the wage earners of the United States, and occupational safety is an integral part of its function. We are concerned with the intolerable effect of the work accident on the individual and his family—from the simple accident when a workman stumbles in the hall to the disaster accident such as the fire on the aircraft carrier *Constellation* in 1961 in which 50 persons perished and 150 were seriously injured.

Data compiled by the Bureau of Labor Statistics indicates that some 2 million persons experience disabling work injuries each year resulting in almost 14,000 deaths and untold misery and hardship.

We are also concerned with the estimated 170 million man-days lost each year by the injured workers as a result of work accidents—an irretrievable loss to the development of the Nation's economy. Moreover, the direct and indirect expense of such accidents cost this country almost \$4½ billion annually.

These figures do not represent the inevitable minimum of annual industrial casualties. Experts in the field of industrial accident prevention are agreed that industrial accidents can be greatly reduced. Safety experience shows that the great majority of all accidents are preventable. Where sound safety measures have been adopted, there has been a substantial decrease in accidental injuries. As a consequence the Department of Labor has developed a program of field research, development, training, and consultation in the field of occupational safety. I would now like to discuss the safety activities of the Department of Labor.

BUREAU OF LABOR STATISTICS

The Bureau of Labor Statistics is the major compiler of work injury statistics in the United States. The Bureau's work in this field started on an intermittent basis well before the turn of the century and was formalized into a continuing program about 1907. The basic purpose was then, and still is, to service the occupational safety movement by providing comprehensive information about the incidence and causes of work injuries. These data are basic tools in the planning of any occupational safety program and constitute the most comprehensive national materials for appraisal of trends in work injury occurrence and for the evaluation of the success of public and private safety programs.

On the basis of the information which it compiles, the Bureau of Labor Statistics serves as a consultant to Federal, State, and municipal bodies which have authority to conduct or enforce occupational safety programs, as well as to many individual companies, private and professional organizations, and unions which need factual materials for planning and promoting interest in their occupational safety programs. The Bureau's data in this field are also widely used for safety instruction in public schools and colleges.

The primary products of the Bureau's research program include annual estimates of the total volume of disabling work injuries in the United States and the resulting economic losses; a quarterly compilation of work injury frequency rates in monthly detail for each of 138 manufacturing industries; and annual injury frequency and severity rates in 205 manufacturing and 115 nonmanufacturing industry classifications, which requires the voluntary participation of 80,000 establishments each year.

In addition, the Bureau conducts special one-time studies of particular aspects of work-injury occurrence for which accident preventionists have indicated a need. These programs identify the problem areas on which effective safety programs should be concentrated and indicate the kinds of engineering research needed to provide hazard-free workplaces.

The budget allocation for these operations in fiscal 1962 is 37 full-time positions with total costs of \$265,128. No research grants or contracts are made.

The activities of the Bureau of Labor Statistics are closely coordinated with the activities of the National Safety Council and Federal, State, municipal, and

private agencies operating in this field. The Bureau refrains entirely from collecting data on occupational accidents in the industries covered by other Federal agencies, such as railway transportation covered by the Interstate Commerce Commission, and Federal employment covered by the Bureau of Employees' Compensation. Data compiled by such agencies are picked up for inclusion in the Bureau's reports. We believe duplication of activities has been avoided by maintaining establishing jurisdictional lines and through close interchange of data.

Information on occupational safety research is currently being widely distributed to all of the many segments of Government and industry except small businesses. Despite intensive efforts, few small establishments have direct contact with the safety movement. However, the President's Conference on Occupational Safety is making some progress in bringing safety awareness to this group.

BUREAU OF EMPLOYEES' COMPENSATION

Statistical studies and research programs are conducted by the Bureau of Employees' Compensation to develop information needed for the administration of Federal workmen's compensation. These studies also develop data essential for an effective safety program in the covered employments. Occupational safety studies, as well as special studies made at the request of a Federal agency, are adjunct to the administrative and operating statistics and research program of the Bureau.

It is estimated that approximately 15 percent of the time of the Bureau staff engaged in its statistical program is devoted to the compilation of reports of accident experience developed for safety programs in the Federal service. This would be equivalent to an annual cost of about \$25,000. It should be noted, however, that the approved budget for fiscal year 1963 includes an increase of \$37,000 for employment of seven additional employees to expand statistical research activities and provide more detailed studies of injuries to Federal employees.

BUREAU OF LABOR STANDARDS

The Bureau of Labor Standards, out of 23 offices, conducts field and office research on technical safety problems on a day-by-day basis. It has approximately 180 persons and a budget of \$2 million per year supporting its consultation services in the field of accident prevention. It works with all 50 States, which States expend some \$12 million per year in helping provide a safe environment in workplaces, and with all Federal agencies and the 100 Federal safety councils throughout the country. The Bureau of Labor Standards has regulatory authority over ship repairing and longshoring activities in all the Nation's ports under Public Law 85-742. Present research activities include the problems of design, testing, and certification of cargo gear on merchant vessels, the problems of testing and gas freeing of hazardous environment, the control of hazardous cargoes, problems of preservative coatings, design and construction of pallets, problems of containerization, mechanization, the use of radioactive substances; and new technology in methods, processes and work practices.

This research and development work is translated into technical bulletins, training materials, educational pamphlets, and codes and standards which can be utilized nationwide.

All occupational safety programs are coordinated with other agencies, public and private, to prevent duplication of effort. The Bureau maintains constant liaison on committees, conferences, conventions, and other working groups of the National Safety Council, Bureau of Labor Statistics, Department of Health, Education, and Welfare, National Mutual Alliance, Association of Casualty & Surety Companies, Associated General Contractors, Inc., headquarters of the AFL-CIO, international headquarters of numerous unions, Manufacturing Chemists Association, American Petroleum Institute, Atomic Energy Commission, Federal Radiation Council, Nuclear Standards Board and subgroups, including other boards and working committees of the ASA, ILO, ISSO, CIS, and many, many other national and international groups which are interested in projects being undertaken in the broad field of protecting the wage earner at the workplace. By bringing all such interested parties in on research and development projects we eliminate duplication of efforts as much as is practically possible.

The Bureau utilizes many sources of information regarding safety research. The sources of information include the American Standards Association, the insurance companies and associations, colleges and universities, State and public

organizations, the National Safety Council which has nearly 30 industrial committees and groups, research organizations of the international labor organizations, the technical papers produced by the engineering and professional societies and associations, the many Government agencies which are constantly developing and publishing information, and the work done by key industrial corporations.

The youth employment hazards program also conducted by the Bureau of Labor Standards is aimed at reducing work injuries to youth. Under this program, the Bureau (1) makes investigations, as provided under the Fair Labor Standards Act, to determine which occupations are too hazardous for minors and warrant the mandatory 18-year age minimum for employment, (2) develops, in cooperation with the Department of Agriculture and farm organizations, recommended safety practices for the thousands of minors under 18 employed as paid workers in agriculture, and (3) develops advisory safety practices for the protection of youth employed in other areas.

Moreover, the work of the Department of Labor in the field of occupational safety here in the United States has attracted international attention. In connection with America's mutual assistance programs throughout the world, a steadily increasing number of specialists have been sent by their countries to America in order that they may see at first hand the progress being made in occupational safety in the United States. In addition, a number of these countries have invited employees of the Bureau of Labor Standards to participate in their national trade fairs—on both sides of the Iron Curtain. Recently, the Inter-American Development Bank, a corporation made up of representatives from 20 countries of the Western Hemisphere, has instituted safety programs in those countries where its funds are being advanced for the growth of industry.

WAGE AND HOUR AND PUBLIC CONTRACTS DIVISIONS

The safety and health provisions of the Walsh-Healey Public Contracts Act require the observance of minimum standards of safety and health in industrial establishments performing on Government contracts within the scope of the act. These provisions are administered by the Wage and Hour and Public Contracts Division.

The staff of the divisions devoted to this work consists of nine safety engineers heading up a cooperative Federal-State enforcement program. The direct budget of the divisions for these engineers is approximately \$140,000 per year.

As an operating agency, the divisions do not conduct a formal primary research program themselves. They rely on other agencies and participate in a broad spectrum of research programs in the safety and health field as the needs of the inspection program indicate. For example, staff engineers are members of several American Standards Association committees which develop standards. Two examples are cranes, derricks and hoists, and textile safety code.

In 30 States inspections are made by investigators of the divisions who are trained safety and health inspectors. Since investigations for safety and health are conducted as part of a coordinated investigation program under both the Fair Labor Standards Act and the Public Contracts Act, no separate figures on expenditures are available.

In 20 States and the District of Columbia inspections are made by the inspection staffs of State departments of labor pursuant to agreements with the Department of Labor. In addition, in fields where specialized Federal agencies are better equipped to conduct inspections under certain types of Government contracts, the divisions have made agreements with these agencies to perform such inspections. Examples would be the agreement with the Federal Bureau of Mines to conduct inspections of coal mines and an agreement with the U.S. Public Health Service for assistance with any problems concerning health.

WOMEN'S BUREAU

Information on the health and safety standards for working women established by the States is compiled by the Women's Bureau. On the basis of this information, recommended standards for employment of women are developed. These standards are included in publications of the Women's Bureau. In addition, technical assistance on proposed legislation and regulations is provided State labor departments upon request.

This program is part of the activities of the Women's Bureau which is charged with the responsibility for improving the working conditions of wage-earning women and promoting their welfare.

Mr. DONAHUE. Thank you, sir. First, I would like to mention the activities of the Bureau of Labor Statistics. These activities actually go back to a time even before the Department of Labor was created, go back to the earlier part of the century, I believe around 1907, when the Bureau first started collecting figures concerning the quantity and quality and causation of various accidents and injuries connected with work and employment.

That activity has been extended and expanded over the years. It is carried out by visiting and interviewing factories and places of employment and employers in those places, in entering and going over their records, either the records which are kept for workmen's compensation purposes or for any other purposes in an effort to pinpoint the types of accidents which are occurring in industry, industry by industry, and also in an effort to find out what did it.

The Bureau of Employees Compensation carries on the same type of research and factfinding function with respect to two additional statutes; namely, as to Federal employment, with respect to which they administer unemployment workmen's compensation, and also as to activities under the Longshoremen's and Harbor Workers' Act, under which the Bureau has the important responsibility of insuring that workers receive compensation for injuries occurring along the waterfront and in longshore occupations, a field which is not subject to State regulation and which is exclusively reserved for Federal jurisdiction.

The Bureau of Labor Standards has had several functions in the safety field over a long period of time. First, the Bureau had a singular interest in trying to promote safety and accident prevention in places of employment throughout the Nation. This was primarily a promotional and an educational function which still continues on an expanded basis today.

In other words, an expert staff has been gathered together in the Department of Labor and that staff has the purpose of insuring the adequate and effective use of State laws and their improvement by purely voluntary means; and, secondly, of conducting safety courses for State inspectors and compliance officials in State agencies; and, third, in engaging in research of an engineering character and of a physical material character, as distinguished from a medical character, concerning the cause and cure of industrial accidents and the proper development of standards to be applied in work places for the purposes of insuring safety and preventing injury or death.

The Bureau of Labor Standards also has one additional very important function and that is for the past 2 years, approximately speaking, it has been cloaked with the authority to develop and enforce codes for safety in longshoring and maritime waterfront occupations. It has developed some 23 field offices which have the primary function of insuring compliance with these codes in and on ships along the waterfront and in ship repair facilities along the waterfront.

A function which runs hand-in-hand and arm-in-arm with the Longshoremen's and Harbor Workers' Compensation Act itself, and just as that act is designed basically to provide benefits making up for injuries occurring in work along the waterfront, so the safety provisions of the act are designed to prevent those very accidents and to prevent the calamity of injury which may occur on the waterfront and be compensable under the other provisions of the law.

There is a fourth function in the Department of Labor which also directly affects matters of safety and that is the administration of the Walsh-Healey Public Contracts Act, which applies to manufacturing and Government supply contracts.

As the chairman undoubtedly knows, the Walsh-Healey Act applies to all Government contracts for supplies and manufacturing and furnishing those supplies in excess of \$10,000, and the act itself covers wages and hours and working conditions, and as a part of the working conditions the act itself provides that the place of employment in which these Government contracts are performed shall be safe for the workers who are performing the work.

It says that compliance with State law shall be prima facie evidence of compliance with the requirement of the Walsh-Healey Act. It hastens to add, however, that the Secretary of Labor has the authority to establish certain additional norms and standards which must be conformed to in the performance of the contract. These norms and standards have been set and where they set a higher standard than that which is provided for under the State law, then those norms or codes would apply.

A final type of activity which is being carried on by the Department of Labor is vested in the Women's Bureau, which for very many years, ever since its creation in I believe about 1920, has been conducting research into the peculiar needs of women, providing for them safe and healthful work places and practices in industry and insuring, for example, that their hours are not unduly long and that they do not have to engage in physical activities which may be injurious to their physical well-being.

Those, in summary, Mr. Chairman, are the activities which we presently engage in. They are important responsibilities which are characteristically vested in labor departments, whether in the Federal Government or in labor departments in the various State governments throughout the country.

They are activities which I believe are very properly carried on by the Department of Labor and which I think should be recognized and respected in any legislative action which the subcommittee should choose to take: and therefore, I might suggest that, while we believe that the subcommittee and the chairman is undertaking a very necessary legislative action in proposing and promoting the legislation before the subcommittee, and we have every sympathy for it; we believe that this salutary measure, like any salutary measures, when first introduced is often in broad and general terms, and that is understandably so from many points of view.

We recognize that those general terms of course are frequently, if not always, tailored with the use of commonsense and discretion by the congressional committees considering them, and we would suggest in the course of that necessary committee action that consideration be given to various amendments which will insure at the same time that the important work suggested by the bill could go forward and that that important work would not conflict with, overlap, or duplicate existing and necessary additional and other functions of the Federal Government.

I thank the chairman and the members of the committee for your time today, and we would be glad to answer any questions which you may have.

The CHAIRMAN. Thank you, Mr. Solicitor. I think you have done a very fine job in presenting the scope of activities engaged in by the Department of Labor. The Chair is grateful to you for the contributions you have made and the information which you have furnished for the benefit of the committee. The Chair can certainly appreciate that there may be some changes which you would like to suggest.

I might say that they shall certainly be considered and well received by the subcommittee when we start considering this bill in executive session.

The Chair is very anxious that we avoid any duplication, or overlapping, or double expenditure of the taxpayers' funds and we certainly shall endeavor to see that the final draft of the bill is such that it can be supported after consideration of those factors.

Now, in the industrial field, do you know of any Government research which goes on as to various types of machinery that, unless properly safeguarded, could be dangerous to an employee?

Mr. DONAHUE. The answer to that is "Yes," Mr. Chairman, and in order to present the details of Government activities in research in the area you describe, I would like to call upon Mr. Gidel.

Mr. GIDEL. In our statement, Mr. Chairman, we point out that the Bureau of Labor Standards is constantly drawing on the knowledge that is being developed by many, many organizations. We have constant liaison with working groups of such organizations as the American Standards Association, and its various subcommittees, the insurance companies, and their associations the various industrial corporations who are represented on some 25 to 30 committees of the National Safety Council, and with our own technical groups and committees which we form to develop standards and technical information on such things as safe operation of machinery, the controls of handling certain types of materials, certain types of methods and processes, and the like.

There is no one source that we go to because there is constant work being done in all of these sources. There are technical bulletins being published constantly by the National Safety Council, the insurance organizations, by our own organization, and it is a day-by-day working relationship of this sort that we rely on to come up with the answers in the area of technical data and information which will prevent injury to workers.

The CHAIRMAN. Then primarily in your work with the various State agencies you are concerned with technicians, and with information, and with methods, and not with medical or clinical research in the field of accident prevention?

Mr. GIDEL. The one area we do not concern ourselves with is the medical and clinical aspects of effects of the environment along this line on the worker. We do rely on the Public Health Service, the Department of Health, Education, and Welfare, and other medical and clinical sources for this type of information, and when we have a problem such as this we ask these sources for the data they have and then from that try to determine the engineering, and the operational, and methods controls for preventing injury to the worker at the workplace.

The CHAIRMAN. Do you have with you, or could you supply for the record, the number of persons per year who meet death in their occupation?

Mr. DONAHUE. The Bureau of Labor Statistics would be very glad to furnish that, Mr. Chairman.

The CHAIRMAN. I would also like to have with that the number of industrial accidents, and with it the estimated cost in days out of work, days in the hospital, medical cost, and so forth, if you have those figures?

Mr. DONAHUE. Is that available, Mr. McElroy?

Mr. McELROY. Mr. Chairman, we regularly prepare in the Bureau of Labor Statistics annual estimates of the total volume of disabling work injuries with a breakdown in terms of deaths, permanent impairments, and temporary disabilities. We supplement these estimates with estimates of the total number of days of inability to work which result from those particular injuries.

We do not have dollar-cost estimates. Insofar as I know there are no really comprehensive dollar-cost estimates other than those which are issued by the National Safety Council. The Safety Council does issue a dollar-loss figure broken down in terms of direct costs to the employer and indirect costs resulting from the accidents which are absorbed through other groups than the employer. This would include the loss to the worker, the overhead cost to insurance companies, and so on, but we in the Government do not have a dollar-cost figure, nor do we have a figure on numbers of days in hospitals, but we do have, as I say, an estimate of the number of days lost because of work injuries.

I have a copy of the release presenting these figures for 1961. I can give that to the stenographer for the record now.

The CHAIRMAN. Very well. Without objection that will be included in the record.

(The release referred to above follows:)

NEWS

from

U. S. DEPARTMENT OF LABOR

Arthur J. Goldberg, Secretary

For Release: Wednesday AM Editions
February 7, 1962

USDL 5029

Estimated
Work Injuries,
1961

Bureau of Labor Statistics
Frank S. McElroy
Telephone: 961-2318

Work Injuries Decline Slightly in 1961

Deaths and disabling injuries resulting from work accidents declined in 1961. There were approximately 13,500 deaths, and about 1,930,000 disabling injuries, according to preliminary estimates prepared by the U.S. Department of Labor's Bureau of Labor Statistics. In 1960 there were 13,800 deaths and 1,950,000 disabling injuries.

The slight decline in injuries and deaths, with employment holding at about the same average level as in 1960, resulted in lower injury rates. Disabling injuries occurred at a rate of 30.1 per 1,000 workers in 1961, compared with a rate of 30.4 in 1960. The only other lower rate on record was 29.6, in 1958. The death rate was 21 per 100,000 workers in 1961, which was below the previous record of 22, that had prevailed for the past 3 years.

Each of the injuries included in these estimates disabled the worker for at least 1 full day or more. In addition to the 13,500 deaths, approximately 80,500 injuries resulted in some permanent physical impairment, ranging from the partial loss of the use of a finger or toe to complete inability to work at any gainful employment. The great

majority (1,836,000), however, were only temporary in nature and resulted in no permanent ill effects. These latter injuries averaged about 17 days of disability per case.

Altogether, these work injuries and deaths resulted in about 40 million man-days of disability during 1961. When the future effects of the deaths and permanent impairments are evaluated and added to the immediate loss, the total will amount to approximately 163 million man-days of disability. This is equivalent to a year's full-time employment of about 525,000 workers.

The principal decrease in injuries occurred in manufacturing. Average employment and total hours of exposure to job injuries decreased about 3 percent. The injury rate for 1961 was about 4 percent below that for 1960. The resulting estimate of 375,000 injuries was about 6 percent below the 1960 total.

In agriculture, mining, transportation, and public utilities there were modest decreases in the number of injuries, paralleling fairly closely the declines in employment.

Injuries in contract construction remained virtually unchanged, though there was a 4 percent decline in employment. As a result, it is estimated the injury rate was up about 5 percent.

Trade showed virtually no change in either employment or injuries.

Increased employment in finance, service, and State and local government resulted in modest increases in the volume of injuries, without any appreciable change in injury rates. Injuries in Federal Government employment decreased slightly.

246 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

ESTIMATED NUMBER OF DISABLING WORK INJURIES BY INDUSTRY DIVISION, 1957 to 1961

Industry division and type of disability	All workers ^{1/}					Employees only				
	1961 ^{2/}	1960 ^{2/}	1959 ^{2/}	1958 ^{2/}	1957 ^{2/}	1961 ^{2/}	1960 ^{2/}	1959 ^{2/}	1958 ^{2/}	1957 ^{2/}
Total disabling injuries	1,930,000	1,950,000	1,960,000	1,860,000	1,890,000	1,490,000	1,508,000	1,516,000	1,380,000	1,446,000
Agriculture ^{3/}	284,000	287,000	291,000	291,000	296,000	60,000	60,000	60,000	60,000	60,000
Mining ^{4/}	43,000	45,000	48,000	49,000	50,000	16,000	16,000	16,000	16,000	16,000
Contract construction ^{5/}	209,000	210,000	215,000	201,000	211,000	165,000	165,000	173,000	158,000	167,000
Manufacturing ^{6/}	375,000	398,000	422,000	361,000	411,000	358,000	361,000	405,000	341,000	391,000
Transportation and public utilities ^{7/}	179,000	181,000	184,000	169,000	184,000	165,000	169,000	170,000	156,000	171,000
Trade ^{8/}	360,000	360,000	351,000	330,000	330,000	276,000	276,000	268,000	250,000	251,000
Finance, service, government, and miscellaneous industries ..	480,000	487,000	486,000	413,000	398,000	288,000	285,000	296,000	266,000	253,000
Deaths ^{9/}	13,300	13,800	13,800	13,300	14,800	9,800	10,100	10,100	9,700	10,400
Agriculture ^{3/}	3,300	3,300	3,400	3,300	3,500	1,000	1,000	1,000	1,000	1,000
Mining ^{4/}	700	800	700	700	800	700	700	600	600	800
Contract construction ^{5/}	2,200	2,100	2,500	2,100	2,500	1,800	1,900	2,100	1,900	2,000
Manufacturing ^{6/}	2,100	2,700	3,900	2,800	3,800	1,600	1,600	1,800	1,700	1,900
Transportation and public utilities ^{7/}	2,900	2,600	2,900	2,100	2,500	1,400	1,500	1,400	1,300	1,400
Trade ^{8/}	1,800	1,800	1,800	1,800	1,300	900	900	900	900	1,000
Finance, service, government, and miscellaneous industries ..	2,800	2,800	2,600	2,500	2,500	2,500	2,500	2,100	2,300	2,300
Permanent impairments ^{10/} , ^{11/}	80,500	82,800	83,400	76,700	80,800	63,600	65,000	66,900	60,300	63,600
Contract construction ^{5/}	5,800	5,800	6,100	5,600	5,600	4,600	4,600	4,800	4,400	4,400
Manufacturing ^{6/}	24,000	23,500	27,000	23,000	25,300	24,400	24,400	26,000	22,000	24,000
Trade ^{8/}	8,100	8,100	8,300	7,800	7,500	6,400	6,400	6,200	5,600	5,500
Temporary-total disabilities ^{12/} ..	1,436,000	1,454,000	1,463,000	1,730,000	1,795,000	1,116,600	1,138,900	1,139,000	1,110,000	1,172,000
Contract construction ^{5/}	200,900	201,800	209,100	195,000	202,900	158,600	158,500	165,200	151,700	160,600
Manufacturing ^{6/}	349,300	376,800	391,100	316,400	361,800	311,400	305,000	377,200	300,300	367,100
Trade ^{8/}	300,400	300,400	311,600	285,000	287,300	266,700	266,700	260,900	250,000	244,900

^{1/} Includes proprietors, self-employed, and unpaid family workers, as well as employees, but excludes domestic service workers.
^{2/} Preliminary.
^{3/} Revised; see note below.
^{4/} The total number of work injuries in agriculture is based on cross-section surveys by the U. S. Department of Agriculture in 1957 and 1958, with adjustments for changes in employment. These are considered to be minimum figures; injuries experienced in performing chores are excluded, and there are some indications of underreporting.
^{5/} Based largely on data compiled by the Bureau of Mines, U. S. Department of the Interior.

^{6/} Based on small sample surveys by the Bureau of Labor Statistics.
^{7/} Based on comprehensive surveys by the Bureau of Labor Statistics.
^{8/} Based on small sample surveys by the Bureau of Labor Statistics for certain segments and on data compiled from other sources for other segments of the industry.
^{9/} Based on sample surveys, as indicated by footnotes 4 to 8, and on vital statistics reports.
^{10/} Includes approximately 1,300 permanent-total impairments each year.
^{11/} Includes data for industries not shown separately.

NOTE: Estimates of disabling work injuries have been revised to reflect changes in employment by industry, resulting from adoption of the 1957 edition of the Standard Industrial Classification Manual. The principle changes were the transfer of about 300,000 employees in the fluid milk and ready-mixed concrete industries from the trade to the manufacturing divisions and the transfer of approximately 90,000 employees in radio and television broadcasting from the services to the public utilities industries. There were also other minor revisions in industry definitions and some increases in the estimated level of employment as a result of adjustment to new benchmark figures.

Data for Alaska and Hawaii are included beginning with 1959. This adjustment added about 10,000 to the total number of disabling injuries.

Technical Notes

These data were compiled according to the American Standard Method of Recording and Measuring Work Injury Experience, approved by the American Standards Association in 1954.

The injuries shown in these tabulations include all classes of disabling work injuries. A disabling work injury is any injury occurring in the course of and arising out of employment, which results in death, permanent impairment, or temporary-total disability.

Any death resulting from a work injury which occurred during the report year is counted, regardless of the length of time elapsed between the injury and the death.

A permanent impairment is any injury other than death which results in the complete loss or loss of use of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof. However, the following are not classed as permanent disabilities: (a) repaired inguinal hernias; (b) loss of fingernails or toenails, or fingertips not involving bone; (c) loss of teeth; (d) disfigurement; (e) strains or sprains which do not cause permanent limitation of motion; and (f) simple fractures of fingers and toes; also such other fractures as do not cause permanent impairment or restriction of normal function of the injured member.

A temporary-total disability is any injury which does not result in death or permanent impairment, but which renders the injured person unable to perform a regularly established job which is open and available to him, during the entire time interval corresponding to the hours of his regular shift on any one or more days (including Sundays, days off, or plant shutdown) subsequent to the date of injury. The term "injury" includes occupational disease.

Injuries which require only first-aid or medical treatment are not included in the computation of injury rates nor in the estimates of disabling work injuries. Absence from work for a part of a day for treatment is not considered "disabling." To be counted as "disabling," an injury must have either caused some permanent impairment (as defined above) or made the person unable to work at a regularly established job for at least one full day after the day of injury. Cases are counted, however, even if the inability to work existed only on a Saturday, Sunday, or some other nonwork day.

Inguinal hernias are considered as work injuries only if precipitated by impact, sudden effort, or severe strain; there was a clear record of an accident or incident, such as a slip, trip, fall, sudden effort, or overexertion; and there was actual pain in the hernial region at the time of the accident or incident so acute that the injured worker was forced to stop work long enough to draw the attention of his

foreman or fellow worker, or the attention of a physician was secured within 12 hours. Likewise, back injuries or strains are considered as work injuries only if there was a clear record of an accident or incident, such as a slip, trip, fall, sudden effort, overexertion, or blow on the back, and the physician authorized to treat the case was satisfied that the injury could have arisen from such accident or incident.

These estimates of work injuries differ from those derived from the U. S. National Health Survey, because of differences in concept. The National Health Survey totals include persons with injuries involving one or more days of "restricted activity" or medical attention, and thus are much broader than the concept of "disabling" injury, as defined above. On the other hand, in the National Health Survey, all accidents in which a motor vehicle was involved in any way are classified as "motor-vehicle" accidents, and are not included in the estimates of "work accident." There are also other conceptual differences between "persons injured" in "work accidents" and "disabling work injuries."

The days of disability include standard time charges for deaths and permanent impairments, based on average work-life expectancy and estimated percent loss of working efficiency. The estimate of days of disability during the report year is based on 150 days per case for deaths and permanent-total impairments, and a prorata estimate of the first year's losses for permanent-partial impairments. The estimated total days of disability attributable to the injuries which occurred in any given year includes the projected future losses resulting from deaths and permanent impairments. Deaths and permanent-total impairments are each assigned a time charge of 5,000 days. For permanent-partial impairments, the days of disability are estimated on the basis of the average of time charges for the various permanent-partial cases reported. In the estimates, both for the report year, and for the total including future losses, the days of disability due to temporary cases include the number of full calendar days during which the injured persons were unable to work.

These estimates of work injuries were compiled by the U. S. Department of Labor, Bureau of Labor Statistics, in collaboration with the National Safety Council. They are based upon all available data from various Federal and State agencies and upon sample surveys in some industries. Data on the exact distribution of cases by type of disability are not available for some industries; in these instances approximations of the breakdown of cases have been made for inclusion in the grand totals, but have not been shown for the individual industries. See footnotes to table for specific sources and limitations. Similar estimates are available back to 1936.

NEWS

from the

U. S. DEPARTMENT OF LABOR

James P. Mitchell, Secretary

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Injury Rates
by Industry
1958

Bureau of Labor Statistics
F. S. McElroy
Executive 3-2420 - Ext. 2318

WORK INJURY RECORD FOR 1958 SHOWS FEW CHANGES FROM 1957

Final work-injury rates for 1958, released today by the U. S. Department of Labor's Bureau of Labor Statistics, showed few significant changes from 1957.

The all-manufacturing injury-frequency rate was at an all-time low in 1958 with 10.9 disabling injuries per million man-hours worked, but this rate was only 4 percent below 1957. At 46.8, coal mining was fractionally lower than in 1957. Somewhat greater declines occurred in the rates for some of the smaller individual classifications in the various nonmanufacturing groups. (See table 1.)

On the other hand, the average frequency rates for construction and trade were slightly higher than in 1957. Rates for most classifications in transportation, utilities, finance, service, and government showed little change.

Although the 1958 record reflects no spectacular gains in accident prevention over the previous year, the improvements recorded in recent years were retained. Over the long term, the 1958 experience in most industries was substantially better than in the years immediately following World War II. The 1958 all-manufacturing frequency rate was 45 percent below the 1946 level and 25 percent below 1949. The contract construction average was down 23 percent from 1946, and the rates for most mining activities were substantially lower. Trade as a whole has shown little improvement.

The highest injury-frequency rate reported in the 1958 survey was 63.8, for logging. Anthracite mining had a rate of 60.8, and several other mining classifications showed rates of over 50. City sanitation departments had a rate of 56.1; roofing and sheet-metal work, 44.8; poultry dressing and packing, 43.1; and sawmills, 42.7.

The lowest rate recorded in the survey was 0.7 in the telephone communications industry. Banks and insurance companies had rates of 2.2, and a number of Government agencies reported low rates. Among the lowest rates for manufacturing industries were: 2.3 for the radio tubes industry; 2.4, explosives; 2.5, synthetic rubber; 2.6, miscellaneous communication equipment; 2.7, synthetic fibers; and 2.9, aircraft.

In manufacturing, injuries reported in the 1958 survey averaged 66 days of disability per case. Out of each 1,000 disabling injuries reported, 4 resulted in death and 68 in some degree of permanent impairment. The remaining 928 were temporary in nature, with an average of 19 days disability per case. The standard severity rate for manufacturing was 763 days of disability for each million man-hours worked in 1958, little changed from 1957.

Work injuries in contract construction averaged 90 days per case, and the severity rate was 2,553. In trade, the corresponding figures were 44 and 483.

On the basis of the survey data and other available information, it was estimated that a total of 1,820,000 workers were disabled by on-the-job injuries during 1958. Of these injuries, 13,300 resulted in death and 76,700 in some degree of permanent physical impairment. Manufacturing and trade each accounted for 340,000 work injuries, and 300,000 were attributed to agriculture. (See table 3.)

Table 1. Injury rates by industry, 1958 (with comparable injury-frequency rates for 1957) 1/

Industry	Number of reporting units	Injury-frequency rates		Injury-severity rates 2/	Average days of disability per case 2/	Percent of disabling injuries resulting in--2/		Temporary-total disability
		1958	1957			Death	Permanent Impairment	
All manufacturing.....	19,891	10.9	11.4	763	66	0.4	3/ 6, 8	92.8
Food and kindred products.....	6,972	18.5	18.7	1,027	53	.2	4.5	95.3
Meat products 1/.....	880	25.0	23.3	934	30	.1	3.3	96.6
Meat packing and custom slaughtering.....	481	21.6	21.0	905	30	.1	3.4	96.5
Sausages and other prepared meat products	272	23.4	22.0	553	22	--	4.2	95.8
Poultry and small game dressing & packing	104	43.1	37.1	--	--	--	--	--
Dairy products.....	576	17.0	17.0	556	31	.1	1.6	98.3
Canning and preserving.....	1,003	19.3	20.8	1,117	59	.3	5.0	94.7
Grain-mill products.....	737	15.9	15.4	1,236	69	.4	4.8	94.8
Bakery products.....	950	15.8	16.4	971	66	.4	5.7	93.9
Sugar.....	104	22.0	23.2	1,047	47	.2	4.5	95.3
Cane sugar.....	32	44.5	17.4	--	--	--	--	--
Beet sugar.....	72	34.5	33.2	1,421	42	.1	4.4	95.5
Confectionery and related products.....	294	13.4	13.4	1,683	102	.1	8.6	91.3
Beverages.....	1,848	18.6	18.5	1,408	54	.3	4.0	95.7
Bottled soft drinks.....	1,488	22.5	22.4	857	38	.1	3.5	96.4
Malt and malt liquors.....	198	16.6	16.9	1,013	54	.3	4.5	95.2
Wines.....	58	17.7	14.7	--	--	--	--	--
Distilled liquors.....	104	8.2	8.0	--	--	--	--	--
Miscellaneous food products.....	580	13.3	15.8	949	57	.3	4.8	94.9
Tobacco manufacturers.....	145	6.8	7.0	231	34	--	6.6	93.4
Textile-mill products.....	2,821	9.0	9.8	536	54	.2	6.1	93.7
Cotton yarn and textiles.....	615	7.8	8.2	520	60	.3	5.3	92.8
Rayon, other synthetic, and silk textiles.....	364	6.5	8.0	268	34	--	6.9	94.7
Woolen and worsted textiles.....	248	16.2	18.1	884	55	--	5.9	94.1
Knit goods.....	896	5.1	5.8	157	31	.1	2.3	97.6
Dyeing and finishing textiles.....	298	14.1	13.9	880	55	.1	7.2	92.7

Carpets, rugs, and other floor coverings...	76	11.4	11.2	855	75	.3	6.2	93.5
Hats (except cloth and millinery).....	43	14.1	5/15.5	--	--	--	--	--
Cordage and twine.....	56	19.6	15.0	--	--	--	--	--
Miscellaneous textile goods.....	225	13.4	15.0	--	--	--	--	--
Apparel and other finished textile products ^{1/2}	5,289	5.9	6.3	248	43	.3	1.9	97.8
Clothing, men's and boys'.....	1,178	5.7	6.6	176	31	.1	2.1	97.8
Clothing, women's and children's.....	2,796	5.2	5.1	269	52	.6	1.2	98.2
Fur goods and miscellaneous apparel.....	351	6.7	8.2	--	--	--	--	--
Miscellaneous fabricated textile products..	873	9.4	9.4	352	41	--	3.2	96.8
Lumber and wood products (except furniture) ^{1/2} ..	3,797	37.3	37.9	3,338	78	.5	6.3	93.2
Logging.....	522	63.8	62.3	8,184	124	1.1	4.0	94.9
Sawmills and planing mills ^{1/2}	1,848	39.3	40.4	2,999	73	.4	5.6	94.0
Planing mills.....	235	31.3	30.2	--	--	--	--	--
Sawmills.....	817	42.7	45.0	3,060	70	.4	5.4	91.2
Saw and planing mills, integrated.....	676	38.9	39.9	3,314	80	.6	5.2	91.2
Veneer mills.....	80	36.5	37.1	--	--	--	--	--
Millwork and related products.....	680	22.4	22.6	1,963	82	.3	11.5	88.2
Millwork and structural wood products....	581	22.1	21.8	1,648	77	.2	11.6	88.2
Plywood mills.....	99	23.0	23.9	--	--	--	--	--
Wooden containers.....	330	27.6	28.4	1,172	38	--	7.5	92.5
Miscellaneous wood products.....	417	26.2	28.8	2,562	81	.8	5.2	91.0
Furniture and fixtures ^{1/2}	1,690	16.0	17.6	1,055	65	.3	9.6	90.1
Household furniture.....	1,198	16.4	17.4	1,101	66	.2	9.4	90.4
Household furniture, nonmetal.....	836	17.0	18.5	1,011	57	.2	9.6	90.2
Metal household furniture.....	110	16.1	14.7	--	--	--	--	--
Mattresses and bedsprings.....	252	13.7	14.0	--	--	--	--	--
Office furniture.....	67	13.8	16.5	--	--	--	--	--
Wood office furniture.....	26	15.6	18.6	--	--	--	--	--
Metal office furniture.....	41	13.3	15.9	--	--	--	--	--
Public-building and professional furniture.	72	13.1	16.3	--	--	--	--	--
Partitions and fixtures.....	219	17.2	19.0	--	--	--	--	--
Screens, shades, and blinds.....	116	13.6	19.3	--	--	--	--	--

See footnotes at end of table.

Table 1. Injury rates by industry, 1958 (with comparable injury-frequency rates for 1957) 1/-continued

Industry	Number of reporting units	Injury-frequency rates		Injury-severity rates 2/	Average days of disability per case 2/	Percent of disabling injuries resulting in--2/		Temporary-total disability
		1957				Death	Permanent impairment	
		1958	1957					
Paper and allied products.....	1,856	11.4	12.4	901	62	0.3	6.9	92.8
Pulp, paper, and paperboard mills.....	497	9.4	10.6	1,135	97	.7	7.9	91.4
Envelopes.....	88	13.5	13.2	--	--	--	--	--
Paperboard containers and boxes.....	835	11.1	15.0	637	41	.1	6.1	93.5
Miscellaneous paper and allied products.....	436	12.1	13.2	762	50	.1	6.0	93.9
Printing, publishing, and allied industries.....	3,722	8.7	9.2	371	41	.2	4.2	95.6
Newspapers and periodicals.....	1,194	8.6	9.1	403	46	.2	3.5	96.3
Bookbinding and related products.....	197	13.6	12.9	--	--	--	--	--
Miscellaneous printing and publishing.....	2,331	8.5	6.9	312	35	.1	4.9	95.0
Chemicals and allied products.....	2,710	7.9	7.7	833	86	.6	4.7	91.7
Industrial inorganic chemicals.....	212	4.9	4.4	--	--	--	--	--
Industrial organic chemicals.....	411	3.6	3.5	769	154	1.8	6.3	91.9
Plastics, except synthetic rubber.....	124	4.7	4.7	--	--	--	--	--
Synthetic rubber.....	23	2.5	2.2	--	--	--	--	--
Synthetic fibers.....	31	2.7	3.0	--	--	--	--	--
Explosives.....	44	2.4	1.8	--	--	--	--	--
Miscellaneous industrial organic chemicals.....	192	3.8	3.7	--	--	--	--	--
Drugs and medicines.....	286	7.5	7.1	276	41	.3	2.8	96.9
Soap and related products.....	213	8.3	7.7	--	--	--	--	--
Paints, pigments, and related products.....	441	10.3	10.1	365	27	--	3.5	96.5
Fertilizers.....	368	11.7	15.5	2,604	152	1.1	5.7	93.2
Vegetable and animal oils and fats.....	236	23.5	24.5	--	--	--	--	--
Compressed and liquefied gases.....	86	9.9	9.3	--	--	--	--	--
Miscellaneous chemicals and allied products.....	424	14.2	14.4	685	49	.1	5.0	94.9
Products of petroleum and coal.....	287	6.0	5.7	807	135	6/4.5	6.7	91.8
Petroleum refining 1/.....	--	5.6	5.3	757	136	6/4.4	5.3	93.3
Coke ovens 1/.....	109	4.7	4.5	--	--	--	--	--
Paving and roofing materials.....	118	9.1	8.4	--	--	--	--	--
Miscellaneous products of petroleum and coal.....	60	17.5	16.3	--	--	--	--	--

Rubber products.....	373	6.7	7.0	500	61	.1	9.5	90.4
Tires and inner tubes.....	43	3.4	3.2	--	--	--	--	--
Rubber footwear.....	16	5.1	6.2	685	58	.1	9.9	90.0
Miscellaneous rubber products.....	314	9.6	10.3	--	--	--	--	--
Leather and leather products.....	1,081	10.9	11.7	437	42	.1	5.7	94.2
Leather tanning and finishing.....	163	22.7	25.1	1,576	68	.3	5.3	94.4
Boot and shoe cut stock and findings.....	101	16.9	17.3	282	32	--	--	--
Footwear (except rubber).....	473	8.6	8.9	297	27	--	5.0	93.5
Miscellaneous leather products.....	344	10.6	12.3	1,157	72	.5	5.3	95.0
Stone, clay, and glass products.....	2,043	16.8	16.5	608	72	.4	8.1	94.2
Glass and glass products.....	314	9.1	9.0	--	--	--	--	91.5
Cement $\frac{1}{2}$	--	4.0	3.7	2,249	70	.5	3.0	96.5
Structural clay products.....	520	31.2	32.2	605	39	--	2.8	97.2
Pottery and related products.....	152	14.7	14.6	2,497	79	.5	5.2	94.3
Concrete, gypsum, and mineral wool.....	625	24.5	22.4	--	--	--	--	--
Lime $\frac{1}{2}$	--	17.5	19.0	979	73	.5	8.5	91.0
Cut-stone and stone products.....	116	31.6	31.2	1,040	109	.8	8.8	90.4
Miscellaneous nonmetallic mineral products.....	316	12.1	12.7	--	--	--	--	--
Primary metal industries.....	2,030	9.9	10.9	849	214	2.0	12.4	85.6
Blast furnaces and steel mills.....	195	3.7	4.0	1,338	62	.2	4.9	94.9
Iron and steel foundries.....	781	20.9	23.8	1,541	64	.3	4.7	95.0
Gray-iron and malleable foundries.....	624	23.0	25.1	847	51	--	5.8	94.2
Steel foundries.....	157	15.9	20.7	1,679	124	1.1	5.5	93.4
Nonferrous primary smelting and refining $\frac{1}{2}$	76	13.5	13.2	--	--	--	--	--
Nonferrous secondary smelting and refining.....	44	22.6	23.6	1,298	106	.7	18.0	81.3
Nonferrous rolling, drawing, and alloying.....	130	9.7	10.4	877	50	.2	11.2	88.6
Nonferrous foundries.....	430	17.0	17.9	882	61	.2	7.9	91.9
Miscellaneous primary metal industries.....	374	13.0	14.0	1,453	84	.6	7.4	92.0
Iron and steel forgings.....	150	14.9	17.5	--	--	--	--	--
Wire drawing.....	60	13.9	12.2	--	--	--	--	--
Welded and heavy-riveted pipe.....	49	11.3	12.0	--	--	--	--	--
Cold-finished steel.....	51	8.1	10.7	--	--	--	--	--
Primary metal industries, not elsewhere classified.....	64	11.9	18.9	--	--	--	--	--

See footnotes at end of table.

Table 1. Injury rates by industry, 1958 (with comparable injury—frequency rates for 1957) 1/—continued

Industry	Number of reporting units	Injury—frequency rates		Injury severity rates 2/	Average days of disability per case 2/	Percent of disabling injuries resulting in—2/		
		1958	1957			Death	Permanent impairment	Temporary-total disability
Fabricated metal products	4,519	11.3	11.9	980	67	0.3	8.4	91.3
Tin cans and other tinware	137	6.0	6.3	627	116	.2	21.9	77.9
Cutlery, hand tools, and hardware	485	10.1	10.5	485	51	—	11.7	88.3
Cutlery and edge tools	120	12.9	13.9	—	—	—	—	—
Hand tools, files, and saws	170	14.0	15.7	—	—	—	—	—
Hardware	195	7.9	7.7	355	51	—	11.6	88.4
Heating and plumbing equipment	371	14.1	13.5	1,028	63	—	6.5	93.5
Sanitary ware and plumbers' supplies	108	13.2	11.2	—	—	—	—	—
Oil burners, heating and cooking apparatus	263	14.4	14.4	1,094	66	—	6.4	93.6
Fabricated structural metal products	1,509	20.3	20.9	1,530	67	.4	5.8	93.8
Structural steel and ornamental metalwork	625	21.6	21.6	1,922	78	.5	6.4	93.1
Metal doors, sash, frames, and trim	202	18.0	15.9	1,005	52	.3	5.4	94.3
Boiler-shop products	295	19.9	23.0	1,577	68	.5	5.3	94.2
Sheet-metal work	387	19.8	20.8	965	43	.2	5.0	94.8
Metal stamping, coating, and engraving 1/	943	12.7	13.6	804	78	.3	10.5	89.2
Vitreous-enamelled products	27	15.8	20.5	—	—	—	—	—
Stamped and pressed metal products	550	9.7	10.4	679	88	.3	11.1	85.6
Metal coating and engraving	354	20.8	21.8	1,055	45	.2	4.0	95.8
Fabricated wire products	284	15.0	17.8	1,121	71	.2	8.3	91.5
Miscellaneous fabricated metal products	780	11.6	12.6	636	54	.3	8.1	91.6
Metal barrels, drums, kegs, and pails	38	11.6	12.1	—	—	—	—	—
Steel springs	35	18.8	19.2	—	—	—	—	—
Bolts, nuts, washers, and rivets	131	11.9	11.5	—	—	—	—	—
Screw-machine products	276	10.4	13.6	—	—	—	—	—
Fabricated metal products, not elsewhere classified	300	11.3	12.0	590	53	.4	7.0	92.6
Machinery (except electrical)	4,607	9.4	10.9	548	94	.2	8.3	91.5
Engines and turbines	64	7.6	7.5	—	—	—	—	—
Agricultural machinery and tractors	235	8.2	8.4	544	60	.2	11.1	85.7
Construction and mining machinery	280	12.6	14.9	879	63	.2	7.2	92.6
Metalworking machinery	1,164	8.3	9.7	903	56	.2	6.0	91.8

Special-industry machinery	711	11.9	14.2	701	54	.1	6.4	93.5
Food-products machinery	138	10.8	13.4	—	—	—	—	—
Textile machinery	129	10.7	11.9	—	—	—	—	—
Miscellaneous special-industry machinery	444	12.8	15.4	818	61	.1	6.8	93.1
General industrial machinery	735	11.1	13.2	701	47	.3	7.3	92.4
Pumps and compressors	147	10.9	13.0	590	59	.2	4.8	95.0
Elevators, escalators, and conveyors	112	13.1	14.2	—	—	—	—	—
Mechanical power-transmission equipment (except ball and roller bearings)	114	9.7	12.3	—	—	—	—	—
Miscellaneous general industrial machinery	362	11.0	13.2	729	60	.3	9.6	90.1
Commercial and household machinery	378	5.6	6.2	333	60	.1	10.9	89.0
Miscellaneous machinery parts	1,040	11.7	13.6	532	42	.1	8.1	91.8
Valves and fittings	140	12.7	14.8	737	44	.2	7.4	92.4
Fabricated pipe and fittings	79	13.4	17.7	—	—	—	—	—
Ball and roller bearings	67	8.0	8.6	—	—	—	—	—
Machine shops, general	754	12.5	14.5	487	30	—	6.3	93.7
<u>Electrical machinery</u>	1,711	4.4	4.8	310	67	.3	9.8	89.9
Electrical industrial apparatus	702	5.1	5.4	465	83	.5	9.9	89.6
Electrical appliances	75	4.6	6.1	—	—	—	—	—
Insulated wire and cable	71	11.9	11.8	—	—	—	—	—
Electrical equipment for vehicles	61	3.1	3.9	—	—	—	—	—
Electric lamps (bulbs)	48	3.6	3.1	—	—	—	—	—
Communication equipment	578	3.5	3.7	169	43	.1	7.4	92.5
Radios and related products	438	4.0	4.5	190	42	.2	5.9	93.9
Radio tubes	55	2.3	2.0	—	—	—	—	—
Miscellaneous communication equipment	85	2.6	2.6	—	—	—	—	—
Miscellaneous electrical products	176	8.8	8.9	—	—	—	—	—
Batteries	102	11.6	12.1	—	—	—	—	—
Electrical products, not elsewhere classified	74	5.4	5.1	—	—	—	—	—

See footnotes at end of table.

Table 1. Injury rates by industry, 1958 (with comparable injury-frequency rates for 1957) %/--continued

Industry	Injury-frequency rates		Injury severity rates %/	Average days of disability per case	Percent of disabling injuries resulting in--2/		Temporary-total disability
	1958	1957			Death	Permanent impairment	
Transportation equipment.....	1,255	5.5	441	78	0.5	9.1	90.4
Motor vehicles and equipment.....	564	4.9	296	79	.2	12.1	87.6
Motor vehicles, bodies, and trailers.....	303	4.6	256	68	.2	9.1	90.7
Motor-vehicle parts and accessories.....	261	5.4	340	101	.4	17.5	82.1
Aircraft and parts.....	275	3.4	331	74	.7	8.5	90.8
Aircraft.....	147	2.9	302	84	.8	89.4	89.4
Aircraft parts.....	228	4.1	313	65	.6	7.1	92.3
Ship and boat building and repairing.....	338	17.6	1,539	78	.6	4.6	94.8
Ship building and repairing.....	160	15.9	1,507	83	.6	4.5	94.9
Boat building and repairing.....	178	28.7	--	--	--	--	--
Railroad equipment.....	55	7.2	620	90	.2	15.5	84.3
Miscellaneous transportation equipment.....	23	22.9	--	--	--	--	--
Instruments and related products.....	722	5.4	205	45	.1	12.0	87.9
Scientific instruments.....	90	3.9	--	--	--	--	--
Mechanical measuring and controlling instruments.....	171	5.6	--	--	--	--	--
Optical instruments and lenses.....	42	4.1	--	--	--	--	--
Medical instruments and supplies.....	179	7.4	--	--	--	--	--
Ophthalmic goods.....	100	4.7	--	--	--	--	--
Photographic equipment and supplies.....	86	5.7	346	60	.2	21.4	78.4
Watches and clocks.....	54	5.3	--	--	--	--	--
Miscellaneous manufacturing.....	2,166	12.2	475	37	.1	5.9	94.0
Jewelry, silverware, and plated ware.....	187	7.0	--	--	--	--	--
Fabricated plastics products.....	403	4.3	548	32	--	6.2	93.8
Brooms and brushes.....	105	44.6	--	--	--	--	--
Artisans' goods.....	122	17.7	--	--	--	--	--
Miscellaneous manufacturing.....	1,349	11.9	457	37	.1	5.8	94.1

Ordnance and accessories.....	95	3.6	4.2	179	41	--	7.1	92.9
Mining: 7/								
NONMANUFACTURING								
Coal mines.....	--	46.8	47.2	--	--	2.4	--	--
Bituminous.....	--	15.0	44.9	--	--	2.6	--	--
Anthracite.....	1,521	60.8	66.1	7,716	127	1.5	1.1	97.1
Crude petroleum and natural gas extraction.....	--	19.1	16.4	1,886	95	6/9	4.1	97.1
Exploration.....	--	8.5	6.8	--	104	5/3	1.6	92.7
Drilling.....	--	58.6	50.8	4,952	85	5/5	6.8	96.0
Production.....	--	15.2	12.4	1,562	102	5/2	2.8	96.0
Natural gasoline.....	--	7.0	8.5	539	77	5/5	5.3	94.2
Metal mines.....	2,129	33.3	32.5	--	--	1.7	4.6	93.7
Iron.....	263	12.7	12.1	--	279	3.4	6.7	89.9
Copper.....	172	31.3	31.3	3,541	158	1.7	4.6	93.7
Lead-zinc.....	215	52.3	57.6	8,790	168	1.8	4.8	92.4
Gold-silver.....	394	43.9	45.8	3,459	79	.6	4.2	95.2
Gold-placer.....	440	59.5	59.7	--	--	.6	1.2	98.2
Miscellaneous metals.....	645	59.6	55.9	8,245	138	1.4	3.3	95.3
Ore dressing (mills and auxiliaries).....	383	12.1	15.1	1,213	100	.7	5.9	93.4
Iron.....	104	5.7	6.2	1,831	319	3.4	11.9	84.7
Copper.....	41	9.5	15.6	741	78	.8	5.5	93.7
Lead-zinc.....	59	15.5	15.7	978	63	--	10.0	90.0
Gold-silver.....	67	29.5	20.0	5,176	175	--	4.2	95.8
Miscellaneous metals.....	112	21.7	21.2	884	41	--	3.4	96.5
Quarries.....	3,052	37.8	36.0	--	--	.9	3.5	95.6
Cement (excluding mills).....	192	5.8	5.5	--	--	4.1	13.3	82.3
Limestone.....	1,597	35.9	35.6	--	--	1.1	3.9	95.0
Marble.....	66	35.9	28.0	--	--	.5	5.8	93.7
Granite.....	302	51.7	43.2	--	--	.6	2.7	96.7
Traprock.....	392	50.3	53.1	--	--	1.8	3.0	95.2
Slate.....	52	44.7	59.2	--	--	--	5.0	95.0
Sandstone.....	303	55.9	52.1	--	--	--	1.5	98.5
Miscellaneous stone.....	148	38.6	31.5	--	--	--	1.5	98.5
Sand and gravel.....	--	18.6	30.1	5,299	285	3.5	--	94.8
Nonmetal mines.....	1,790	25.7	29.6	4,074	159	1.5	3.7	94.8
Nonmetal mills.....	779	22.3	25.5	1,560	70	.6	3.0	96.4

See footnotes at end of table.

Table 1. Injury rates by industry, 1958 (with comparable injury-frequency rates for 1957) 1/2--continued

Industry	Number of reporting units	Injury-frequency rates		Injury severity rates 2/ per case	Average days of disability	Percent of disabling injuries resulting in--2/		
		1958	1957			Death	Permanent impairment	Temporary total disability
Contract construction	8,145	30.9	30.7	2,553	90	0.9	2.9	96.2
General building contractors	2,453	33.5	33.5	2,695	79	.7	3.0	96.3
Highway and street construction	643	34.4	34.8	3,228	94	.8	2.9	96.3
Heavy construction, except highway and street	382	28.5	26.6	4,017	141	1.7	2.9	95.4
Special trade contractors	4,667	29.1	28.9	2,060	74	.6	2.9	96.5
Plumbing, heating, and air conditioning	1,130	25.4	25.9	1,449	55	.5	2.4	97.1
Painting, paperhanging, and decorating	523	21.9	22.6	---	---	---	---	---
Electrical work	615	23.3	25.7	1,599	69	.3	3.1	96.6
Masonry, stonework, tile setting and plastering	816	32.2	31.6	957	30	.1	1.7	98.2
Roofing and sheet metal work	428	44.8	39.8	2,976	67	.5	2.1	97.4
Structural steel erection and ornamental ironwork	105	27.5	31.0	4,038	147	1.4	4.8	93.8
Miscellaneous special-trade contractors	1,050	32.1	31.4	3,002	92	.9	3.2	95.9
Transportation and public utilities:								
Local and interurban railroads and bus lines:								
Local bus lines	299	13.2	11.9	780	60	.4	1.8	97.8
Other local transit systems	208	12.9	10.7	685	53	.3	2.6	97.1
Trucking and warehousing	31	13.6	13.5	914	67	.6	1.1	98.3
Trucking, local and long distance	1,630	28.9	30.5	1,650	58	.5	1.8	97.7
Warehousing and storage	676	28.5	30.3	1,680	57	.4	1.5	98.1
Telephone communication	651	30.8	31.4	1,804	59	.5	2.3	97.2
Electric and gas utilities 2/	85	.7	.8	83	115	1.0	4.1	94.9
Electric light and power	437	6.5	6.5	958	161	1.7	4.9	93.4
Gas	219	5.5	5.5	1,238	226	2.4	7.1	90.5
Electric and gas combined	166	9.1	8.8	717	90	.9	4.0	95.1
Water supply utilities 2/	52	5.6	6.1	747	133	1.4	2.6	96.0
	141	23.6	23.5	---	---	---	---	---

<u>Wholesale and retail trade</u>	13,653	12.0	11.9	483	44	.2	2.7	97.1
Wholesale trade	3,771	13.0	12.9	716	55	.3	3.0	96.7
Lumber and other building materials dealers	1,040	23.1	23.4	1,202	52	.3	4.2	95.5
Retail, general merchandise h/	911	6.6	6.3	221	31	.1	2.3	97.6
Department stores	443	7.9	7.6	223	31	.1	2.6	97.3
Variety stores	125	4.8	3.8	—	—	—	—	—
Miscellaneous general merchandise	357	5.2	5.9	—	—	—	—	—
Retail, food (except dairy products)	674	14.5	15.5	226	16	.3	1.5	98.5
Wholesale and retail dairy products	1,263	20.8	20.5	958	46	.3	2.7	97.0
Automotive dealers and gasoline service stations	2,412	14.4	14.0	492	34	.2	2.0	97.8
Retail, apparel and accessories	645	3.3	4.3	—	—	—	—	—
Eating and drinking places	912	10.9	9.8	693	21	—	1.7	98.3
Miscellaneous retail stores	2,025	12.2	11.7	611	50	.2	2.5	97.3
<u>Finance, insurance, and real estate:</u>								
Banks and other financial agencies	1,128	2.2	2.2	—	85	—	1.6	97.7
Insurance	517	2.2	—	180	—	.7	—	—
<u>Services:</u>								
Hotels	373	11.4	12.9	187	40	.3	2.5	97.2
Laundries and dry cleaning	2,178	7.9	8.4	467	56	.3	3.8	95.9
Laundries	608	10.6	10.3	572	41	.3	3.7	96.0
Laundries with dry cleaning	714	7.4	8.2	446	60	.5	2.8	96.7
Dry cleaning	896	6.4	7.1	—	—	—	—	—
Miscellaneous business services	686	6.5	6.2	395	61	.3	3.6	96.1
Automobile repair shops and garages	531	17.0	17.5	—	—	—	—	—
Miscellaneous repair services	411	16.9	20.0	741	53	.5	2.1	97.4
Radio broadcasting and television	431	4.4	3.7	—	—	—	—	—
Motion pictures and other amusements	403	9.2	9.1	—	—	—	—	—
Hospitals h/	828	8.0	8.2	259	92	—	1.7	98.1
Colleges g/	85	7.6	7.9	304	40	.2	3.5	96.5

See footnotes at end of table.

Table 1. Injury rates by industry, 1958 (with comparable injury-frequency rates for 1957) 1/--continued

Industry	Injury-frequency rates		Number of reporting units	Injury-severity rates 2/2/	Average days of disability per case 2/2/	Percent of disabling injuries resulting in--2/		
	1958	1957				Death	Permanent impairment	Temporary-total disability
Government, State and local:								
Local transit systems.....	15.0	16.1	9	908	60	0.5	1.7	97.8
Electric and gas utilities.....	16.7	17.5	169	1,518	91	.9	1.7	97.4
Water supply utilities.....	20.6	21.0	122	1,413	69	.5	1.8	97.7
Sanitation departments.....	56.1	53.6	178	1,732	39	.2	1.1	96.7
Sewer departments.....	27.3	27.3	126	--	--	--	--	--
Elementary and secondary schools.....	8.2	9.7	251	502	61	.5	1.8	97.7
Colleges.....	7.6	7.1	40	363	51	.3	1.8	97.9
Hospitals.....	11.4	12.6	333	610	43	.1	2.4	97.5
Local fire protection.....	31.8	26.4	199	2,003	63	.2	2.0	97.8
Police.....	33.1	28.8	187	2,116	71	.6	.8	96.6
Government, Federal: All establishments 1/ 2/	8.1	8.3	--	501	62	.4	--	--
Department of State.....	2.1	2.0	--	237	111	.6	--	--
Department of Treasury.....	4.3	4.7	--	249	57	.4	--	--
Department of Army.....	4.8	5.1	--	493	102	.7	--	--
Department of Navy.....	3.9	3.7	--	553	112	1.0	--	--
Department of Air Force.....	7.0	6.5	--	513	78	.5	--	--
Post Office Department.....	16.7	17.2	--	449	27	.1	--	--
Department of Justice.....	4.3	4.3	--	112	26	--	--	--
Department of the Interior.....	11.6	13.0	--	911	78	.6	--	--
Department of Agriculture.....	7.4	9.1	--	832	118	1.0	--	--
Department of Commerce.....	5.2	6.5	--	483	92	.9	--	--
Department of Labor.....	3.3	3.6	--	37	11	--	--	--
Department of Health, Education & Welfare.....	4.7	4.3	--	295	62	.4	--	--
Atomic Energy Commission.....	3.5	2.8	--	618	178	2.0	--	--
General Accounting Office.....	1.3	2.0	--	47	37	--	--	--
General Services Administration.....	8.3	9.2	--	303	36	.2	--	--
Government Printing Office.....	6.1	7.5	--	279	46	--	--	--
Housing and Home Finance Agency.....	3.1	3.7	--	168	55	--	--	--

National Aeronautics and Space Administration.....	--	2.9	2.1	479	164	2.1	--
Selective Service System.....	--	1.9	1.7	61	32	--	--
Tennessee Valley Authority.....	--	6.7	7.6	1,263	188	1.4	--
Veterans Administration.....	--	6.6	6.8	409	62	.2	--

1/ See technical notes for definitions of terms and survey methods.

2/ Based on reports which furnished details regarding nature of injury and days of disability.

3/ Permanent-total impairments, included in this figure, amounted to only 0.04 percent of all disabling injuries reported.

4/ Includes data for industries or activities not shown separately.

5/ Revised.

6/ Includes permanent-total impairments.

7/ Compiled by the Bureau of Mines, U. S. Department of the Interior. Rates for 1956 preliminary; 1957 final.

8/ Publicly owned and operated utilities or facilities are included under Government.

9/ Compiled by the Bureau of Employees' Compensation, U. S. Department of Labor. Military personnel not included.

-- Dash indicates data not available or insufficient data to warrant presentation of rate.

Table 2. Injury-frequency rates $\frac{1}{1000}$ for selected industries and industry groups, 1949-58

Industry group and industry	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949
<u>Manufacturing</u>	10.9	11.4	12.0	12.1	11.9	13.4	14.3	15.5	14.7	14.5
Ordnance and accessories.....	3.6	4.2	5.1	6.1	6.0	8.0	6.4	6.0	6.2	6.6
Food and kindred products.....	18.5	18.7	19.0	18.6	2/18.0	19.8	20.2	20.7	18.9	19.7
Tobacco manufacturers.....	6.8	7.0	7.2	6.6	6.1	7.0	7.3	6.6	6.8	7.5
Textile-mill products.....	9.0	9.8	9.9	9.7	9.0	10.1	10.3	11.2	11.0	10.2
Apparel and other finished textile products.....	5.9	6.3	6.4	6.9	6.5	7.3	7.8	6.9	6.6	6.2
Lumber and wood products (except furniture).....	37.3	37.9	38.9	40.5	40.6	43.6	49.6	52.8	2/50.2	2/49.3
Furniture and fixtures.....	16.0	17.6	17.7	18.1	17.5	19.7	2/20.9	22.0	21.0	20.2
Paper and allied products.....	11.4	12.4	13.1	12.9	12.5	14.9	15.1	16.0	16.1	16.1
Printing, publishing, and allied industries.....	8.7	9.2	9.2	9.1	9.3	9.3	9.4	9.1	8.2	8.3
Chemicals and allied products.....	7.9	7.7	8.1	8.0	8.2	9.1	10.1	11.5	11.1	10.4
Products of petroleum and coal.....	6.0	5.7	6.1	6.5	6.3	7.3	8.5	8.7	9.3	9.6
Rubber products.....	6.7	7.0	7.1	6.9	7.4	8.6	8.6	9.7	10.0	9.8
Leather and leather products.....	10.9	11.7	11.8	11.8	11.1	12.6	12.6	12.8	10.8	10.8
Stone, clay, and glass products.....	16.8	16.5	16.0	2/18.9	18.1	20.0	19.3	21.8	20.5	20.6
Primary metal industries.....	9.9	10.9	12.3	12.2	11.5	2/14.0	15.5	16.9	14.8	14.5
Fabricated metal products.....	14.3	14.9	15.7	15.4	2/15.1	17.8	18.1	19.5	19.0	17.5
Machinery (except electrical).....	9.4	10.9	11.8	11.1	11.3	13.4	14.2	15.4	13.8	13.9
Electrical machinery.....	4.4	4.8	5.2	5.6	5.6	6.5	7.0	7.5	7.4	6.7
Transportation equipment.....	5.5	5.6	5.6	5.7	6.0	7.0	7.5	8.4	8.3	9.4
Instruments and related products.....	5.4	5.8	5.7	5.8	5.7	6.4	7.3	7.4	7.7	8.2
Miscellaneous manufacturing industries.....	12.2	13.1	12.5	12.5	13.0	14.9	13.4	13.8	13.3	11.6
<u>Mining: $\frac{3}{4}$</u>										
Coal mines.....	46.8	47.2	46.7	46.0	46.7	48.1	51.6	52.1	53.3	56.0
Crude petroleum and natural gas extraction.....	19.1	16.4	17.1	18.9	20.3	21.9	22.5	25.2	21.9	25.4
Metal mines.....	33.3	32.5	37.5	43.2	38.9	40.0	42.9	43.4	45.3	48.6
Ore dressing (mills and auxiliaries).....	12.1	15.1	15.1	20.0	19.9	17.7	20.7	23.0	22.8	23.0
Quarries.....	37.8	36.0	33.5	35.0	33.6	35.4	36.0	37.8	35.7	38.1
Nonmetal mines.....	25.7	29.6	31.0	37.8	32.6	47.3	40.9	45.4	44.2	42.1
Nonmetal mills.....	22.3	25.5	28.6	--	--	--	--	--	--	--
<u>Contract construction</u>	30.9	2/30.7	31.2	34.5	32.1	32.9	2/35.3	39.3	41.0	39.9
<u>General building contractors</u>	33.5	2/33.5	34.5	39.8	37.0	37.2	38.1	39.6	45.4	41.7

Highway and street construction.....	34.4	34.2	37.5	35.0	38.5	46.0	50.8	44.8	45.5
Heavy construction, except highway and street..	28.5	30.9	30.1	27.8	31.2	2/29.8	42.3	42.8	41.9
Special-trade contractors.....	29.1	28.1	31.1	28.8	2/28.7	2/32.2	31.5	33.4	33.2
<u>Transportation and public utilities: 1/2</u>									
Local and interurban railroads and buslines 5/	13.2	11.7	11.8	2/11.2	2/12.1	(6/)	(6/)	(6/)	(6/)
Trucking and warehousing.....	28.9	30.2	2/28.7	2/30.8	2/32.2	36.1	1.8	(6/)	(6/)
Telephone communications.....	.7	.8	2/8.9	1.0	1.0	1.6	1.8	2.1	2.3
Electric and gas utilities 5/.....	6.5	7.2	2/8.2	2/8.9	2/10.1	(6/)	(6/)	(6/)	(6/)
Water supply utilities 5/.....	23.6	27.2	25.8	2/25.6	23.5	(6/)	(6/)	(6/)	(6/)
<u>Wholesale and retail trade.....</u>	12.0	12.5	2/12.6	11.4	12.1	12.4	12.9	12.3	10.9
Wholesale trade.....	13.0	14.3	2/14.6	13.7	13.8	14.4	15.6	15.2	13.3
Lumber and other building materials dealers..	23.1	25.3	26.5	23.5	24.1	26.8	28.9	29.1	26.4
Retail, general merchandise.....	6.6	6.3	2/6.1	5.8	6.5	6.6	5.7	5.8	5.2
Retail food (except dairy products).....	14.5	13.6	13.8	13.2	15.9	14.7	16.3	13.3	11.7
Wholesale and retail dairy products.....	20.8	21.1	22.4	22.6	24.5	23.1	27.3	26.9	23.7
Automotive dealers and gasoline service stations.....	14.4	15.3	14.4	11.2	14.3	14.1	(6/)	(6/)	(6/)
Retail apparel and accessories.....	3.3	3.9	4.4	4.6	3.5	3.8	4.1	4.0	3.9
Eating and drinking places.....	10.9	10.5	11.8	9.6	9.2	10.2	9.4	10.8	10.6
Miscellaneous retail stores.....	12.2	12.4	11.9	11.4	12.1	13.2	13.4	11.1	9.7
<u>Finance, insurance, and real estate: 1/2</u>									
Banks and other financial agencies.....	2.2	2.5	2.2	2.1	2.2	2.0	2.8	2.1	2.4
Insurance.....	2.2	2.5	2.1	2.3	1.9	1.9	2.0	2.0	2.1

See footnotes at end of table.

Table 2. Injury-frequency rates $\frac{1}{1000}$ for selected industries and industry groups, 1949-58--continued

Industry group and industry	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Services: $\frac{1}{2}$										
Hotels.....	13.5	16.0	14.6	14.4	13.2	11.6	12.6	11.9	12.9	11.4
Laundries and dry cleaning.....	(6)	(6)	(6)	8.7	8.2	$\frac{2}{8.1}$	8.1	7.9	8.4	7.9
Miscellaneous business services.....	12.7	12.3	13.7	11.6	9.4	7.6	9.0	6.1	6.2	6.5
Automobile repair shops and garages.....	11.4	13.0	13.7	17.5	14.5	13.8	14.9	14.9	17.5	17.0
Miscellaneous repair services.....	(6)	(6)	(6)	(6)	17.5	$\frac{2}{11.3}$	$\frac{2}{17.4}$	21.7	20.0	16.9
Radio broadcasting and television.....	1.7	2.5	4.1	4.0	4.1	5.6	5.6	5.0	3.7	4.4
Motion pictures and other amusements.....	(6)	(6)	(6)	9.9	8.2	7.1	9.5	7.6	9.1	9.2
Hospitals $\frac{5}{6}$	(6)	(6)	(6)	(6)	5.9	7.8	8.2	7.5	8.2	8.0
Colleges $\frac{5}{6}$	(6)	(6)	(6)	(6)	7.7	8.0	7.2	7.8	7.9	7.6
Government, State and local: $\frac{1}{2}$										
Local transit systems.....	(6)	(6)	(6)	(6)	15.2	14.8	14.2	14.8	16.1	15.0
Electric and gas utilities.....	(6)	(6)	(6)	(6)	15.5	17.0	16.4	16.8	17.5	16.7
Water supply utilities.....	(6)	(6)	(6)	(6)	24.8	25.3	24.1	22.7	21.0	20.6
Sanitation departments.....	(6)	(6)	(6)	(6)	(6)	(6)	$\frac{2}{52.4}$	$\frac{2}{51.2}$	53.6	56.1
Sewer departments.....	(6)	(6)	(6)	(6)	(6)	35.2	35.6	32.9	27.3	27.3
Elementary and secondary schools.....	(6)	(6)	(6)	(6)	(6)	9.5	9.4	8.8	9.7	8.2
Colleges.....	(6)	(6)	(6)	(6)	10.0	9.5	7.8	8.4	7.1	7.6
Hospitals.....	(6)	(6)	(6)	(6)	7.4	6.8	7.8	7.8	12.6	11.4
Local fire protection.....	(6)	(6)	(6)	(6)	12.3	(6)	(6)	11.9	26.4	31.8
Police.....	(6)	(6)	(6)	(6)	31.8	30.3	28.3	27.1	28.8	33.1
Government, Federal: all establishments $\frac{1}{2}$	8.4	8.6	8.4	8.0	7.8	7.7	7.8	8.0	8.3	8.1

$\frac{1}{2}$ See technical notes for definitions of terms and survey methods.

$\frac{2}{2}$ Revised.

$\frac{3}{3}$ Compiled by the Bureau of Mines, U. S. Department of the Interior. Rates for 1958 preliminary; earlier years final. Rates for nonmetal mines and mills do not include sand and gravel or peat; figures for 1954 and earlier years also exclude clay.

$\frac{4}{4}$ Data not available for all industries in division; totals for division not shown.

$\frac{5}{5}$ Publicly owned and operated utilities or facilities are included under Government.

$\frac{6}{6}$ Comparable data not available.

$\frac{7}{7}$ Compiled by the Bureau of Employees' Compensation, U. S. Department of Labor. Military personnel not included.

Table 3. ESTIMATED NUMBER OF LABELING WORK INJURIES, BY INDUSTRY DIVISION, 1951-58

Industry division and type of disability	ALL WORKERS $\frac{1}{2}$					EMPLOYEES ONLY				
	2/1958	1957	1956	1955	1954	2/1958	1957	1956	1955	1954
Total disabling injuries.....	1,820,000	1,890,000	1,950,000	1,930,000	1,850,000	1,380,000	1,450,000	1,510,000	1,480,000	1,400,000
Agriculture $\frac{1}{2}$	300,000	300,000	300,000	310,000	310,000	60,000	58,000	58,000	58,000	58,000
Mining $\frac{1}{2}$	16,000	52,000	55,000	56,000	50,000	13,000	12,000	12,000	12,000	17,000
Contract construction $\frac{1}{2}$	195,000	200,000	215,000	220,000	200,000	150,000	155,000	173,000	175,000	155,000
Manufacturing $\frac{1}{2}$	340,000	392,000	420,000	418,000	390,000	330,000	362,000	410,000	408,000	380,000
Transportation $\frac{1}{2}$	161,000	175,000	175,000	162,000	162,000	114,000	155,000	155,000	116,000	112,000
Public utilities $\frac{1}{2}$	14,000	14,000	16,000	16,000	18,000	14,000	14,000	16,000	16,000	18,000
Trade $\frac{1}{2}$	340,000	340,000	355,000	350,000	340,000	260,000	260,000	275,000	270,000	260,000
Finance, service, government, and miscellaneous industries $\frac{1}{2}$	421,000	417,000	411,000	394,000	380,000	379,000	377,000	371,000	354,000	340,000
Deaths $\frac{1}{2}$	13,300	14,200	14,300	14,200	14,000	9,700	10,400	10,400	10,200	9,900
Agriculture.....	3,300	3,500	3,600	3,700	3,800	1,000	1,000	1,000	1,000	1,000
Mining.....	700	900	800	800	800	600	700	700	700	700
Contract construction.....	2,400	2,500	2,600	2,500	2,400	1,900	2,000	2,100	2,000	1,900
Manufacturing.....	1,800	2,000	2,000	2,000	2,000	1,700	1,900	1,900	1,900	1,900
Transportation.....	1,200	1,300	1,300	1,300	1,200	1,100	1,200	1,200	1,200	1,100
Public utilities.....	200	200	200	200	200	200	200	200	200	200
Trade.....	1,200	1,300	1,400	1,400	1,300	900	1,000	1,100	1,100	1,000
Finance, service, government, and miscellaneous industries.....	2,500	2,500	2,400	2,300	2,300	2,300	2,300	2,200	2,100	2,100
Permanent impairments $\frac{1}{2}$	76,700	80,800	84,700	81,800	75,000	60,300	64,600	68,600	64,800	58,100
Contract construction.....	5,300	5,600	6,100	6,200	5,800	3,800	4,100	4,100	4,700	4,100
Manufacturing.....	21,600	22,800	24,500	23,400	20,400	21,100	22,300	24,000	22,800	19,900
Trade.....	7,800	7,800	7,800	7,200	6,800	6,000	6,000	6,000	5,100	5,000
Temporary-total disabilities $\frac{10}{10}$..	1,730,000	1,795,000	1,851,000	1,831,000	1,761,000	1,310,000	1,375,000	1,431,000	1,405,000	1,332,000
Contract construction.....	187,300	191,900	209,300	211,300	191,800	144,300	148,900	166,300	168,300	149,000
Manufacturing.....	316,600	367,200	393,500	392,700	367,600	307,200	357,800	381,100	383,300	358,200
Trade.....	331,000	330,900	345,800	341,400	331,900	253,100	253,000	267,900	263,500	251,000

See next page for footnotes.

5/ Based on small sample surveys by the Bureau of Labor Statistics.

6/ Based on comprehensive survey by the Bureau of Labor Statistics.

7/ Based on small sample surveys by the Bureau of Labor Statistics for certain segments and on data compiled from other sources for other segments of the industry.

8/ Based on sample surveys, as indicated by footnotes 3 to 7, and on vital statistics reports.

9/ Includes approximately 1,300 to 1,500 permanent-total impairments each year.

10/ Includes data for industries not shown separately.

Note. These estimates of work injuries differ from those derived from the U. S. National Health Survey, because of differences in concept. The National Health Survey totals include persons with injuries involving one or more days of "restricted activity" or medical attention, and thus are much broader than the concept of "disabling" injury, as used above. On the other hand, in the National Health Survey, all accidents in which a motor vehicle was involved in any way are classified as "motor-vehicle accidents," and are not included in the estimates of "work accidents." There are also other differences in concepts of "persons injured" in "work accidents" (e.g. occupational disease and other work-connected disabilities).

These estimates of work injuries were compiled by the U. S. Department of Labor, Bureau of Labor Statistics, in collaboration with the National Safety Council. They are based upon all available data from various Federal and State agencies and upon sample surveys in some industries. Data on the exact distribution of cases by type of disability are not available for some industries; in these instances approximations of the breakdown of cases have been made for inclusion in the grand totals, but have not been shown for the individual industries. See footnotes to table for specific sources and limitations. Similar estimates are available back to 1936.

1/ Includes proprietors, self-employed, and unpaid family workers as well as employees, but excludes domestic service workers.

2/ Revised.

3/ The total number of work injuries in agriculture is based on cross-section surveys by the U. S. Department of Agriculture in 1947 and 1948, with adjustments for changes in employment. These are considered to be minimum figures; injuries experienced in performing chores are excluded; and there are some indications of underreporting.

4/ Based largely on data compiled by the Bureau of Mines, U. S. Department of the Interior.

Technical Notes

These data were compiled according to the American Standard Method of Recording and Measuring Work Injury Experience, approved by the American Standards Association in 1934.

The injuries and injury rates shown in these tabulations include all classes of disabling work injuries. A disabling work injury is any injury occurring in the course of and arising out of employment, which results in death, permanent impairment, or temporary-total disability.

Any death resulting from a work injury which occurred during the report year is counted, regardless of the length of time elapsed between the injury and the death. The injury rates, however, are compiled from reports submitted within one month after the close of the year and do not reflect deaths which may occur after that date. Also, deaths not considered work connected at the time of the report may be so defined later. Adjustments are made for such cases in the overall estimates of the volume of injuries (table 3).

A permanent impairment is any injury other than death which results in the complete loss or loss of use of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof. However, the following are not classed as permanent disabilities: (a) repaired inguinal hernia; (b) loss of fingernails or toenails, or fingertips not involving bone; (c) loss of teeth; (d) disfigurement; (e) strains or sprains which do not cause permanent limitation of motion; and (f) simple fractures of fingers and toes; also such other fractures as do not cause permanent impairment or restriction of normal function of the injured member.

A temporary-total disability is any injury which does not result in death or permanent impairment, but which renders the injured person unable to perform a regularly established job which is open and available to him, during the entire time interval corresponding to the hours of his regular shift on any one or more days (including Sundays, days off, or plant shutdown) subsequent to the date of injury. The term "injury" includes occupational disease.

Injuries which require only first-aid or medical treatment are not included in the computation of injury rates nor in the estimates of disabling work injuries. Absence from work for a part of a day for treatment is not considered "disabling." To be counted as "disabling," an injury must have either caused some permanent impairment (as defined above) or made the person unable to work at a regularly established job for at least one full day after the day of injury. Cases are counted, however, even if the inability to work existed only on a Saturday, Sunday, or some other nonwork day.

Inguinal hernias are considered as work injuries only if precipitated by impact, sudden effort, or severe strain; there was a clear record of an accident or incident, such as a slip, trip, fall, sudden effort, or overexertion; and there was actual pain in the hernial region at the time of the accident or incident so acute that the injured worker was forced to stop work long enough to draw the attention of his foreman or fellow worker, or the attention of a physician was secured within 12 hours. Likewise, back injuries or strains are considered as work injuries only if

there was a clear record of an accident, or incident such as a slip, trip, fall, sudden effort, overexertion, or blow on the back and the physician authorized to treat the case was satisfied that the injury could have arisen from such accident or incident.

The injury-frequency rate is the average number of disabling work injuries for each million employe-hours worked.

The severity rate is the average number of days of disability resulting from disabling work injuries, for each million employe-hours worked.

The average days of disability includes standard time charges for deaths and permanent impairments and the number of full calendar days during which the injured persons were not able to work because of temporary-total disabilities.

Weighting: Injury rates for manufacturing, construction, and trade groups were computed from the rates of component individual industries by applying weights based on estimated total employment in each industry. In some nonmanufacturing divisions data were not available for all industries; therefore, the division averages were not computed.

Classes of employees: The experience of all classes of employees (production, operating, and related workers; construction workers; sales, service, delivery, technical, professional, office, administrative, clerical and all other personnel) was included in the computation of these injury rates. Self-employed persons, however, were not included. Rates designated as having been compiled by the Bureau of Mines, U. S. Department of the Interior, include the experience of workers engaged in production, development, maintenance, and repair work, and supervisory and technical personnel at the operations, but exclude office personnel and employees in stores or affiliated operations not directly connected with mining or refining operations. Working proprietors were included. Mining data include Alaska as well as the other States.

Survey coverage: The 1958 survey included reports from 49,871 manufacturing establishments, employing over 9,500,000 workers, or about 62 percent of all employees in manufacturing. In the selected nonmanufacturing industries (other than mining and Federal Government) data were received from over 35,100 reporting units, employing approximately 3,300,000 workers. Data for mining industries represent estimates based on over 88 percent coverage of employment in the industries. Data for Federal Government were based on injuries reported to the Bureau of Employees' Compensation and represent the experience of all Federal civilian employees.

Data relating to severity and extent of disability of injuries were omitted where the total number of cases reported was less than 500; except that where the survey coverage was virtually complete, these measures are shown regardless of the number of cases.

NEWS

from

U. S. DEPARTMENT OF LABOR

Arthur J. Goldberg, Secretary

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Injury Rates
Manufacturing
3rd Quarter 1961

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INJURY RATES RISE IN THIRD QUARTER 1961

As in most other years, the all-manufacturing work-injury rate rose during the third quarter of 1961. According to preliminary reports compiled by the U.S. Department of Labor's Bureau of Labor Statistics, the rate increased from 10.5 disabling injuries per million man-hours worked during the second quarter of 1961 to 11.8 in the third. This 12 percent increase was somewhat greater than the usual seasonal upturn. The third-quarter rate for 1961, however, was slightly below that for 1960 and matched the record low for the quarter, which was achieved in 1958.

There have been substantial increases in the injury rates in the summer months during most of the years for which data are available. The 1961 monthly rates showed only slightly greater increases than usual. The April 1961 rate had established a record low for that month (9.8). In May and June the rates had increased more than usual, but in July and August the increases were only slightly more than the average for these months in previous years.

In general, the 1961 injury rates have paralleled 1958--low during the first 5 months of the year, rising more than seasonally during the next 4 months. The cumulative average for the first 9 months of 1961 (11.0) was only slightly above the comparable 1958 figure of 10.9, and was 4 percent below the 9 months figure for 1960.

Over one-half (73) of the 132 industry classifications for which comparable data were available showed increases of one full frequency-rate point or more between the second and third quarters of 1961, while only 19 improved their rates. There was little change in the rates of the other 40 industries.

The 9-month comparisons, however, give a brighter picture. Of the 138 classifications which can be compared, only 20 industries had rates one full point or more above those for the first 9 months of 1960, whereas 44 showed significant decreases. Seventy-four industries had rate fluctuations of less than 1 full frequency-rate point.

The boatbuilding and repairing industry showed the largest increase, from 26.4 for the first 9 months of 1960 to 33.2 in 1961. The rate for metal doors, sash, frame, and trim increased from 15.6 to 20.5. The metal coating and engraving industry made the most improvement, the 9 months rate decreased from 22.8 in 1960 to 18.2 in 1961.

Twenty-two industries held their injury rates to less than 5 injuries per million man-hours worked during the first 9 months of 1961. The leaders in this group were: electric lamps (bulbs)--1.6; synthetic rubber--2.0; aircraft--2.0; scientific instruments--2.2; miscellaneous communication equipment--2.3; ordnance and accessories--2.4.

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December 9, 1961

INJURY-FREQUENCY RATES FOR SELECTED MANUFACTURING INDUSTRIES, THIRD QUARTER 1961

Industry	Third quarter 1961			Quarter	First 9 months		Annual average 1960
	July	Aug.	Sept.		1961	1960	
All manufacturing	11.8	12.3	11.4	11.8	11.0	11.4	11.3
Food	--	--	--	--	--	--	19.4
Meat packing and custom slaughtering	30.1	25.2	23.4	26.2	23.3	25.0	24.8
Sausage and other prepared meat products	37.5	37.9	25.9	33.9	30.8	27.6	27.3
Poultry and small game dressing & packing	(1/)	(1/)	(1/)	45.5	36.6	37.0	36.7
Dairy products	17.8	19.1	15.9	17.6	15.8	17.2	16.9
Canning and preserving	20.0	26.3	24.7	24.2	21.2	21.0	20.7
Grain-mill products	15.2	19.4	13.6	16.2	16.0	15.5	15.8
Bakery products	16.9	16.8	18.7	17.6	17.0	17.0	16.3
Cane sugar	14.8	14.2	12.2	13.8	11.4	13.7	13.8
Confectionery and related products	22.6	19.6	17.5	19.6	18.1	15.8	15.8
Bottled soft drinks	26.7	27.4	19.9	24.8	23.2	22.3	22.0
Malt and malt liquors	20.4	18.7	18.2	19.1	17.9	18.7	18.5
Distilled liquors	5.6	6.3	8.2	6.8	6.0	7.7	6.7
Miscellaneous food products	22.5	17.1	10.7	16.6	14.7	13.7	14.4

Textile-mill products	9.4						
Cotton yarn and textiles	8.4						
Rayon, other synthetic, and silk textiles	7.5						
Woolen and worsted textiles	17.1						
Knit goods	5.0						
Dyeing and finishing textiles	12.2						
Miscellaneous textile goods	18.2						
Apparel	6.3						
Clothing, men's and boys'	6.4						
Clothing, women's and children's	5.3						
Fur goods and miscellaneous apparel	6.7						
Miscellaneous fabricated textile products	10.0						
Lumber	37.9						
Logging	60.4						
Sawmills and planing mills	38.4						
Millwork and structural wood products	22.9						
Flywood mills	22.2						
Wooden containers	32.5						
Miscellaneous wood products	31.8						
Furniture and fixtures	18.2						
Household furniture, nonmetal	19.6						
Metal household furniture	21.6						
Mattresses and bedsprings	13.4						
Office furniture	13.5						
Public-building and professional furniture	17.5						
Partitions and fixtures	18.1						
Screens, shades, and blinds	14.8						
	9.4	8.5	7.7	8.1	7.5	8.1	7.7
	8.4	7.3	6.9	7.0	6.4	7.5	7.5
	7.5	18.0	16.3	17.1	18.9	17.2	17.2
	17.1	5.3	5.6	6.1	4.1	7.0	7.0
	5.0	12.3	14.9	17.5	14.6	16.0	16.0
	12.2	17.7	15.3	16.8	16.2	14.9	14.9
	18.2						
	6.3	6.5	6.4	7.5	6.8	7.7	7.7
	6.4	5.5	5.4	6.3	5.6	7.7	7.7
	5.3	6.4	6.2	7.7	6.1	9.1	9.1
	6.7	9.9	8.7	9.1	9.7	8.9	8.9
	10.0						
	37.9	60.7	58.9	65.5	53.4	70.9	70.9
	60.4	39.9	36.0	39.4	40.2	42.3	42.3
	38.4	23.9	22.7	25.0	25.0	25.2	25.2
	22.9	21.9	22.7	21.1	23.1	19.7	19.7
	22.2	34.4	31.3	31.2	33.4	27.8	27.8
	32.5	32.4	31.2	32.4	31.1	31.7	31.7
	31.8						
	18.2	20.1	19.1	20.6	21.5	22.6	22.6
	19.6	20.7	19.8	20.6	(1/2)	(1/2)	(1/2)
	21.6	12.7	14.9	19.6	22.4	19.8	19.8
	13.4	14.2	13.5	14.8	13.5	12.8	12.8
	13.5	16.7	14.4	13.8	(1/2)	(1/2)	(1/2)
	17.5	19.5	16.6	17.6	16.0	16.8	16.8
	18.1	15.1	11.6	(1/2)	(1/2)	(1/2)	(1/2)
	14.8						

See footnote and technical notes at end of table.

INJURY-FREQUENCY RATES FOR SELECTED MANUFACTURING INDUSTRIES, THIRD QUARTER 1961--Con.

Industry	Third quarter 1961				Annual average 1960
	1961				
	July	Aug.	Sept.	Quarter	
Paper	10.4	11.6	10.5	10.4	11.8
Pulp, paper, and paperboard mills	13.1	12.6	10.5	10.4	9.4
Paperboard containers and boxes	14.1	12.8	14.1	13.9	14.2
Miscellaneous paper and allied products			11.3	13.2	14.8
Printing	7.5	7.3	8.5	7.7	11.2
Newspapers and periodicals	(1/)	(1/)	(1/)	13.2	10.0
Bookbinding and related products	9.4	12.1	10.3	15.5	17.5
Miscellaneous printing and publishing				10.7	11.5
Chemicals	5.9	5.5	3.7	5.0	7.9
Industrial inorganic chemicals	2.8	4.9	3.3	4.6	5.4
Plastics, except synthetic rubber	(1/)	(1/)	(1/)	4.0	6.3
Synthetic rubber	(1/)	(1/)	(1/)	2.0	1.4
Synthetic fibers	(1/)	(1/)	(1/)	2.9	2.7
Explosives	6.0	4.5	4.3	3.2	3.6
Miscellaneous industrial organic chemicals	7.2	7.3	4.9	4.3	3.1
Drugs and medicines	8.9	11.4	13.2	6.6	6.5
Soap and related products	14.4	8.8	10.0	11.3	9.6
Paints, pigments, and related products	(1/)	(1/)	(1/)	11.3	10.5
Fertilizers	19.6	26.0	25.7	19.3	19.7
Vegetable and animal oils and fats	(1/)	(1/)	(1/)	23.8	21.6
Compressed and liquefied gases	13.7	14.0	15.1	11.4	10.7
Miscellaneous chemicals and allied products				14.3	13.8

Rubber products	4.8	3.2	3.7	3.7	4.0	8.0
Tires and inner tubes	4.8	3.2	3.7	3.7	4.0	4.1
Rubber footwear	6.3	8.9	9.3	7.2	8.3	8.0
Miscellaneous rubber products	9.2	10.8	10.5	9.6	11.7	11.0
Leather	29.4	29.4	33.1	29.8	30.1	11.8
Leather tanning and finishing	(1/)	(1/)	(1/)	22.3	21.1	27.5
Boot and shoe cut stock and findings	7.9	8.7	8.7	8.6	8.7	21.8
Footwear (except rubber)	12.9	10.7	12.2	11.2	12.9	8.5
Miscellaneous leather products	13.1					12.9
Stone, clay, and glass	7.7	9.4	9.2	7.7	7.6	15.5
Glass and glass products	33.9	30.0	30.3	32.2	32.5	8.6
Structural clay products	12.8	16.9	15.4	15.9	14.0	31.8
Pottery and related products	22.8	22.0	22.9	22.0	22.0	13.4
Concrete, gypsum, and mineral wool	13.6	17.5	13.3	10.3	11.7	20.9
Miscellaneous nonmetallic mineral products						11.0
Primary metal	3.3	3.5	3.5	3.2	3.7	10.4
Elast furnaces and steel mills	27.9	26.8	28.3	25.4	25.1	3.6
Gray-iron and malleable foundries	15.8	18.1	16.4	18.2	18.4	24.5
Steel foundries	11.4	14.7	13.2	10.4	9.8	18.3
Nonferrous rolling, drawing, and alloying	21.7	26.9	23.5	21.1	18.9	10.0
Nonferrous foundries	19.8	21.2	18.9	17.7	18.5	18.7
Iron and steel forgings	15.8	14.0	13.4	14.5	15.0	18.0
Wire drawing	12.3	11.7	10.7	10.1	10.0	15.1
Welded and heavy-riveted pipe	6.3	8.2	10.7	10.1	10.0	9.6
Cold-finished steel		7.5	9.3	8.6	8.9	8.8

See footnote and technical notes at end of table.

INJURY-FREQUENCY RATES FOR SELECTED MANUFACTURING INDUSTRIES, THIRD QUARTER 1961--Con.

Industry	Third quarter 1961				First 9 months		Annual average 1960
	July	Aug.	Sept.	Quarter	1961	1960	
Fabricated metal	8.2	8.2	11.2	9.2	6.9	7.6	14.9
Tin cans and other tinware	(1/)	(1/)	(1/)	12.6	6.9	7.6	7.2
Cutlery and edge tools	16.7	15.4	17.4	16.4	13.8	10.7	12.4
Hand tools, files, and saws	12.5	11.2	12.4	11.9	13.8	17.0	16.4
Hardware	6.5	13.4	10.6	10.5	9.8	9.5	9.3
Sanitary ware and plumbers' supplies	15.2	12.2	9.0	11.8	12.8	12.5	11.7
Oil burners, heating and cooking apparatus	23.8	24.4	18.3	22.1	20.9	20.6	20.2
Structural steel and ornamental metalwork	(1/)	(1/)	(1/)	27.5	20.5	15.6	16.2
Metal doors, sash, frame, and trim	18.7	13.6	19.8	17.3	18.3	20.7	19.9
Boiler-shop products	28.4	25.2	29.1	27.4	22.3	22.7	21.6
Sheet-metal work	11.3	11.6	11.9	11.6	10.4	11.2	10.8
Stamped and pressed metal products	(1/)	(1/)	(1/)	12.7	18.2	22.8	23.5
Metal coating and engraving	13.1	15.0	20.5	17.8	14.9	16.9	16.6
Fabricated wire products	(1/)	(1/)	(1/)	(1/)	13.1	12.8	12.0
Metal barrels, drums, kegs, and pails	(1/)	(1/)	(1/)	(1/)	20.0	22.2	22.2
Steel springs	10.7	11.3	19.5	15.1	13.1	13.8	13.8
Bolts, nuts, washers, and rivets	7.1	14.6	19.2	14.2	10.9	12.8	12.3
Screw-machine products	10.1	8.9	11.0	10.0	9.9	14.0	13.8
Fabricated metal products, n. e. c.	4.8	6.2	6.8	6.0	6.0	6.7	6.5
Machinery	7.8	6.8	6.8	7.1	7.9	7.5	7.3
Engines and turbines	17.9	15.5	14.1	15.8	15.7	15.4	15.2
Agricultural machinery and tractors	10.1	9.6	7.6	9.0	8.5	9.6	9.6
Construction and mining machinery	11.2	16.3	14.3	14.1	12.0	13.3	13.0
Metalworking machinery	11.8	16.3	14.3	14.7	14.0	17.3	16.2
Food-products machinery	14.7	11.1	15.7	13.8	13.1	14.7	14.0
Textile machinery	13.9	10.0	10.0	11.2	11.0	13.4	13.3
Miscellaneous special-industry machinery							
Pumps and compressors							

Elevators, escalators, and conveyors	19.5	16.2	17.5	15.8	17.6	17.2
Mechanical power-transmission equipment (except ball and roller bearings)	10.7	12.3	11.1	10.9	11.7	11.5
Miscellaneous general industrial machinery	11.6	11.0	12.0	11.6	10.8	10.8
Commercial and household machinery	6.3	5.7	5.9	5.9	6.3	6.0
Valves and fittings	12.0	14.8	13.6	13.8	14.0	13.6
Fabricated pipe and fittings	(1/)	(1/)	11.9	14.6	17.0	17.2
Ball and roller bearings	3.4	3.9	4.1	5.1	5.2	5.2
Machine shops, general	15.3	11.8	14.3	13.6	13.3	13.1
Electrical machinery	--	--	--	--	--	4.6
Electrical industrial apparatus	6.1	7.0	6.8	6.0	5.7	5.5
Electrical appliances	10.7	8.0	8.0	7.0	5.8	6.0
Insulated wire and cable	13.9	14.5	15.3	15.4	13.0	14.0
Electrical equipment for vehicles	2.9	3.0	3.0	2.7	2.4	2.5
Electric lamps (bulbs)	(1/)	(1/)	2.2	1.6	2.6	2.4
Radios and related products	3.3	4.3	3.9	4.2	4.1	4.0
Radio tubes	2.5	4.6	3.2	2.8	2.4	2.5
Miscellaneous communication equipment	2.0	1.2	1.4	2.3	2.7	2.5
Batteries	22.4	14.2	18.0	15.2	12.4	13.4
Electrical products, n. e. c.	(1/)	(1/)	3.1	3.8	7.9	7.1
Transportation equipment	--	--	--	--	--	5.1
Motor vehicles, bodies, and trailers	3.6	4.3	4.2	3.9	4.3	4.2
Motor-vehicle parts and accessories	3.9	5.5	5.0	4.8	4.5	4.5
Aircraft	1.9	1.6	1.9	2.0	2.2	2.1
Aircraft parts	5.1	4.1	5.0	4.7	4.6	4.3
Ship building and repairing	19.4	16.4	17.8	15.1	16.3	15.6
Boat building and repairing	(1/)	(1/)	(1/)	33.2	26.4	26.3
Railroad equipment	6.9	9.2	8.2	7.1	7.8	7.4

See footnote and technical notes at end of table.

INJURY-FREQUENCY RATES FOR SELECTED MANUFACTURING INDUSTRIES, THIRD QUARTER 1961--Con.

Industry	Third quarter 1961				Annual average 1960
	Third quarter 1961			1961	
	July	Aug.	Sept.		
Instruments	--	--	--	--	--
Scientific instruments	2.8	1.8	1.8	2.2	2.4
Mechanical measuring and controlling instruments	6.1	7.4	7.7	7.1	7.2
Optical instruments and lenses	(1/)	(1/)	(1/)	3.4	3.8
Medical instruments and supplies	8.1	9.6	10.2	9.4	7.4
Photographic equipment and supplies	7.8	4.7	7.9	6.6	5.7
Watches and clocks	(1/)	(1/)	(1/)	4.3	5.0
Miscellaneous manufacturing	--	--	--	--	13.3
Paving and roofing materials	(1/)	(1/)	(1/)	9.1	5.7
Jewelry, silverware, and plated ware	9.8	11.2	9.9	10.3	6.9
Fabricated plastics products	11.7	14.4	18.5	15.0	17.1
Miscellaneous manufacturing	13.4	13.5	14.6	13.9	12.6
Ordnance and accessories	1.7	2.1	2.9	2.2	3.2

1/ Insufficient data to warrant presentation of average.

TECHNICAL NOTES

These data were compiled according to the American Standard Method of Recording and Measuring Work-Injury Experience, approved by the American Standards Association, 1954.

The injury-frequency rate is the average number of disabling injuries for each million employee-hours worked. For definitions and descriptions of disabling work injuries, see release USDL 3009, December 3, 1959.

Coverage: The experience of all classes of employees--production and related workers, force-account construction workers, sales, service, technical, professional, office, administrative, and all other personnel--is included in the computation of injury-frequency rates. Self-employed persons, however, are not included.

Data were obtained by mail questionnaires (form HES 1417) sent to a representative list of employers in manufacturing industries. Replies were received from about 13,600 reporting units, employing approximately 4,900,000 workers, or about 30 percent of all employees engaged in manufacturing. The monthly and quarterly injury-frequency rates derived from these reports were adjusted to be comparable with the final annual averages for 1958. These final annual averages were based upon a more comprehensive survey, covering approximately 62 percent of all employees engaged in manufacturing. All rates shown are preliminary and subject to revision when final annual averages become available.

OTHER PUBLICATIONS AVAILABLE

Injuries and Accident Causes in the Fluid-Milk Industry, HES Report No. 196

A detailed analysis of work injuries occurring in the fluid milk industry, including: (1) Nature of injuries and parts of body injured, (2) sources of injury, (3) accident types, (4) hazardous working conditions, and (5) unsafe acts.

The above report is available without charge. Address request to: Bureau of Labor Statistics
U.S. Department of Labor, Washington 25, D. C., or to any of the following HES Regional Offices:

18 Oliver Street, Boston 10, Massachusetts
341 Ninth Avenue, Room 1000, New York 1, New York
1371 Peachtree Street, N. E., Atlanta 9, Georgia
105 West Adams Street, 10th Floor, Chicago 3, Illinois
630 Sansome Street, Room 802, San Francisco 11, California

Labor, D. C.

The CHAIRMAN. When we had the Bureau of Employees' Compensation Director here in hearings on a bill designed to establish safety standards for passenger-carrying motor vehicles, which the Federal Government purchases for use of its own employees, they submitted certain figures showing the number and liability of the vehicular injuries reported to the Bureau of Employees' Compensation over a 5-year period and since that is in your Department I would like very much to know if you have another table which shows the number and liability of all injuries to Government employees.

Do you prepare such a table showing the cost to the Federal Government?

Mr. DONAHUE. I am sure that those figures are available within the Department of Labor and we will make every effort to fulfill your request, Mr. Chairman.

The CHAIRMAN. I would like that to include deaths and injuries across the board, not just vehicular injuries.

Mr. DONAHUE. I understand, sir; I am quite sure that is available and the Bureau has been engaged in research in that area.

(The material referred to above follows:)

Federal

WORK INJURIES
Sustained During
Calendar Year 1960

Federal Employees' Compensation Act



UNITED STATES DEPARTMENT OF LABOR

Arthur J. Goldberg, Secretary

BUREAU OF EMPLOYEES' COMPENSATION

Wm. McCauley, Director

Editorial
WORK INQUIRIES
Specialized
Consultants for 1900

The following are the names of the

Specialized Consultants for 1900
and their respective fields of interest.

Injury Costs Reach New Peak Levels

A total of 102,126 incidents involving personal injuries to civilian Federal employees during 1960 was reported to the U. S. Department of Labor's Bureau of Employees' Compensation. Over 42 thousand of those injured were disabled for a total of over 3 million chargeable days. Work injuries claimed the lives of 242 employees and account for almost half of the chargeable days measured in accordance with the American Standards method. The fatalities experienced were 81 more than the year before, due principally to a catastrophic loss of 50 lives in one large naval shipyard. They account in large part for the 21 percent increase in the total direct incurred loss of \$36.1 million, as compared with \$29.9 million the year before.

Converted to casualty rates, the record discloses little if any significant overall improvement in the incidence of disabling injuries, an adverse change in the severity rate, and further evidence of mounting total direct cost per employee. The frequency rate of 8.4 disabling injuries per million man-hours of exposure for 1960 is little different from the 8.5 in 1959, and is actually higher than any other year back to 1950. The severity rate for 1960 reflects 594 chargeable days per million man-hours, up 17 percent from the previous year and represents a counter-movement from the long-term favorable downward trend in the immediate past. The total direct cost rate of \$14.74 per employee is the highest ever recorded.

Executive departments which retrogressed in all three areas of frequency, severity, and cost per employee are Navy, Post Office, Agriculture, and Health, Education and Welfare. Four

executive departments improved in all three respects: Treasury, Army, Air Force, and Labor. Other changes worthy of note, among the independent agencies for which information is available include: Veterans Administration's and General Services' achievement of the lowest frequency rates ever recorded for those establishments; and a new low in the frequency and severity rates for Atomic Energy which also matched its previous 1952 low in total direct cost of \$1.55 per employee. The District of Columbia Government likewise reflects across the board rate decreases reflecting significant improvements in work injury experience; and similar records are recorded for Interstate Commerce Commission, National Aeronautics and Space Administration, National Labor Relations Board, and Securities and Exchange Commission.

The intent of this report is not to compare department with department, nor agency with agency, but rather to present in one handy booklet a realistic statistical record for the intelligent use of those administrators and technicians charged with the work-day safety of their respective programs. It is presented also with the full realization and understanding that the objective is more easily stated than attained. Properly used, workmen's compensation facts can, however, often prove a great stimulus to many a Federal accident prevention program. Accident prevention efforts rightfully give full weight and consideration to human suffering, loss of lives and limbs. During the 1960's it remains to be seen whether more strict accountability of work injury costs can serve as a catalyst in helping achieve total security from work injury.

Prepared by Statistical Division, Bureau of Employees' Compensation
Edward F. Brayer, Chief Statistician

September 1961

FEDERAL EMPLOYEES' COMPENSATION ACT

INJURIES SUSTAINED DURING CALENDAR YEARS 1959 and 1960

ESTABLISHMENT	TOTAL NUMBER OF CASES		NONFATAL DISABLING		FATALS CHARGEABLE		DATE CHARGEABLE		TOTAL DIRECT COST	
	(1)		(2)		(3)		(4)		(5)	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
ALL FEDERAL ESTABLISHMENTS.....	100,228	102,126	42,616	42,398	161	242	2,552,586	3,029,161	\$29,908,185	\$36,131,992
EXECUTIVE OFFICE OF THE PRESIDENT.....	53	83	20	36	-	-	351	589	6,815	14,282
DEPARTMENT OF STATE.....	294	349	150	194	3	3	21,248	26,669	231,408	349,347
DEPARTMENT OF THE TREASURY.....	1,731	1,612	730	633	3	3	40,140	37,002	569,982	431,278
Office of the Secretary.....	7	6	5	6	-	-	32	123	620	2,614
Comptroller of the Currency.....	17	5	8	6	-	-	1,275	2	16,740	77
Bureau of Customs.....	238	189	143	105	1	-	10,389	1,737	120,977	34,499
Bureau of Engraving & Printing.....	186	198	77	76	-	-	2,024	1,315	28,747	25,649
Internal Revenue Service.....	912	889	345	320	2	3	20,639	29,509	324,132	294,980
Bureau of the Mint.....	71	51	14	5	-	-	216	70	4,336	2,065
Bureau of Narcotics.....	28	38	7	8	-	-	82	209	1,332	3,132
Bureau of Customs.....	122	123	67	71	-	-	3,077	3,147	45,009	50,827
Fiscal Service.....	100	86	48	36	-	-	1,801	820	20,117	16,266
Bureau of Accounts.....	37	37	22	15	-	-	1,506	182	8,018	16,266
Bureau of the Public Debt.....	59	37	23	11	-	-	1,247	217	11,214	3,669
Office of the Treasurer.....	4	10	3	9	-	-	48	449	885	9,609
All Other Fiscal Service.....	2	2	-	1	-	-	-	-	-	63
Savings Bonds Division.....	16	9	10	4	-	-	349	38	6,475	894
Secret Service.....	13	7	8	1	-	-	56	2	1,101	133
Production & Defense Lending.....	1	-	-	-	-	-	-	-	9	-
All Other Department of the Treasury.....	20	13	-	-	-	-	-	-	180	182
DEPARTMENT OF DEFENSE.....	267	183	48	37	1	-	7,758	780	128,974	17,683
Office of the Secretary.....	10,924	10,345	3,905	3,701	31	22	390,851	336,200	4,279,051	4,279,148
Administrative Area.....	979	914	326	323	2	-	19,828	10,039	121,982	148,826

(1) Injuries sustained by civilian Federal employees during calendar year 1960 as reported through March 31, 1961. 1959 injuries are as reported through March 31, 1960. Includes both disabling and non-disabling injuries.

(2) A disabling injury is defined as any occupational fatal or permanent injury; and any temporary injury causing loss of time of one full day or more beyond the day or shift of injury.

(3) Excludes claims disapproved or statistically estimated to be disapproved.

(4) Includes standard time charge of 6,000 days for fatalities and permanent totals, scheduled award days for permanent injuries, and equivalent full days of disability for all other injuries. Future lost time estimated for open cases. Leave lost time included in total days chargeable.

(5) Includes direct expenditures payable by the Bureau of Employees' Compensation and the value of days leave of absence with pay during disability. (Includes evaluated future cost in open cases.)

ESTABLISHMENT	TOTAL NUMBER OF CASES (1)		NONFATAL DISABLING (2)		FATALS CHARGEABLE (3)		DAYS CHARGEABLE (4)		TOTAL DIRECT COST (5)	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
DEPARTMENT OF DEFENSE (Continued)										
DEPARTMENT OF THE ARMY (Continued)										
Chemical Corps.....	259	253	143	115	1	-	10,030	4,008	\$ 97,701	\$ 62,494
Medical Department.....	226	134	139	8,494	1	-	8,494	2,746	109,352	42,730
Corps of Engineers.....	2,230	598	549	94,829	11	8	94,829	86,172	1,247,409	886,584
Quartermaster Corps.....	730	605	284	4,121	3	1	4,121	25,011	370,999	309,451
Signal Corps.....	401	411	179	14,662	-	-	8,944	183,486	104,036	183,486
Ordnance Department.....	2,282	2,166	727	659	2	8	67,378	91,449	833,449	1,217,040
Transportation Corps.....	368	374	170	190	-	-	9,641	11,921	107,323	143,295
All Other Department of the Army.....	3,424	3,169	1,339	1,266	11	4	130,238	90,192	1,586,600	1,245,282
DEPARTMENT OF THE NAVY										
Office of the Secretary.....	5,249	5,291	2,949	2,859	21	78	376,992	691,520	4,056,513	7,528,077
Chief of Naval Operations.....	135	159	74	2,725	-	-	2,807	2,725	35,194	35,194
Bureau of Medicine & Surgery.....	109	110	82	15,871	1	1	15,871	16,330	174,083	133,684
Bureau of Naval Personnel.....	166	155	138	131	1	-	9,451	2,776	129,855	45,567
Bureau of Naval Weapons.....	1,114	1,09	77	71	-	-	9,757	5,209	98,335	65,395
Bureau of Naval Weapons Plant, Wash., D. C.....	1,553	1,385	950	758	5	13	111,527	133,142	1,196,819	1,329,422
Bureau of Supplies & Accounts.....	58	83	27	49	-	-	1,293	3,360	18,376	24,344
Bureau of Yards & Docks.....	309	269	198	150	-	1	18,303	14,466	181,695	249,478
Marine Corps.....	256	314	154	171	1	-	16,080	13,025	180,375	143,056
Military Sea Transport Service.....	256	281	184	154	4	-	12,576	7,665	167,816	97,273
Bureau of Ships.....	1,944	2,191	831	209	4	3	41,829	31,692	378,399	355,139
Boston, Mass.....	115	130	79	75	1	-	11,732	20,077	157,085	128,942
Puget Sound, Wash.....	57	50	30	35	1	4	3,914	28,472	42,802	287,659
New York, N. Y.....	236	545	104	365	1	50	14,870	37,963	153,709	3,600,517
Charleston, S. C.....	129	199	88	30	-	-	6,514	5,186	78,505	53,235
Philadelphia, Pa.....	110	110	52	96	-	-	10,739	13,939	125,409	158,061
Portsmouth, N. H.....	112	115	68	65	-	2	7,386	21,685	80,906	179,329
Norfolk, Va.....	346	290	108	106	-	1	12,082	11,775	117,553	149,608
San Francisco, Calif.....	353	264	104	61	-	-	8,353	4,942	118,628	70,832
San Diego, Calif.....	115	166	39	46	1	-	8,160	4,356	65,576	71,049
Pearl Harbor, Hawaii.....	19	23	15	13	-	-	1,286	1,240	14,226	13,690
Long Beach, Calif.....	98	107	53	50	-	-	5,647	5,212	124,961	81,428
All Other Bureau of Ships.....	294	232	111	92	5	1	43,031	12,851	411,936	172,411
All Other Department of the Navy.....	141	88	44	31	-	1	1,137	6,692	18,359	76,708

ESTABLISHMENT	(1) TOTAL NUMBER OF CASES		(2) NONFATAL DISABLING		(3) FATALS CHARGEABLE		(4) DAYS CHARGEABLE		(5) TOTAL DIRECT COST	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
DEPARTMENT OF DEFENSE (Continued)										
DEPARTMENT OF THE AIR FORCE.....	10,404	9,490	4,614	4,390	17	16	363,339	298,511	\$ 4,298,586	\$ 3,469,917
Headquarters, Wash., D. C.....	74	89	29	23	-	-	1,759	392	25,226	7,867
Military Air Transport Service.....	273	274	100	74	-	-	3,646	1,971	51,775	38,751
Air University.....	22	6	21	5	-	-	321	71	6,082	1,218
Strategic Air Command.....	176	214	68	103	-	-	5,096	5,990	52,634	74,345
Air Training Command.....	387	398	172	207	-	-	10,091	5,270	117,936	79,613
Air Proving Ground Command.....	46	21	3	3	-	-	80	977	11,382	11,382
Air Defense Command.....	80	87	55	50	-	-	4,989	1,813	71,033	26,930
Continental Air Command.....	809	769	241	208	-	1	23,409	12,319	490,740	102,973
Bolling Field Hqs. Command.....	131	86	57	50	-	-	1,150	2,283	18,890	21,402
Tactical Air Command.....	28	30	17	29	-	-	357	4,250	6,756	49,751
Air Research & Devel. Command.....	375	519	177	250	-	1	6,712	19,631	98,045	170,208
Alaskan Air Command.....	8	26	7	21	-	-	72	1,425	1,293	26,930
Northeast Air Command.....	1	1	1	1	-	-	16	16	282	-
U. S. Air Forces in Europe.....	1	5	1	2	-	1	16	6,019	282	21,677
Far East Air Forces.....	1	1	1	1	-	-	16	16	282	-
Caribbean Air Command.....	18	38	7	8	-	-	83	113	1,658	2,450
Air Materiel Command.....	3,207	2,818	1,846	1,678	7	6	136,777	138,268	1,607,600	1,473,949
All Other Department of Air Force.....	4,767	4,070	1,813	1,619	10	7	168,809	97,719	1,807,313	1,360,461
POST OFFICE DEPARTMENT.....	46,471	47,365	21,112	21,372	17	28	574,040	688,323	7,693,707	9,300,178
Atlanta Region.....	2,486	2,741	1,031	1,206	3	3	22,801	48,563	352,329	583,330
Boston Region.....	4,071	4,009	2,008	1,885	3	2	59,963	53,009	779,044	795,713
Chicago Region.....	4,525	4,673	2,593	2,610	6	6	54,541	81,386	798,372	1,160,459
Cincinnati Region.....	3,434	3,617	1,389	1,546	-	-	36,467	39,115	531,363	543,841
Dallas Region.....	1,997	2,025	752	760	1	1	23,014	17,088	292,678	315,604
Denver Region.....	1,489	1,733	544	517	1	3	10,201	27,531	166,930	304,466
Memphis Region.....	967	1,098	441	498	1	1	17,631	18,200	226,225	201,332
Minneapolis Region.....	1,480	1,597	707	793	2	3	27,505	35,988	360,674	476,613
New York Region.....	10,102	9,306	5,041	5,103	3	4	149,529	178,527	1,892,097	2,265,044
Philadelphia Region.....	4,067	4,340	1,982	1,988	2	2	51,297	62,085	656,378	833,735
Seattle Region.....	1,086	1,099	490	519	-	-	19,736	10,321	219,737	175,507
St. Louis Region.....	1,573	1,589	720	675	1	1	28,380	13,760	317,951	246,994
San Francisco Region.....	6,478	6,516	2,097	2,097	2	2	41,337	60,492	660,437	871,674
Washington, D. C. Region.....	1,713	1,789	736	760	1	1	21,610	26,099	263,572	362,073
Wichita Region.....	1,003	1,163	364	415	-	1	10,232	16,119	150,034	186,969

ESTABLISHMENT	(1) TOTAL NUMBER OF CASES		(2) NONFATAL DISABLING		(3) FATALS CHARGEABLE		(4) DAYS CHARGEABLE		(5) TOTAL DIRECT COST	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
DEPARTMENT OF JUSTICE.....										
Administration.....	935	1,051	316	291	1	5	17,540	39,936	\$ 282,801	\$ 543,187
Federal Bureau of Investigation.....	16	8	7	5	-	-	113	1,881	2,172	17,933
Bureau of Prisons.....	463	590	87	96	1	2	7,682	7,155	131,472	153,616
Immigration & Naturalization Service ...	227	243	116	95	-	1	2,942	16,659	42,462	178,845
All Other Department of Justice.....	52	42	21	17	-	1	3,498	6,964	55,404	116,270
							3,505		50,291	86,523
DEPARTMENT OF THE INTERIOR.....										
Administration.....	3,818	3,894	1,256	1,189	13	20	124,704	170,320	1,282,258	1,650,193
Bureau of Land Management.....	4	7	1	1	-	-	16	2	319	133
Bureau of Reclamation.....	386	466	94	107	-	-	2,273	2,222	35,439	39,000
Geological Survey.....	812	786	196	197	1	5	11,635	40,992	169,090	374,090
Bureau of Mines.....	333	330	103	96	3	2	19,761	15,337	217,369	216,992
Bureau of Indian Affairs.....	192	191	30	37	1	4	6,520	794	37,835	18,760
National Park Service.....	700	640	369	316	1	4	23,073	36,473	205,950	326,991
Fish & Wildlife Service.....	695	801	277	281	1	4	14,297	36,823	111,125	315,862
Bureau of Commercial Fisheries.....	291	282	98	80	2	4	17,284	27,530	272,878	289,777
Bureau of Sport Fisheries.....	52	68	20	15	-	-	681	884	11,348	13,352
All Other Fish and Wildlife Service.....	203	206	72	57	2	4	16,507	26,539	259,324	273,745
All Other Department of the Interior.....	36	8	6	8	-	-	96	167	2,206	2,480
Altona Railroad Bureau.....	222	211	33	27	3	1	19,441	7,124	112,870	25,236
Bonneville Power Administration.....	175	148	52	44	1	-	10,386	1,774	118,733	34,372
Southwestern Power Administration.....	11	7	2	3	-	-	16	1,249	418	8,910
All Other Department of the Interior.....	29	5	1	-	-	-	2	-	252	70
DEPARTMENT OF AGRICULTURE.....										
Office of the Secretary.....	6,357	7,415	1,909	2,143	29	25	251,070	243,274	2,042,638	2,135,368
Departmental Staff & Service Offices.....	3	2	1	-	-	-	2	-	65	28
Agricultural Marketing Service.....	35	17	12	10	-	-	121	451	2,441	6,328
Foreign Agricultural Service.....	269	281	128	100	3	1	22,046	10,353	262,184	112,311
Agricultural Research Service.....	21	12	6	3	-	-	156	51	3,303	1,155
Forest Service.....	1,195	1,144	477	434	1	4	17,376	31,209	233,366	433,695
Federal Extension Service.....	3,350	4,658	742	1,117	16	13	126,393	132,446	756,680	1,141,600
Federal Extension Service.....	59	45	18	11	-	-	6,688	97	114,926	2,485
Soil Conservation Service.....	491	446	147	137	2	1	21,737	12,701	134,131	160,699
Federal Crop Insurance Corporation.....	12	16	6	10	-	-	45	282	769	3,332
Commodity Stabilization Service.....	200	139	86	72	-	-	7,021	10,340	74,049	56,866
Stabilization & Conserv. Committees.....	243	284	116	105	1	1	11,929	15,590	79,002	90,399
Farmers Home Administration.....	62	65	24	22	1	2	6,363	6,566	15,318	26,628
Rural Electrification Administration.....	17	17	6	4	-	-	160	90	5,033	2,339

ESTABLISHMENT	(1) TOTAL NUMBER OF CASES		(2) NONFATAL DISABLING		(3) FATALS CHARGEABLE		(4) DATE CHARGEABLE		(5) TOTAL DIRECT COST	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
DEPARTMENT OF AGRICULTURE (Continued)										
ASC County Office.....	160	137	84	64	2	1	16,283	15,820	\$ 181,557	\$ 65,932
Cooperative Extension Service.....	131	102	47	53	2	1	14,458	7,501	177,259	30,342
Farmers Cooperative Service.....	1	1	1	1	-	-	17	-	9	343
All Other Department of Agriculture.....	90	49	9	-	-	-	94	-	2,568	686
DEPARTMENT OF COMMERCE										
Office of the Secretary.....	1,360	2,783	475	776	4	12	38,966	98,173	326,347	1,082,747
Administration.....	10	16	6	7	-	-	29	1,408	620	7,879
Bureau of the Census.....	3	5	-	1	-	-	-	2	27	105
Office of Business Economics.....	317	1,874	96	453	2	4	16,773	39,398	75,041	160,797
Business & Defense Services Admin.....	2	-	-	-	-	-	-	-	18	-
Bureau of Foreign Commerce.....	7	12	3	2	-	-	20	19	418	532
Coast & Geodetic Survey.....	9	4	1	1	-	-	2	17	117	385
National Bureau of Standards.....	104	88	51	36	1	1	500	7,076	8,888	89,869
Patent Office.....	168	141	44	45	-	-	741	572	11,262	13,078
Weather Bureau.....	28	41	12	11	-	-	103	82	1,941	2,135
Bureau of Public Roads.....	68	110	30	32	1	7	6,275	42,648	92,265	708,951
Bureau of Maritime Administration.....	360	219	140	86	1	1	10,932	1,458	89,174	30,496
Maritime Admin. & Maritime Board.....	231	269	83	95	-	-	3,389	5,493	43,895	68,526
All Other Department of Commerce.....	23	4	9	-	-	-	142	-	1,721	56
DEPARTMENT OF LABOR										
Office of the Secretary.....	89	123	37	48	1	-	6,664	1,465	109,807	26,883
Bureau of Labor Statistics.....	9	10	8	7	-	-	103	78	2,588	1,588
Bureau of Labor Standards.....	7	16	4	6	-	-	303	59	7,087	1,203
Bureau of Apprenticeship.....	3	3	2	3	-	-	18	36	346	763
Bureau of Vet. Resemployment Rights.....	5	9	4	2	-	-	22	44	436	1,462
Office of the Solicitor.....	1	6	-	-	-	-	-	-	-	-
Wage & Hour & Public Contracts Div.....	6	6	1	1	-	-	2	17	90	399
Women's Bureau.....	32	35	12	12	1	-	6,162	153	98,373	3,395
Bureau of Employment Security.....	1	-	-	-	-	-	-	-	9	-
Bureau of Employees' Compensation.....	15	17	3	8	-	-	34	142	737	2,855
Office of Administrative Service.....	9	17	3	5	-	-	20	901	436	14,773
Employees' Compensation Appeals Board.....	-	1	-	1	-	-	-	2	-	49
Bureau of Labor Management Appeals Board.....	-	1	-	-	-	-	-	-	-	14
All Other Department of Labor.....	-	4	-	2	-	-	-	31	-	333
	1	1	-	1	-	-	-	2	9	49
DEPARTMENT OF HEALTH, EDU. & WELFARE										
Office of the Secretary.....	1,222	1,228	568	603	-	1	17,068	25,105	218,810	324,437
	22	9	9	-	-	-	522	-	6,744	126

ESTABLISHMENT	TOTAL NUMBER OF CASES (1)		NONFATAL DISABLING (2)		FATALS CHARGEABLE (3)		DAYS CHARGEABLE (4)		TOTAL DIRECT COST (5)	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
DEPARTMENT OF HEALTH, EDUC. & WELFARE (Cont.)										
Office of Education.....	13	20	1	8	-	-	89	480	108	11,162
St. Elizabeth's Hospital.....	170	207	86	100	-	-	772	1,005	15,593	20,434
Food & Drug Administration.....	21	39	12	16	-	-	-	189	12,284	4,076
Office of Vocational Rehabilitation.....	3	-	-	-	-	-	-	-	27	-
Public Health Service.....	635	574	348	332	1	1	12,675	20,377	148,378	238,204
Bureau of Medical Services.....	196	206	137	138	206	138	6,312	14,680	68,087	144,686
Bureau of State Services.....	21	43	12	16	-	-	224	197	2,196	4,382
National Institutes of Health.....	101	96	78	73	-	-	2,622	2,097	33,204	33,057
Freedmen's Hospital.....	11	14	9	11	-	-	806	270	6,760	4,154
All Other Public Health Services.....	306	215	112	64	-	-	2,711	3,113	38,131	51,925
Social Security Administration.....	322	358	103	138	-	-	2,101	2,806	32,366	46,200
Bureau of Old Age & Survivors Ins.....	249	310	87	126	-	-	1,983	2,656	29,660	42,956
Bureau of Public Assistance.....	5	6	3	5	-	-	34	106	647	1,823
Children's Bureau.....	9	4	4	2	-	-	8	4	128	128
All Other Social Security Adm.....	59	38	9	5	-	-	76	40	1,854	1,295
All Other Department of HEM.....	36	21	9	9	-	-	164	268	3,310	4,235
ATOMIC ENERGY COMMISSION.....	179	130	45	26	-	-	618	555	11,949	10,644
DISTRICT OF COLUMBIA GOVERNMENT.....	983	1,052	643	663	-	-	16,858	15,706	215,956	224,455
FEDERAL COMMUNICATIONS COMMISSION.....	26	26	10	11	-	-	292	67	4,549	1,631
FEDERAL DEPOSIT INSURANCE CORPORATION.....	5	9	1	4	-	-	2	53	81	1,148
GENERAL ACCOUNTING OFFICE.....	35	84	15	26	-	-	1,218	1,124	11,879	14,892
GENERAL SERVICES ADMINISTRATION.....	1,880	1,644	532	443	2	5	32,749	48,027	405,161	504,581
Administration.....	17	28	9	10	-	-	87	520	1,648	9,708
Public Buildings Service.....	1,456	1,253	419	342	2	5	29,682	42,702	358,092	457,169
Federal Supply Service.....	162	155	58	56	-	-	1,427	2,956	20,350	31,440
National Archives & Records Service.....	40	41	12	13	-	-	155	599	2,982	10,486
Defense Materials Service.....	48	52	13	11	-	-	484	621	5,170	6,777
Transportation & Public Utility Service.....	1	4	1	2	-	-	728	557	12,258	5,297
All Other General Services Adm.....	156	111	20	9	-	-	186	112	4,661	3,664
GOVERNMENT PRINTING OFFICE.....	128	205	76	95	-	1	3,047	8,496	38,454	97,728

ESTABLISHMENT	TOTAL NUMBER OF CASES (1)		NONFATAL DISABLING (2)		FATALS CHARGEABLE (3)		DAYS CHARGEABLE (4)		TOTAL DIRECT COST (5)	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
									\$	\$
HOUSING & HOME FINANCE AGENCY.....	221	211	84	77	-	1	1,284	8,647	20,934	122,492
Office of the Administrator.....	7	11	2	6	-	-	58	-	1,369	1,303
Federal Housing Administration.....	158	136	66	50	-	1	1,044	8,024	16,193	107,683
Public Housing Administration.....	26	31	8	17	-	-	84	531	1,641	12,610
All Other Housing & Home Finance.....	30	33	8	4	-	-	98	23	1,731	12,896
INTERSTATE COMMERCE COMMISSION.....	54	22	17	7	-	-	478	275	6,034	4,665
NATIONAL AERONAUTICS & SPACE ADM.....	496	565	56	62	2	1	14,302	7,791	360,566	91,251
NATIONAL LABOR RELATIONS BOARD.....	19	27	7	8	-	-	179	91	2,570	2,128
RAILROAD RETIREMENT BOARD.....	15	16	8	10	-	-	64	161	1,245	2,376
SECURITIES & EXCHANGE COMMISSION.....	8	5	3	-	-	-	467	-	2,827	70
SELECTIVE SERVICE SYSTEM.....	68	65	23	33	2	-	13,437	385	44,883	8,253
TENNESSEE VALLEY AUTHORITY.....	1,024	1,179	223	256	2	6	34,991	69,794	429,926	870,835
U. S. CIVIL SERVICE COMMISSION.....	40	32	20	20	-	-	207	1,585	4,134	27,716
SMITHSONIAN INSTITUTION.....	75	193	46	56	-	-	1,446	1,867	16,679	28,385
VETERANS ADMINISTRATION.....	4,264	3,895	2,180	1,844	4	7	130,824	141,267	1,585,411	1,853,988
ARCHITECT OF THE CAPITOL.....	24	16	16	8	1	-	6,509	105	7,305	2,000
FEDERAL TRADE COMMISSION.....	11	15	3	8	2	-	12,168	42	255,266	980
LIBRARY OF CONGRESS.....	24	30	14	22	-	1	130	6,197	2,472	25,888
SMALL BUSINESS ADMINISTRATION.....	14	17	8	5	-	-	68	85	1,312	1,883
FEDERAL AVIATION AGENCY.....	993	1,111	298	333	2	7	22,792	51,881	399,401	1,002,002
U. S. INFORMATION AGENCY.....	66	55	36	26	-	-	1,416	428	23,530	9,361
SOLDIERS' HOME.....	23	34	19	30	-	-	197	1,050	3,196	12,044
ALL OTHER ESTABLISHMENTS.....	379	270	144	153	3	-	26,402	5,655	224,768	77,871

Casualty Rates

Selected list of injury rates for Federal establishments
in which exposure data have been made available
to the Bureau of Employees' Compensation

CASUALTY RATES

ESTABLISHMENT	AVERAGE NUMBER OF EMPLOYEES		FREQUENCY (Number of Disabling Injuries per Million Manhours)		SEVERITY (Number of Days Lost per Million Manhours)		TOTAL DIRECT COST PER EMPLOYEE	
	1959	1960	1959	1960	1959	1960	1959	1960
							\$	\$
ALL FEDERAL ESTABLISHMENTS*	2,413,741	2,451,784	8.5	8.4	508	594	12.39	14.74
DEPARTMENT OF STATE	35,769	37,551	2.1	2.0	286	341	6.47	9.30
DEPARTMENT OF THE TREASURY	76,431	77,634	4.6	3.9	252	229	7.46	5.56
Office of the Secretary	635	601	2.3	4.8	24	98	4.35	4.35
Comptroller of the Currency	1,142	1,176	3.4	4.4	537	1	14.66	.07
Bureau of Customs	8,165	8,324	8.5	6.1	612	100	14.82	4.14
Bureau of Engraving & Printing	3,327	3,186	11.1	11.5	292	198	8.64	8.05
Internal Revenue Service	50,504	51,754	3.3	3.0	186	274	6.42	5.70
Bureau of the Mint	781	828	8.6	2.9	135	41	5.55	2.49
Bureau of Narcotics	413	417	8.1	9.2	95	41	3.75	7.51
U. S. Coast Guard	4,721	4,735	6.8	7.2	313	320	9.53	10.74
Bureau of Accounts	2,212	2,182	4.8	3.3	110	40	3.62	1.24
Bureau of the Public Debt	2,418	2,293	4.6	2.3	248	45	4.64	1.60
Office of the Treasurer	954	953	1.5	4.5	24	227	.93	10.08
Savings Bonds Division	531	517	9.1	3.7	497	35	12.19	1.65
Secret Service	628	670	6.1	.7	43	1	1.75	.20
DEPARTMENT OF THE ARMY	399,092	385,448	4.7	4.6	470	419	11.47	11.00
DEPARTMENT OF THE NAVY	354,570	312,033	4.0	4.5	511	1,055	11.44	24.13
ALL NAVAL SHIPYARDS	92,904	93,030	4.1	5.7	532	2,928	11.62	51.54
Boston, Mass.	9,465	8,896	4.8	4.9	704	646	16.96	14.49
Fugot Sound, Wash.	8,759	8,047	1.7	2.4	219	1,737	4.89	35.75
New York, N. Y.	13,250	13,078	4.6	18.2	648	14,858	11.60	275.31
Charleston, S. C.	7,075	7,132	2.4	2.1	479	370	11.10	7.46
Philadelphia, Pa.	7,575	7,728	5.6	6.0	680	869	16.56	20.45
Portsmouth, N. H.	7,876	9,508	4.3	3.5	463	1,145	10.27	18.86
Hortfolk, Va.	11,630	11,220	5.0	5.5	562	606	10.11	13.33
Vallejo, Calif.	9,540	9,584	5.8	3.6	469	989	12.43	7.39
San Francisco, Calif.	6,455	6,504	3.0	2.5	603	556	10.16	11.52
Pearl Harbor, Hawaii	4,703	4,325	1.7	1.5	147	124	3.02	2.78
Long Beach, Calif.	6,551	6,708	4.0	3.9	720	415	19.08	12.14

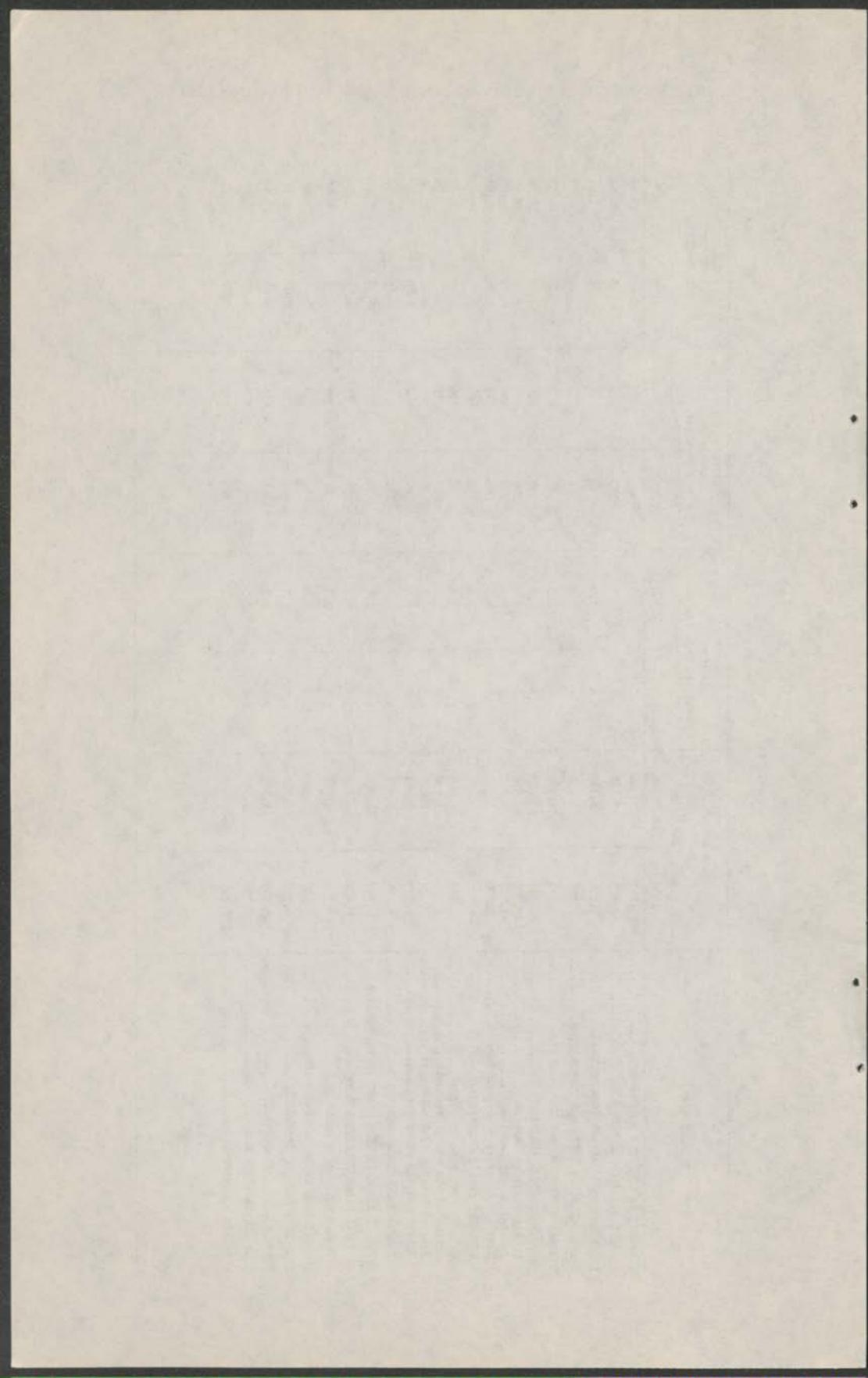
* Includes all establishments, both the groups for which individual rates are determinable and those where aggregate exposure data only are calculable.

ESTABLISHMENT	AVERAGE NUMBER OF EMPLOYEES		FREQUENCY (Number of Days Lost per Million Manhours)		SEVERITY (Number of Days Lost per Million Manhours)		TOTAL DIRECT COST PER EMPLOYEE	
	1959	1960	1959	1960	1959	1960	1959	1960
							\$	\$
DEPARTMENT OF THE AIR FORCE.	314,997	309,187	7.1	6.8	555	464	13.65	11.22
AIR MATERIEL COMMAND.....	168,404	154,543	5.3	5.2	390	430	9.55	9.54
POST OFFICE DEPARTMENT.....	575,615	586,373	17.6	20.1	479	647	13.37	15.86
Atlanta Region.....	37,588	37,588	15.7	17.4	302	700	9.72	15.60
Boston Region.....	36,264	41,643	24.5	25.8	726	724	19.61	19.11
Chicago Region.....	39,717	64,351	20.1	22.8	422	709	12.64	18.03
Cincinnati Region.....	62,166	51,888	13.0	16.3	307	307	10.48	10.48
Dallas Region.....	51,230	31,257	11.6	13.2	356	296	10.15	9.36
Denver Region.....	31,083	15,216	17.5	18.0	328	955	11.15	20.00
Detroit Region.....	14,966	19,874	10.5	12.6	421	497	10.13	10.13
Memphis Region.....	20,147	19,874	11.6	15.2	447	689	12.29	16.28
Minneapolis Region.....	29,586	29,284	11.6	15.2	447	689	12.29	16.28
New York Region.....	80,586	81,250	30.1	32.5	892	1,240	23.52	27.88
Philadelphia Region.....	55,299	58,323	16.5	18.9	446	590	11.88	14.30
Seattle Region.....	18,420	18,183	12.8	15.6	515	310	11.92	9.64
St. Louis Region.....	32,234	32,687	10.8	11.4	423	232	9.86	7.56
San Francisco Region.....	51,230	53,665	22.7	21.4	388	617	12.89	16.24
Washington, D. C. Region.....	32,235	31,112	11.0	12.6	322	433	8.18	11.64
Wichita Region.....	20,722	20,252	8.4	11.4	237	442	7.24	9.23
DEPARTMENT OF JUSTICE.....	30,018	30,729	5.1	4.6	281	625	9.42	17.68
Federal Bureau of Investigation.....	13,328	13,513	3.2	3.5	277	254	9.86	10.63
Immigration & Naturalization Service.....	6,424	6,372	6.4	5.8	262	534	8.62	17.69
Bureau of Prisons.....	5,022	5,276	11.9	9.2	303	1,587	8.65	33.90
DEPARTMENT OF THE INTERIOR.....	52,220	52,496	11.6	10.9	1,143	1,533	24.55	31.43
Bureau of Reclamation.....	9,683	9,695	9.8	10.2	578	2,070	9.86	38.59
Geological Survey.....	7,541	7,772	6.8	6.1	1,260	949	17.46	27.92
Bureau of Mines.....	4,380	4,435	3.4	4.0	716	86	18.82	27.92
Bureau of Indian Affairs.....	12,053	12,119	14.8	12.7	920	1,447	8.64	8.64
National Park Service.....	6,194	6,478	21.6	20.9	1,110	2,695	17.09	26.98
Bureau of Commercial Fisheries.....	NA	1,663	NA	4.3	NA	238	17.94	48.76
Bureau of Sport Fisheries.....	NA	3,083	NA	9.5	NA	4,139	NA	8.15
Bureau of Land Management.....	2,777	2,956	15.5	15.4	370	NA	12.76	NA
Alaska Railroad Bureau.....	1,147	1,057	14.1	11.7	7,640	NA	98.40	23.88

NA Not Available.

ESTABLISHMENT	AVERAGE NUMBER OF EMPLOYEES		FREQUENCY (Number of Disabling Injuries per Million Manhours)		SEVERITY (Number of Days Lost per Million Manhours)		TOTAL DIRECT COST PER EMPLOYEE	
	1959	1960	1959	1960	1959	1960	1959	1960
							\$	\$
DEPARTMENT OF THE INTERIOR (Continued)								
Bonsville Power Administration.....	2,230	2,221	11.4	9.5	2,240	384	53.24	15.48
DEPARTMENT OF AGRICULTURE.....								
Rural Electrification Administration.....	84,425	90,882	10.3	12.0	1,255	1,290	39.94	22.44
Farmers Home Administration.....	1,001	966	2.9	1.9	77	43	5.03	2.42
Soil Conservation Service.....	10,766	10,038	2.2	2.2	581	622	1.42	2.65
Forest Service.....	14,848	17,150	4.5	4.2	663	387	9.37	8.03
Forest Research Service.....	21,509	23,571	16.1	24.3	2,677	2,848	35.18	48.43
Federal Crop Insurance Corporation.....	17,247	17,181	13.8	12.6	897	897	25.24	25.24
Commodity Stabilization Service.....	1,056	1,064	3.8	6.4	27	162	3.13	3.13
Agriculture Marketing Service.....	7,963	7,883	1.7	4.5	141	630	9.50	7.21
	10,005	10,415	6.6	4.9	1,105	500	26.21	10.78
DEPARTMENT OF COMMERCE.....								
Office of the Secretary.....	37,098	69,638	8.3	7.8	678	967	8.80	15.55
Bureau of the Census.....	658	650	4.5	6.0	22	1,201	4.97	12.12
Weather Bureau.....	10,728	4,247	10.5	8.7	1,793	751	6.99	3.72
Bureau of Public Roads.....	8,738	8,651	2.6	3.6	517	3,308	10.67	81.95
Maritime Administration & Maritime Board.....	5,061	4,821	13.7	8.7	1,068	147	17.62	6.33
Coast & Geodetic Survey.....	2,868	2,855	14.4	16.1	587	932	15.29	24.00
National Bureau of Standards.....	2,093	2,112	11.7	8.5	115	1,617	4.25	42.52
Patent Office.....	3,266	3,451	6.9	6.6	115	84	3.45	3.79
Bureau of Foreign Commerce.....	2,222	2,268	2.6	2.3	22	17	.87	.93
Business & Defense Services Administration.....	504	501	.9	.9	2	15	.77	.77
	534	567	2.9	1.9	19	18	.78	.94
DEPARTMENT OF LABOR.....								
	5,945	6,924	3.4	3.3	589	102	18.47	3.88
DEPARTMENT OF HEALTH EDUCATION & WELFARE.....								
Office of the Secretary.....	58,760	61,631	4.6	4.7	140	196	3.72	5.26
St. Elizabeth's Hospital.....	1,343	0	3.8	0.0	220	0	1.53	1.10
Public Health Service.....	2,884	3,101	14.3	15.5	139	156	5.41	6.59
Social Security Administration.....	25,753	27,100	6.5	5.9	237	361	5.76	8.79
Food & Drug Administration.....	26,397	27,086	1.9	2.4	38	80	1.23	1.71
Office of Education.....	1,179	1,811	3.9	4.2	251	50	8.31	2.25
Office of Education, Rehabilitation.....	936	1,138	.5	3.4	0	203	.12	9.81
	168	190	0.0	0.0	0	0	.16	.00
ATOMIC ENERGY COMMISSION.....								
	6,747	6,974	3.2	2.0	44	43	1.77	1.53

ESTABLISHMENT	AVERAGE NUMBER OF EMPLOYEES		FREQUENT (Number of Disabling Injuries per Million Manhours)		SEVERITY (Number of Days Lost per Million Manhours)		TOTAL DIRECT COST PER EMPLOYEE	
	1959	1960	1959	1960	1959	1960	1959	1960
							\$	\$
DISTRICT OF COLUMBIA GOVERNMENT.....	20,275	21,516	15.2	14.8	400	351	10.65	10.45
FEDERAL AVIATION AGENCY.....	32,923	37,634	4.4	4.3	333	663	12.13	26.62
FEDERAL COMMUNICATIONS COMMISSION.....	1,256	1,345	3.8	3.9	112	24	3.62	1.21
FEDERAL DEPOSIT INSURANCE CORPORATION.....	1,256	1,239	.4	1.6	1	21	.07	.93
GENERAL ACCOUNTING OFFICE.....	5,143	4,982	1.4	2.5	114	108	2.51	2.99
GENERAL SERVICES ADMINISTRATION.....	27,515	28,223	9.3	7.6	572	818	14.73	18.59
Public Building Service.....	20,805	20,376	10.0	8.2	706	1,008	17.72	22.44
Federal Supply Service.....	3,012	3,202	9.3	8.4	228	444	6.76	9.83
National Archives & Records Service.....	1,176	1,535	4.9	4.1	63	175	2.54	6.83
GOVERNMENT PRINTING OFFICE.....	6,524	6,599	5.6	7.1	225	625	5.89	14.95
HOUSING & HOME FINANCE AGENCY.....	10,978	11,244	3.7	3.3	56	370	1.91	10.89
Office of the Administrator.....	1,655	1,756	.6	1.6	17	13	.85	1.74
Federal Housing Administration.....	7,002	7,124	4.5	3.4	72	542	2.31	15.12
Public Housing Administration.....	1,525	1,471	2.5	5.6	26	180	1.08	8.57
INTERSTATE COMMERCE COMMISSION.....	2,274	2,358	3.6	1.4	101	56	2.65	1.98
NATIONAL AERONAUTICS & SPACE ADMINISTRATION.....	9,107	12,724	3.1	2.4	755	294	39.59	7.17
NATIONAL LABOR RELATIONS BOARD.....	1,477	1,718	2.3	2.2	58	25	1.74	1.24
RAILROAD RETIREMENT BOARD.....	2,369	2,221	1.6	2.2	13	35	.53	1.07
SECURITIES & EXCHANGE COMMISSION.....	930	983	1.6	0.0	241	0	3.04	.07
SELECTIVE SERVICE SYSTEM.....	6,352	6,281	1.9	2.5	1,017	29	7.07	1.31
TENNESSEE VALLEY AUTHORITY.....	14,594	14,885	7.4	8.5	1,153	2,253	29.46	56.50
U. S. CIVIL SERVICE COMMISSION.....	3,750	3,582	2.6	2.7	27	213	1.10	7.74
VETERANS ADMINISTRATION.....	172,293	173,178	6.1	5.1	365	392	9.20	10.71



Causes of Accidental Injuries

As reported to the Bureau of Employees' Compensation

Calendar Years 1959 and 1960

CAUSES OF ACCIDENTAL INJURIES

CAUSE CLASSIFICATION	Per Cent of Total Number of Cases for Calendar Years 1959 and 1960															
	All Federal		Department of State		Department of Treasury		Department of Army		Department of Navy		Department of Air Force		Department of Justice		Post Office Department	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
Railroads **	.3	.3	-	-	.2	.2	.*	.*	.*	.1	.*	.*	.3	.3	.6	.5
Aircraft **	.1	.2	.9	.3	.1	.1	.1	.1	.1	.2	.2	.3	.2	.2	.*	.*
Watercraft**	.2	.1	-	-	.2	.3	.4	.3	1.3	2.7	-	-	.1	.2	.*	.*
Elevators **	.1	.1	.3	.3	.3	.5	.1	.1	.1	.*	.*	.*	.5	.5	.1	.1
Vehicles **	3.8	3.8	6.3	6.1	6.3	5.5	3.2	3.3	2.9	3.1	2.7	2.9	8.8	9.3	4.0	4.3
Pressure Equipment	.2	.2	.3	-	.2	.1	.4	.3	.5	.3	.6	.4	.2	.1	.*	.*
Explosions	.2	.6	.6	.6	.2	.2	.5	.5	.8	.5	.4	.4	-	.5	.*	.*
Fires	.4	.6	.6	.6	.2	.2	.4	.4	.5	.4	.5	.4	.1	.5	.1	.1
Electricity	.2	.2	.3	-	.1	.1	.3	.3	.4	.4	.3	.4	.2	.5	.*	.*
Flash Burns	.3	.2	1.2	.3	.1	.1	.6	.5	.8	.7	.6	.3	.2	.3	.1	.1
Dusts-Gases-Chemicals	1.8	1.7	2.1	1.2	1.5	2.2	3.4	3.2	3.5	2.9	4.1	3.6	1.5	1.5	.4	.4
Handling Material or Equipment	27.4	28.2	19.0	24.3	20.2	22.9	28.5	30.4	27.3	28.1	27.1	32.0	21.4	22.2	31.2	31.6
Falling Objects	3.6	3.0	5.4	3.5	5.2	4.5	4.7	4.0	4.6	4.0	5.2	3.8	2.9	2.9	2.8	2.5
Falls of Persons	16.3	17.2	16.9	22.3	23.4	23.2	14.1	15.2	14.6	15.5	13.8	15.5	14.3	19.3	18.4	18.7
Jumping to or from Places	.4	.4	.3	.3	.5	.5	.5	.5	.6	.4	.5	.5	.6	.6	.3	.3
Striking Against Material	11.8	10.5	11.5	9.9	16.2	13.9	12.0	10.3	11.2	10.0	13.4	10.8	14.6	14.3	10.6	9.9
Flying Particles	3.9	3.0	2.4	2.0	3.0	2.8	3.7	4.4	5.9	6.6	4.0	4.0	1.9	2.2	2.1	2.1
Hand Tools	3.8	4.4	5.1	4.3	2.9	2.8	6.5	7.4	4.1	6.0	5.6	6.5	2.3	2.6	1.1	1.2
Machinery	2.2	2.0	3.3	1.7	2.5	2.3	4.2	3.9	4.4	4.0	3.5	2.8	2.0	1.3	.9	1.0
Weather Exposure	.2	.1	-	-	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1
Poison Oak; Ivy; Sumac	.7	.8	-	-	.4	.5	.5	.7	.1	.1	.1	.1	.0	.*	.*	.*
Animals; Insects	8.1	9.0	1.5	2.0	1.5	1.5	1.1	1.0	.3	.3	.6	.4	2.3	1.9	15.5	16.2
Miscellaneous	15.0	13.8	22.6	20.3	14.7	15.1	14.7	13.1	15.9	13.6	16.5	14.8	25.3	18.6	11.6	11.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Number of Cases	100,228	102,126	294	349	1,731	1,612	10,924	10,345	5,249	5,297	10,404	9,490	935	1,051	46,471	47,355

* Less than .05

** Limited to Vehicles in motion

Per Cent of Total Number of Cases for Calendar Years 1959 and 1960

CAUSE CLASSIFICATION	Department of Interior		Department of Agriculture		Department of Commerce		Department of Labor		Department of Health, Education & Welfare		General Services Administration		Veterans Administration		Tennessee Valley Authority		District of Columbia Government	
	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960	1959	1960
	Railroads.....	.3	.2			.1				.1						.1	.1	
Aircraft.....	.3	.5	.3	.3	.3	.4		1.6	.1							.1		
Watercraft.....	.2	.2	.1		.8				.1							.1		
Elevators.....	#	#	#															
Vehicles.....	5.3	4.5	5.4	4.0	5.4	4.7	10.7	11.6	1.9	2.6	1.4	1.5	1.0	.9	3.0	2.8	4.8	4.3
Pressure Equipment.....	.2	.3	.2	.2	.6	.1			.7	.2	.3	.1	.5	.5	.6	.6	.2	.4
Explosives.....	.3	.2	.1	.1	.7	.1	1.0		.2	.3	1.9	.5	.3	.2	.6	.2	.8	.2
Fires.....	.9	1.8	2.8	5.4		.1			.2	.2	.5	.4	.3	.3	.3	.2	.2	.6
Electricity.....	.1	.3	.1	.1	.6	*			.1	.1	.5	.6	.1	.2	.6	.8	.1	.1
Flash Burns.....	.4	.3	.2	.2	.1	.1			.5	.4	.4	.4	.5	.3	.1	1.3	.3	.7
Dusts-Gases-Chemicals.....	2.4	2.6	2.3	2.0	2.3	2.3	1.0	2.3	3.6	2.9	3.1	3.5	1.7	2.1	2.7	2.3	1.3	1.1
Handling Material or Equipment.....	20.7	21.0	14.7	13.0	16.9	12.3	13.6	20.5	23.6	24.1	26.4	32.8	24.5	24.7	31.2	38.4	23.9	25.0
Falling Objects.....	4.3	3.4	2.5	2.6	3.9	1.7	3.9		3.2	3.4	5.5	5.5	2.8	2.3	4.8	3.7	5.7	3.3
Falls of Persons.....	12.9	13.7	13.5	13.1	17.0	23.1	22.3	25.9	14.8	20.6	13.3	14.5	17.2	17.5	7.8	7.5	15.0	17.6
Jumping to or from Places.....	.6	1.0	1.3	1.0	.3	.3	1.0		.2	.2	.3	.4	.3	.3	.3	.6		.6
Striking Against Material.....	13.4	12.2	11.7	10.0	12.0	8.6	7.7	12.5	12.9	10.3	16.3	13.6	11.1	9.3	11.1	11.1	13.5	13.1
Flying Particles.....	4.7	4.4	2.7	2.8	2.7	1.4		.9	3.1	1.5	1.2	3.5	1.0	1.1	5.8	4.3	3.1	4.6
Hand Tools.....	8.1	10.5	10.8	12.1	7.1	3.8	1.0		3.7	3.3	7.0	7.3	2.8	3.6	9.0	10.4	4.0	5.0
Machinery.....	3.2	2.5	2.0	2.1	3.1	.8			1.5	1.4	2.6	3.0	1.7	1.7	5.3	5.3	2.3	1.8
Weather Exposure.....	.3	.2	.4	.6	.3	.1			.2	.1	.1		*	*	.4	.2	.2	.3
Poison Oak; Ivy; Sumac.....	2.7	4.2	6.6	6.9	3.1	1.1							*	*		.2	.5	.3
Animals; Insects.....	3.3	3.0	7.0	6.7	6.5	24.6	2.9	1.8	.9	1.3	.9		.5	.3	1.4	1.1	.6	1.4
Miscellaneous.....	15.4	13.0	15.2	16.9	15.2	15.1	34.9	25.0	28.8	26.8	13.3	10.8	33.5	34.5	13.6	8.9	22.9	19.4
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Number of Cases.....	3,616	3,894	6,357	7,425	1,382	2,783	89	123	1,222	1,228	1,880	1,644	4,264	3,895	1,024	1,179	983	1,052

298 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960

ALL FEDERAL ESTABLISHMENTS

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1937	852,188	\$3,994,844	\$4.69	11.4	1,260
1938	862,861	4,096,021	4.75	11.7	1,270
1939	927,529	4,241,282	4.57	13.1	1,230
1940	1,036,485	4,402,553	4.25	13.1	1,210
1941	1,478,549	7,200,558	4.87	13.0	1,390
1942	2,291,225	12,106,662	5.28	12.5	880
1943	3,093,135	17,454,987	5.64	12.5	930
1944	3,211,516	18,785,001	5.85	11.0	920
1945	2,815,277	14,685,185	5.22	9.9	670
1946	2,625,797	12,560,828	4.78	9.2	760
1947	2,147,353	10,125,027	4.72	8.6	720
1948	2,085,736	9,092,711	4.36	8.1	550
1949	2,067,498	20,674,963	10.00	8.4	660
1950	2,070,625	22,942,168	11.08	8.6	680
1951	2,459,173	26,628,119	10.83	8.4	660
1952	2,572,152	23,371,749	9.09	8.0	560
1953	2,480,170	25,842,880	10.42	7.8	590
1954	2,380,715	25,738,244	10.81	7.7	589
1955	2,396,571	26,304,396	10.98	7.8	552
1956	2,433,698	29,203,216	12.00	8.0	568
1957	2,419,502	27,529,868	11.38	8.3	529
1958	2,388,616	28,008,168	11.73	8.1	501
1959	2,413,741	29,908,185	12.39	8.5	508
1960	2,451,784	36,131,992	14.74	8.4	594

DEPARTMENT OF STATE

1937	5,178	\$16,194	\$3.13	11.1	740
1938	5,434	23,116	4.25	11.3	710
1939	5,965	22,184	3.72	12.1	540
1940	6,320	22,227	3.52	14.2	1,050
1941	6,942	9,271	1.34	11.2	130
1942	7,374	7,023	.95	7.1	450
1943	8,421	20,585	2.44	3.4	340
1944	8,955	5,355	.60	3.0	30
1945	12,481	37,786	3.03	2.2	300
1946	20,249	60,516	2.99	1.9	610
1947	21,414	53,129	2.48	3.4	850
1948	20,773	23,698	1.14	3.2	220
1949	21,382	193,867	9.07	3.0	770
1950	24,504	322,610	13.17	3.1	660
1951	28,811	422,459	14.66	2.3	700
1952	31,110	260,714	8.38	2.2	500
1953	27,697	220,344	7.96	2.6	360
1954	20,549	100,253	4.88	2.1	136
1955	24,640	658,008	26.70	2.5	851
1956	31,501	222,273	7.06	2.2	433
1957	33,763	98,521	2.92	2.0	354
1958	35,009	232,457	6.64	2.1	237
1959	35,769	231,408	6.47	2.1	286
1960	37,551	349,347	9.30	2.0	341

See footnotes at end of table.

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER 299

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

DEPARTMENT OF THE TREASURY

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1937	70,647	\$170,299	\$2.41	6.6	570
1938	68,207	160,240	2.35	6.9	480
1939	64,821	215,664	3.33	8.6	880
1940	59,624	219,183	3.68	9.0	950
1941	63,770	166,988	2.62	10.0	460
1942	68,322	120,607	1.77	6.4	180
1943	80,762	140,530	1.74	6.0	130
1944	91,506	153,600	1.68	6.7	170
1945	94,801	213,711	2.25	7.2	250
1946	104,768	212,827	2.03	6.3	210
1947	94,138	243,247	2.58	5.6	290
1948	89,189	241,009	2.70	6.1	280
1949	88,844	336,891	3.79	6.5	300
1950	89,273	500,880	5.61	5.7	330
1951	91,014	327,418	3.60	5.6	160
1952	89,325	338,716	3.79	5.5	200
1953	84,696	573,797	6.77	5.1	300
1954	81,767	658,234	8.05	5.1	344
1955	80,286	500,629	6.24	4.7	274
1956	79,687	542,334	6.81	4.8	284
1957	79,816	667,837	8.37	4.7	383
1958	78,215	463,365	5.92	4.3	249
1959	76,431	569,982	7.46	4.6	252
1960	77,634	431,278	5.56	3.9	229

DEPARTMENT OF THE ARMY

1937	87,151	\$714,289	\$8.20	20.3	2,620
1938	97,952	1,000,744	10.22	17.6	3,060
1939	109,379	950,878	8.69	15.2	2,330
1940	143,852	1,176,836	8.18	17.8	2,620
1941	327,992	2,438,942	7.44	17.8	2,880
1942	893,507	5,622,003	6.29	14.1	1,130
1943	1,466,760	9,222,251	6.29	14.3	1,180
1944	1,523,280	8,857,505	5.81	11.4	1,070
1945	704,737	3,754,990	5.33	10.5	780
1946	634,936	3,489,570	5.50	9.9	1,140
1947	417,023	2,559,304	6.14	8.0	1,300
1948	388,029	1,955,521	5.04	7.6	760
1949	354,539	3,789,831	10.69	8.0	740
1950	348,738	3,808,049	10.92	7.8	760
1951	511,364	5,231,919	10.23	8.0	690
1952	539,472	4,920,304	9.12	7.6	670
1953	499,360	5,147,324	10.31	6.8	620
1954	487,713	5,208,866	10.68	5.7	616
1955	456,657	4,387,204	9.61	5.4	541
1956	433,183	5,279,579	12.19	5.2	578
1957	423,390	4,976,158	11.75	5.1	599
1958	411,807	4,822,282	11.71	4.8	493
1959	399,092	4,579,051	11.47	4.7	470
1960	385,448	4,239,148	11.00	4.6	419

DEPARTMENT OF THE NAVY

1937	70,009	\$432,043	\$6.17	9.7	2,110
1938	70,215	277,648	3.95	9.4	1,570
1939	86,542	435,320	5.03	12.6	1,480
1940	127,599	608,240	4.77	15.1	1,640
1941	231,738	1,680,822	7.25	16.1	2,430
1942	454,630	2,979,787	6.55	16.1	900
1943	616,267	4,212,028	6.83	15.8	1,000
1944	662,270	5,671,984	8.56	14.9	1,140
1945	645,840	4,781,122	7.40	12.0	800
1946	477,191	2,869,860	6.01	10.3	780
1947	355,999	1,705,222	4.79	8.7	680
1948	350,539	1,347,142	3.84	6.2	380
1949	334,042	2,900,491	8.68	5.6	350
1950	313,829	3,197,016	10.19	5.3	700
1951	442,089	4,218,570	9.54	5.0	630
1952	475,256	3,401,525	7.16	4.0	480
1953	441,437	3,999,849	9.06	3.7	330
1954	416,602	3,505,845	8.42	3.5	504
1955	410,229	4,342,701	10.59	3.8	641
1956	395,370	4,114,723	10.41	3.7	513
1957	383,845	3,987,476	10.39	3.7	618
1958	362,375	3,880,279	10.71	3.9	353
1959	354,570	4,056,513	11.44	4.0	511
1960	312,033	7,528,077	24.13	4.5	1,055

See footnotes at end of table.

300 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

DEPARTMENT OF THE AIR FORCE

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1941	29,188	\$147,594	\$5.06	21.1	2,450
1942	156,406	1,289,388	8.24	14.4	1,350
1943	336,705	2,140,984	6.36	17.2	930
1944	360,767	2,210,675	6.13	14.1	920
1945	354,015	1,856,856	5.25	11.6	620
1946	259,437	1,192,328	4.60	10.0	920
1947	113,278	733,942	6.48	12.9	830
1948	128,557	572,398	4.45	10.3	620
1949	160,717	1,284,286	7.99	8.6	570
1950	179,956	1,414,885	7.86	7.8	540
1951	269,938	2,554,074	9.46	7.9	650
1952	318,102	2,338,999	7.35	7.4	560
1953	300,194	2,622,930	8.74	6.2	540
1954	296,755	2,388,903	8.72	5.6	502
1955	313,116	3,083,431	9.85	5.6	544
1956	344,986	3,755,063	10.88	5.9	534
1957	336,555	3,847,680	11.43	6.5	532
1958	314,889	4,034,136	12.81	7.0	543
1959	314,997	4,298,586	13.65	7.1	555
1960	309,187	3,469,917	11.22	6.8	464

POST OFFICE DEPARTMENT

1937	289,324	\$585,693	\$2.02	10.6	480
1938	295,218	610,387	2.07	10.8	520
1939	299,085	545,502	1.82	11.8	470
1940	307,011	528,739	1.72	12.2	420
1941	318,098	925,217	2.90	12.0	450
1942	326,588	803,205	2.46	9.5	270
1943	324,573	1,177,579	3.63	9.4	380
1944	358,223	1,115,801	3.11	9.5	350
1945	434,920	1,305,305	3.00	9.3	330
1946	476,779	1,399,758	2.94	9.7	310
1947	463,972	1,380,308	2.97	9.1	330
1948	495,283	1,489,070	3.01	9.7	290
1949	518,611	2,689,828	5.19	10.2	320
1950	501,634	3,705,367	7.39	12.1	410
1951	502,508	3,883,968	7.73	13.1	400
1952	522,468	3,665,085	7.01	12.8	320
1953	510,094	4,368,949	8.55	13.9	410
1954	508,496	4,728,938	9.30	14.7	445
1955	508,811	5,596,928	10.94	15.8	477
1956	514,107	6,509,468	12.66	17.8	559
1957	553,961	7,024,348	12.68	17.2	494
1958	547,855	6,919,491	12.63	16.7	449
1959	575,615	7,693,707	13.37	17.6	479
1960	586,373	9,300,178	15.86	20.1	647

DEPARTMENT OF JUSTICE

1937	8,156	\$54,142	\$6.64	4.2	1,700
1938	8,541	107,323	12.57	5.1	2,030
1939	9,538	56,026	5.87	4.5	1,420
1940	13,593	28,610	2.10	5.7	850
1941	21,656	50,820	2.35	4.6	530
1942	28,203	64,442	2.28	3.6	270
1943	30,225	128,128	4.24	3.3	480
1944	28,351	51,841	1.83	3.4	150
1945	25,679	78,031	3.04	3.2	520
1946	23,930	114,040	4.77	4.0	470
1947	24,607	62,636	2.55	3.3	200
1948	26,100	86,447	3.31	3.1	510
1949	26,148	127,078	4.86	2.7	330
1950	26,507	301,690	11.38	3.4	600
1951	30,834	227,943	7.39	3.9	370
1952	31,467	429,671	13.65	4.3	630
1953	30,185	327,395	10.85	4.4	440
1954	30,397	326,475	10.74	4.1	443
1955	30,500	250,331	8.21	4.4	371
1956	30,624	300,457	9.81	4.3	396
1957	30,708	534,487	17.41	4.3	581
1958	30,652	109,570	3.57	4.3	112
1959	30,018	282,801	9.42	5.1	281
1960	30,729	543,187	17.68	4.6	625

See footnotes at end of table.

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

DEPARTMENT OF THE INTERIOR

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1937	41,700	\$431,571	\$10.35	17.7	2,370
1938	45,060	375,858	8.34	18.7	2,410
1939	47,300	434,266	9.18	20.9	2,300
1940	46,088	411,716	8.93	19.4	2,100
1941	44,423	361,872	8.15	19.8	1,460
1942	46,092	548,010	11.89	18.1	2,250
1943	38,035	270,305	7.11	15.5	1,030
1944	41,306	371,063	8.98	12.2	1,260
1945	43,184	410,859	9.51	10.8	1,300
1946	48,804	516,337	10.63	15.4	1,780
1947	49,439	506,544	10.25	17.0	1,510
1948	51,175	515,732	10.08	14.6	1,420
1949	54,315	1,258,460	23.17	14.3	1,720
1950	59,988	1,421,310	23.69	15.1	1,500
1951	58,973	1,590,839	26.98	14.8	1,890
1952	57,254	1,142,302	19.95	14.1	1,200
1953	55,714	1,565,196	28.09	14.4	1,680
1954	53,065	1,345,224	25.07	13.9	1,429
1955	50,303	1,140,680	22.68	14.3	1,200
1956	50,517	1,417,918	28.07	13.7	1,447
1957	51,673	1,041,850	20.16	13.0	1,056
1958	52,509	976,380	18.59	11.6	911
1959	52,220	1,282,258	24.55	11.6	1,143
1960	52,490	1,650,193	31.43	10.9	1,533

DEPARTMENT OF AGRICULTURE ⁷

1937	89,042	\$649,661	\$7.30	15.7	1,960
1938	87,190	690,739	7.92	19.1	1,980
1939	92,778	646,077	6.96	23.2	1,770
1940	89,300	549,509	6.15	18.4	1,500
1941	85,101	588,154	6.91	16.3	1,270
1942	81,515	483,981	5.94	13.4	900
1943	83,382	505,521	6.06	12.9	870
1944	75,529	545,743	7.23	11.8	1,070
1945	81,358	619,899	7.62	10.4	960
1946	86,806	494,928	5.70	10.4	990
1947	77,457	540,919	6.98	11.5	1,180
1948	74,983	488,851	6.52	10.5	920
1949	75,692	1,904,657	25.16	11.1	2,230
1950	75,156	1,063,068	14.14	10.4	1,010
1951	72,989	2,083,560	28.55	10.4	1,610
1952	70,912	908,274	12.81	9.0	1,120
1953	71,571	1,547,276	21.62	9.6	1,810
1954	71,939	1,118,074	15.54	8.2	1,044
1955	78,238	1,150,342	14.70	8.1	823
1956	84,025	1,569,986	18.68	7.5	1,057
1957	88,341	894,190	10.12	9.1	647
1958	91,884	1,519,785	16.54	7.4	832
1959	84,425	1,683,842	19.94	10.3	1,255
1960	90,882	2,039,094	22.44	12.0	1,290

DEPARTMENT OF COMMERCE

1937	15,644	\$177,167	\$11.32	10.0	2,820
1938	15,854	156,871	9.89	10.4	3,060
1939	10,902	38,595	3.54	19.5	2,150
1940	21,764	127,841	5.87	17.7	1,780
1941	23,287	90,703	3.90	19.0	1,120
1942	25,453	146,853	5.77	13.6	1,220
1943	36,734	178,909	4.87	8.8	1,080
1944	38,137	533,199	13.98	7.0	2,420
1945	37,296	205,117	5.50	6.0	1,000
1946	34,602	295,598	8.54	7.3	1,570
1947	37,576	293,359	7.81	6.9	1,250
1948	39,854	414,936	10.41	6.3	1,890
1949	45,546	375,854	8.25	6.0	670
1950	81,289	1,238,730	15.24	7.1	760
1951	65,453	791,431	12.09	6.8	900
1952	66,434	923,710	13.90	5.7	920
1953	51,845	427,772	8.25	6.6	560
1954	47,404	445,654	9.40	5.9	574
1955	44,446	505,154	11.37	6.0	429
1956	45,808	563,617	12.30	6.0	476
1957	50,147	522,842	10.43	6.5	516
1958	53,665	639,181	11.91	5.2	483
1959	37,098	326,347	8.80	8.3	678
1960	69,638	1,082,747	15.55	7.8	967

See footnotes at end of table.

302 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

DEPARTMENT OF LABOR

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1937	13,441	\$23,701	\$1.77	2.8	290
1938	7,119	14,222	2.00	5.4	560
1939	6,397	15,321	2.40	4.3	670
1940	4,925	40,397	8.20	5.1	1,340
1941	4,338	2,233	.51	1.9	40
1942	4,842	2,712	.56	2.0	40
1943	6,522	24,737	3.79	1.6	430
1944	5,786	20,443	3.53	2.3	590
1945	15,037	13,857	.92	1.6	90
1946	28,724	13,006	.45	1.5	30
1947	5,566	20,814	3.74	1.9	560
1948	3,973	3,352	.84	2.5	70
1949	4,091	1,279	.31	2.1	10
1950	5,910	8,102	1.37	2.7	40
1951	7,526	55,476	7.37	2.9	420
1952	7,323	8,476	1.16	2.4	40
1953	5,535	9,686	1.75	2.2	40
1954	5,031	191,494	38.06	3.4	1,260
1955	5,081	70,485	13.87	3.1	607
1956	5,753	217,398	37.79	3.4	1,114
1957	5,892	121,257	20.58	3.6	1,309
1958	5,890	8,360	1.42	3.3	37
1959	5,945	109,807	18.47	3.4	589
1960	6,924	26,883	3.88	3.3	102

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE ⁵
(Formerly Federal Security Agency)

1939	10,142	\$54,499	\$10.75	9.1	2,200
1940	25,576	111,622	4.36	5.9	1,400
1941	30,921	82,152	2.66	6.1	400
1942	38,969	138,902	3.56	4.7	470
1943	31,197	109,080	3.50	5.4	460
1944	29,764	130,478	4.38	5.1	740
1945	30,393	154,948	5.10	4.9	610
1946	31,379	211,853	6.75	4.3	850
1947	33,474	47,093	1.41	3.4	180
1948	34,713	40,877	1.18	2.9	80
1949	35,126	390,883	11.13	4.1	620
1950	34,048	941,354	27.65	5.4	1,080
1951	35,374	296,995	8.40	4.2	680
1952	36,533	372,582	10.20	3.5	730
1953 ⁶	36,860	805,007	21.84	3.9	850
1954	35,621	215,387	6.05	4.2	270
1955	41,925	407,311	9.72	4.6	477
1956	46,724	533,479	11.42	4.2	446
1957	52,157	256,890	4.93	4.3	198
1958	54,990	400,050	7.27	4.7	295
1959	58,790	218,810	3.72	4.6	140
1960	61,631	324,437	5.26	4.7	196

DISTRICT OF COLUMBIA GOVERNMENT

1937	10,273	\$54,955	\$5.35	18.0	1,240
1938	10,942	52,200	4.77	17.8	1,200
1939	11,134	69,521	6.24	19.1	1,720
1940	11,654	63,739	5.47	19.0	2,150
1941	12,310	65,101	5.29	21.2	1,130
1942	12,976	61,886	4.77	14.5	850
1943	12,925	46,177	3.57	12.5	340
1944	12,087	75,121	6.22	13.6	750
1945	13,001	82,076	6.31	12.3	680
1946	15,925	117,990	7.41	13.4	1,020
1947	15,099	19,624	5.27	18.5	470
1948	14,865	95,167	6.40	18.5	810
1949	15,956	226,439	14.19	20.3	850
1950	15,704	251,175	15.99	19.1	1,370
1951	15,587	225,324	14.46	18.8	730
1952	16,742	213,833	12.77	17.7	690
1953	16,991	223,484	13.15	18.4	800
1954	17,412	132,415	7.60	16.1	352
1955	18,199	191,498	10.52	14.7	395
1956	18,405	175,371	9.53	12.1	369
1957	18,815	239,382	12.72	13.3	653
1958	19,677	371,374	18.87	14.3	826
1959	20,275	215,956	10.65	15.2	400
1960	21,516	224,455	10.43	14.8	351

See footnotes at end of table.

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER 303

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

FEDERAL COMMUNICATIONS COMMISSION

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1941	1,433	\$1,265	\$0.88	1.2	40
1942	2,027	725	.36	2.8	30
1943	2,063	802	.39	2.7	30
1944	1,632	852	.52	1.9	20
1945	1,353	300	.22	1.9	10
1946	1,301	2,561	1.97	3.7	120
1947	1,339	19,423	14.51	2.2	2,170
1948	1,364	1,975	1.45	2.1	130
1949	1,338	2,129	1.59	6.1	60
1950	1,273	5,447	4.28	3.4	100
1951	1,180	2,488	2.11	3.3	90
1952	1,121	313	.28	1.7	10
1953	1,090	740	.68	1.3	20
1954	1,126	1,752	1.56	3.0	80
1955	1,090	7,481	6.86	2.2	419
1956	1,130	1,143	1.01	2.1	21
1957	1,183	1,900	1.61	3.3	41
1958	1,211	47,692	39.38	2.4	2,405
1959	1,256	4,549	3.62	3.8	112
1960	1,345	1,631	1.21	3.9	24

FEDERAL DEPOSIT INSURANCE CORPORATION

1941	2,347	\$2,580	\$1.10	6.4	70
1942	2,453	7,048	2.87	4.1	100
1943	2,157	1,106	.51	2.0	20
1944	1,713	355	.21	1.3	10
1945	1,328	2,129	1.60	2.3	100
1946	1,184	15,396	13.00	2.0	2,460
1947	1,161	1,698	1.46	1.2	90
1948	1,071	1,916	1.79	2.7	170
1949	1,078	447	.41	.4	10
1950	1,074	700	.65	1.3	20
1951	1,026	1,319	1.29	.5	30
1952	1,010	276	.27	1.0	10
1953	1,041	135	.13	.9	2
1954	1,046	1,614	1.54	2.3	61
1955	1,117	1,120	1.00	3.9	30
1956	1,136	684	.60	2.1	16
1957	1,152	582	.51	.8	13
1958	1,212	2,970	2.45	3.6	57
1959	1,236	81	.07	.4	1
1960	1,239	1,148	.93	1.6	21

GENERAL ACCOUNTING OFFICE

1942	7,335	\$2,096	\$0.29	2.0	20
1943	9,040	2,782	.31	2.2	20
1944	11,815	12,918	1.09	2.1	100
1945	13,414	5,561	.41	2.6	30
1946	13,489	4,428	.33	2.5	20
1947	10,463	4,542	.43	2.4	30
1948	9,295	4,045	.44	2.0	20
1949	9,004	22,174	2.46	2.4	100
1950	7,956	133,694	16.80	1.8	430
1951	6,881	4,549	.66	1.3	50
1952	6,229	10,764	1.73	2.2	70
1953	6,137	9,260	1.51	2.3	50
1954	5,864	3,415	.58	1.3	20
1955	5,719	5,410	.95	1.7	33
1956	5,514	9,444	1.71	1.7	76
1957	5,436	5,089	.94	2.0	29
1958	5,338	10,034	1.88	1.3	47
1959	5,143	11,879	2.31	1.4	114
1960	4,982	14,892	2.99	2.5	108

See footnotes at end of table.

304 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

GOVERNMENT PRINTING OFFICE

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1942	7,648	\$13,112	\$1.71	3.8	120
1943	7,842	19,360	2.47	6.3	170
1944	7,112	18,917	2.66	9.2	150
1945	6,885	29,659	4.31	6.7	290
1946	7,581	18,521	2.44	8.1	140
1947	7,708	20,427	2.63	7.0	140
1948	7,135	13,997	1.96	3.9	110
1949	7,043	35,186	5.00	3.8	220
1950	7,106	14,702	2.07	3.2	90
1951	7,484	16,114	2.15	3.1	110
1952	7,707	62,177	8.07	3.5	480
1953	7,352	10,790	1.47	2.0	70
1954	6,888	34,091	4.95	2.8	240
1955	6,745	32,536	4.82	4.6	240
1956	6,640	27,596	4.16	5.3	196
1957	6,455	81,912	12.69	7.5	418
1958	6,426	55,085	8.57	6.1	279
1959	6,524	38,454	5.89	5.6	225
1960	6,539	97,728	14.95	7.1	625

HOUSING AND HOME FINANCE AGENCY

1950	13,489	\$39,969	\$2.96	3.1	170
1961	13,135	34,923	2.66	7.1	340
1952	12,540	169,464	13.51	7.6	580
1953	11,764	74,870	6.36	7.5	450
1954	10,667	181,758	17.04	6.7	916
1955	10,638	46,534	4.37	5.3	183
1956	10,072	62,191	6.18	4.0	308
1957	9,856	37,741	3.83	3.7	94
1958	10,238	38,314	3.74	3.1	168
1959	10,978	20,934	1.91	3.7	56
1960	11,244	122,492	10.89	3.3	370

GENERAL SERVICES ADMINISTRATION ⁵

(Formerly Federal Works Agency)

1945	20,322	\$71,586	\$3.52	21.2	600
1946	22,961	114,765	5.00	20.8	900
1947	23,991	106,070	4.42	19.7	530
1948	22,647	98,876	4.37	15.9	340
1949	24,058	429,613	18.27	17.9	1,130
1950	24,343	225,850	9.28	16.0	670
1951	28,727	192,009	6.68	15.9	390
1952	28,834	214,723	7.45	12.9	670
1953	28,648	335,632	11.72	14.1	600
1954	26,548	303,459	11.43	12.1	589
1955	25,752	238,726	9.27	10.3	465
1956	26,495	231,651	8.74	9.3	507
1957	27,121	258,870	9.55	9.2	515
1958	27,638	227,984	8.25	8.3	303
1959	27,515	405,161	14.73	9.3	572
1960	28,223	524,581	18.59	7.6	818

INTERSTATE COMMERCE COMMISSION

1941	2,785	\$287	\$0.10	0.8	10
1942	2,652	397	.15	1.1	10
1943	2,249	383	.17	.8	10
1944	2,087	108	.05	.4	10
1945	2,016	82	.04	.4	5
1946	2,234	6,453	2.89	1.3	1
1947	2,276	1,432	.63	2.3	20
1948	2,277	346	.15	.4	5
1949	2,178	5,042	2.31	.9	40
1950	2,101	395	.19	.9	10
1951	2,105	2,325	1.10	1.6	30
1952	2,055	6,428	3.13	1.4	150
1953	1,883	2,469	1.31	.8	70
1954	1,864	579	.31	.8	9
1955	1,837	292	.16	.3	4
1956	1,966	7,096	3.61	3.2	99
1957	2,186	2,754	1.26	3.1	31
1958	2,253	3,035	1.35	2.8	27
1959	2,274	6,034	2.65	3.6	101
1960	2,358	4,665	1.98	1.4	56

See footnotes at end of table.

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER 305

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION¹⁰

(Formerly National Advisory Committee for Aeronautics)

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1941	1,340	\$1,801	\$1.34	6.2	130
1942	2,589	16,649	6.43	9.4	1,250
1943	3,923	9,892	2.52	12.0	200
1944	5,684	15,105	2.66	13.4	170
1945	6,137	19,384	3.16	13.5	160
1946	5,505	26,863	4.88	16.3	390
1947	5,846	19,750	3.38	16.4	180
1948	6,459	23,966	3.71	13.0	190
1949	6,995	52,764	7.54	14.1	430
1950	7,225	94,258	13.05	13.2	1,120
1951	7,475	71,745	9.60	11.3	330
1952	7,509	193,995	25.83	10.1	930
1953	7,022	171,979	24.49	4.2	630
1954	7,111	209,532	29.47	3.2	1,399
1955	7,412	22,347	3.01	2.9	94
1956	7,721	32,387	4.19	3.1	189
1957	7,809	22,171	2.84	2.1	88
1958 ⁴	7,923	75,374	9.51	2.9	479
1959	9,107	360,566	39.59	3.1	755
1960	12,724	91,251	7.17	2.4	294

NATIONAL LABOR RELATIONS BOARD

1941	827	\$248	\$0.30	0.7	40
1942	901	—	—	—	—
1943	810	586	.72	1.1	60
1944	708	5	.01	—	—
1945	1,041	56	.05	.4	10
1946	910	663	.73	1.6	40
1947	745	10	.01	—	—
1948	1,697	1,348	.79	1.4	50
1949	1,535	4,136	2.69	3.8	120
1950	1,508	220	.15	1.0	4
1951	1,427	642	.45	2.7	20
1952	1,241	963	.78	2.3	20
1953	1,325	1,844	1.39	3.3	50
1954	1,208	869	.72	2.0	21
1955	1,139	960	.84	2.5	22
1956	1,121	5,009	4.47	3.4	106
1957	1,133	8,500	7.50	1.7	300
1958	1,210	4,548	3.76	3.6	111
1959	1,477	2,570	1.74	2.3	58
1960	1,718	2,128	1.24	2.2	25

RAILROAD RETIREMENT BOARD

1941	2,267	\$1,060	\$0.47	3.7	50
1942	1,946	852	.44	3.4	40
1943	1,652	1,554	.94	2.4	110
1944	1,769	2,736	1.55	2.5	70
1945	1,822	7,130	3.91	2.4	440
1946	2,036	1,837	.90	4.0	50
1947	2,763	2,873	1.04	2.1	50
1948	2,583	19,017	7.36	2.8	1,150
1949	2,439	3,837	1.57	3.9	70
1950	2,280	13,130	5.76	4.6	210
1951	2,070	70,463	34.04	3.3	1,430
1952	2,184	5,701	2.61	4.0	80
1953	2,164	2,444	1.13	2.2	40
1954	2,311	4,675	2.02	5.2	75
1955	2,316	39,664	17.13	4.2	1,017
1956	2,242	1,050	.47	1.9	10
1957	2,394	1,097	.46	1.0	10
1958	2,510	4,908	1.96	2.7	50
1959	2,369	1,245	.53	1.6	13
1960	2,221	2,376	1.07	2.2	35

See footnotes at end of table.

306 TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

SECURITIES AND EXCHANGE COMMISSION

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1941	1,636	\$867	\$0.53	1.7	40
1942	1,441	196	.14	1.7	10
1943	1,274	78	.06	.7	10
1944	1,155	181	.16	1.1	10
1945	1,153	75	.07	1.5	2
1946	1,201	88	.07	1.2	4
1947	1,180	614	.52	.4	30
1948	1,137	361	.32	1.3	10
1949	1,109	135	.12	.4	3
1950	1,021	82	.08	.9	2
1951	992	1,076	1.08	1.9	30
1952	856	497	.58	1.1	20
1953	762	487	.64	1.3	20
1954	709	279	.39	.7	11
1955	683	876	1.28	2.1	32
1956	748	288	.39	.6	10
1957	803				
1958	875	1,002	1.15	.5	44
1959	930	2,827	3.04	1.6	241
1960	983	70	.07		

TENNESSEE VALLEY AUTHORITY

1937	13,842	\$285,710	\$20.64	32.3	4,820
1938	12,834	200,145	15.59	27.7	2,870
1939	12,847	198,669	15.46	21.5	3,340
1940	15,082	92,625	6.14	22.2	1,510
1941	24,863	250,090	10.06	23.8	2,430
1942	38,412	468,058	12.19	19.6	2,290
1943	28,613	473,240	16.53	15.1	2,390
1944	20,548	333,783	16.24	12.4	2,210
1945	12,718	181,641	14.28	11.7	2,050
1946	11,904	139,937	11.76	12.0	2,170
1947	14,237	87,533	6.15	11.4	830
1948	14,593	98,303	6.74	9.8	1,170
1949	13,251	315,722	23.83	6.3	1,820
1950	13,755	317,478	23.08	6.3	1,860
1951	18,484	479,811	25.96	8.5	1,460
1952	21,045	701,332	33.33	7.4	1,970
1953	22,388	801,436	35.80	7.7	1,760
1954	23,450	1,390,531	59.30	8.0	2,955
1955	19,353	787,219	40.68	8.9	1,988
1956	14,749	530,557	35.97	6.4	791
1957	15,223	618,215	40.61	7.6	1,979
1958	15,557	507,802	32.64	6.7	1,263
1959	14,594	429,926	29.46	7.4	1,153
1960	14,885	870,835	58.50	8.5	2,253

U.S. CIVIL SERVICE COMMISSION

1942	7,018	\$1,421	\$0.20	2.0	20
1943	6,547	1,691	.26	2.3	10
1944	6,863	2,426	.35	2.8	20
1945	6,364	3,355	.53	2.0	30
1946	3,895	981	.25	2.2	10
1947	3,450	2,103	.61	4.6	40
1948	4,029	3,420	.85	2.0	70
1949	3,895	4,231	1.09	3.2	50
1950	3,528	88,360	25.05	3.8	930
1951	4,029	4,323	1.07	4.1	40
1952	4,703	2,877	.61	2.2	20
1953	4,734	3,397	.72	1.4	20
1954	4,313	4,269	.99	1.0	34
1955	3,892	6,002	1.54	2.3	43
1956	4,246	2,974	.70	1.7	19
1957	4,386	2,777	.63	1.6	16
1958	3,957	269,050	67.99	2.6	1,501
1959	3,750	4,134	1.10	2.6	27
1960	3,582	27,716	7.74	2.7	213

See footnotes at end of table.

TO ESTABLISH A NATIONAL ACCIDENT PREVENTION CENTER 307

Federal Employees' Compensation Act, injury rates and costs, with average number of employees by establishments, 1937 to 1960—Continued

VETERANS' ADMINISTRATION

Calendar year ¹	Average number of employees	Total direct cost ²	Total cost per employee	Frequency rate ³	Severity rate ⁴
1937	34,944	\$226,271	\$6.48	8.5	1,730
1938	35,622	304,929	8.56	8.8	1,830
1939	37,355	369,215	9.88	9.4	2,510
1940	40,009	187,729	4.69	10.0	1,040
1941	42,668	335,763	7.87	12.4	1,460
1942	44,119	372,694	8.45	12.7	1,160
1943	46,271	392,707	8.49	13.7	980
1944	51,132	379,102	7.41	12.0	760
1945	68,073	479,071	7.04	10.3	780
1946	169,686	972,792	5.73	7.3	580
1947	213,051	1,378,261	6.47	7.8	780
1948	198,535	1,238,729	6.24	8.0	730
1949	197,896	3,389,050	17.13	8.3	930
1950	189,655	3,491,729	18.41	8.3	1,000
1951	182,281	3,489,223	19.14	8.5	950
1952	176,800	2,931,251	16.58	9.0	720
1953	179,148	2,258,703	12.61	8.2	580
1954	179,632	2,252,768	12.54	8.0	545
1955	177,893	1,909,277	10.73	7.5	416
1956	177,628	2,195,288	12.36	7.1	521
1957	175,871	1,802,750	10.25	6.8	400
1958	172,739	1,711,879	9.91	6.6	409
1959	172,293	1,585,411	9.20	6.1	395
1960	173,178	1,853,988	10.71	5.1	392

ATOMIC ENERGY COMMISSION

1949	4,715	\$7,787	\$1.65	4.4	60
1950	4,988	61,671	12.36	2.7	1,800
1951	5,573	9,798	1.76	3.5	60
1952	6,506	9,927	1.53	4.2	60
1953	6,449	14,726	2.28	4.0	90
1954	6,144	33,329	5.42	2.7	234
1955	6,102	109,518	17.95	4.1	550
1956	6,545	10,467	1.60	2.8	55
1957	6,809	96,072	14.11	2.8	476
1958	6,926	88,886	12.83	3.5	618
1959	6,747	11,949	1.77	3.2	44
1960	6,974	10,644	1.53	2.0	43

SELECTIVE SERVICE SYSTEM

1950	5,018	\$189	\$0.04	0.3	-----
1951	8,218	3,997	.49	1.5	30
1952	8,172	44,079	5.39	1.6	470
1953	7,086	10,844	1.41	.8	110
1954	7,319	14,347	1.96	1.4	476
1955	7,016	4,350	.62	1.3	20
1956	6,872	4,634	.67	1.3	433
1957	6,656	5,290	.79	1.7	31
1958	6,335	10,767	1.70	1.9	61
1959	6,352	44,883	7.07	1.9	1,017
1960	6,281	8,253	1.31	2.5	29

FEDERAL AVIATION AGENCY

1959	32,923	\$399,401	\$12.13	4.4	333
1960	37,634	1,002,002	26.62	4.3	663

¹ Injuries sustained by civilian Federal employees during calendar year, as reported through Mar. 31 of the following year.

² Includes direct expenditures payable by the Bureau of Employees' Compensation and the value of leave days of absence with pay during disability. (Includes evaluated future cost in open cases.)

³ Number of disabling injuries per million man-hours.

⁴ Number of days lost per million man-hours.

⁵ Army Air Force.

⁶ Department of the Air Force established by the National Security Act of 1947.

⁷ Excludes injuries to "Other workers" of ASC county office and cooperative extension service.

⁸ Department of Health, Education, and Welfare created by Reorganization Plan No. 1 of 1953.

⁹ General Services Administration was established by the Federal Property and Administrative Services Act of 1949.

¹⁰ The National Aeronautics and Space Administration was established by the National Aeronautics and Space Act of 1958.

NOTE.—A disabling injury is defined as any occupational fatal or permanent injury; and an temporary injury causing loss of time of 8 hours or more beyond the day or shift of injury.

Significant cost increases immediately after 1948 due in large part to statutory liberalization of benefits in 1949.

The CHAIRMAN. Mr. Solicitor, do you believe that such an activity as an accident prevention center in the Federal Government could perform a useful purpose in bringing about better coordination and better use of the moneys that we spend in the field of accident research prevention?

Mr. DONAHUE. I believe that may well be so, sir, with the thought in mind that the activities of such a center would supplement rather duplicate or conflict with the existing safety and health functions of the Federal Government divided among the many agencies of the Government.

The CHAIRMAN. Do you believe that such an activity could be carried on without duplicating work of this sort being done in the field either by Government groups or by private groups?

Mr. DONAHUE. I would think so. I would certainly think so. There is no logical reason I can conceive of why it could not be so tailored.

The CHAIRMAN. Thank you, gentlemen. We appreciate again your appearance before the subcommittee, and your statement as requested will be incorporated in the record and I will leave the record open so that you may supply the additional information which the Chair requested.

Mr. DONAHUE. We will do that. It has been a pleasure to be here. Thank you very much.

The CHAIRMAN. Thank you.

Mr. Reporter, I have here a statement from the Department of Labor to be included in the record.

(The letter referred to above follows:)

U.S. DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, April 3, 1961.

HON. OREN HARRIS,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.*

DEAR CONGRESSMAN HARRIS: This is in further response to your request for the views of this Department on H.R. 133, a bill to amend title III of the Public Health Service Act to establish a national accident prevention center.

The general objectives of H.R. 133 of preventing and reducing accidents are, of course, highly desirable. The bill, however, by centralizing in the Public Health Service broad authority and responsibility in the accident prevention field raises the most serious problems of shifting and overlapping responsibilities and functions now resting in many specialized Government agencies, including the Department of Labor. If it should be considered desirable to provide for coordination of the accident prevention work of the Federal Government, we are firmly convinced that not only should the present alinement of functions among specialized Government agencies be retained, but that the Public Health Service is not the appropriate agency for any centralization for reasons discussed below.

This bill would authorize the Public Health Service to engage in every phase of accident prevention except the issuance and enforcement of safety regulations. Specifically, in section 382:

(1) The measure would authorize the PHS to "conduct, assist, and foster research, investigations, studies relating to the causes, and methods of prevention of accidents."

Under this authority the PHS could duplicate or possibly acquire control of the factfinding and analysis program relating to occupational accidents now conducted by the Department's Bureau of Labor Statistics, the Interstate Commerce Commission, the Bureau of Mines, and the Department of Agriculture. Similarly, PHS could duplicate, or possibly acquire control of the factfinding and analysis program of transportation accidents now conducted by the Interstate Commerce Commission, the Civil Aeronautics Board, the Bureau of Public Roads,

and the Coast Guard. PHS could duplicate or possibly acquire control of the safety educational and promotional activities of the Bureau of Labor Standards of the Department of Labor, the Federal Safety Council, the National Bureau of Standards, the Bureau of Public Roads, and the Department of Agriculture.

(2) The measure would also authorize the PHS to "promote the coordination of research and control programs conducted by public and private agencies, organizations, and individuals."

The authority here is vague, but could be interpreted as conferring authority to exercise control over regulatory agencies such as the Interstate Commerce Commission, the Wage and Hour and Public Contracts Divisions, the Bureau of Labor Standards, and the Coast Guard.

The Department of Labor has given general direction and national leadership to the occupational safety program. Technical assistance is rendered to State safety officials in order to improve accident prevention methods. In cooperation with the States, surveys of high-hazard or otherwise significant industries are conducted, and data prepared on sources of injury and methods of hazard control. Organized labor's interest in safety is supported through the training of labor representatives in the fundamentals of occupational safety.

The Department's Bureau of Labor Standards services the President's Conference on Occupational Safety, which brings together the representatives of management and labor and other interested groups concerned with problems in this field and the development and application of methods to meet these problems. In addition, the Bureau furthers the work of the Federal Safety Council, which concerns itself with accident prevention and safety programs for Federal employees.

On the international level, the Bureau is recognized by the ILO and the International Committee on Radiation Protection as the responsible agency in the United States in matters of occupational safety. H.R. 133 could cause major duplication and confusion in the performance of these functions.

It should also be noted that, while accident prevention is directly related to the field of operations of the Public Health Service, the great majority of accidents result from mechanical or physical conditions which can best be identified and controlled by engineering principles. As a result, the prevention of accidents is firmly established as an engineering science rather than a medical activity. The inevitable emphasis which the bill would place upon the medical and psychological aspects of accident prevention would constitute a sharp readjustment in the recognized approach to accident prevention and would, in our opinion, result in a disruption of the safety movement.

The confusion which would result from enactment of this bill is further emphasized by the fact that in practically all States the responsibility of accident prevention both in government and industry is centered in a safety, rather than a medical division.

In view of the foregoing we would be opposed to the enactment of H.R. 133.

The Bureau of the Budget advises that there is no objection from the standpoint of the administration's program to the submission of this report to your committee.

Yours sincerely,

ARTHUR GOLDBERG, *Secretary of Labor.*

The CHAIRMAN. This will conclude the hearings on H.R. 133 and the record will remain open for a period of 10 days so that additional material may be filed by the witnesses who requested that privilege.

The committee will now be adjourned.

(The following material was submitted for the record:)

STATEMENT OF FREDERICK SILBER, MANAGING EDITOR, MEDICAL TRIBUNE, NEW YORK, N.Y.

Medical Tribune is an independent newspaper for the medical profession, circulating weekly at the present time to approximately 160,000 physicians in private practice throughout the United States. Its function is to keep doctors abreast of the latest developments in all aspects of medical practice and research on a global scale.

From intimate knowledge of medical problems, the editors of Medical Tribune know that accidents of all types constitute as serious a threat to human life in the United States as do many specific disease conditions. Auto accidents alone

have often been termed of epidemic proportions. Because we know that great progress has been stimulated in the conquest of disease through the research activities of the National Institutes of Health, we strongly endorse the legislation proposed in H.R. 133 to establish within the U.S. Public Health Service a National Accident Prevention Research Center, which can perform comparable services in this important area.

Medical Tribune's support of H.R. 133 can best be expressed through our recent experience with one noteworthy segment of the accident problem—auto accidents. During 1961, and extending well into this year, one of our major projects has been to report to physicians the factual background and current status of research and safety efforts to reduce the highway toll. This was accomplished in a series of 12 articles published between June and November of 1961, accompanied by numerous illustrations, editorials, letters, and corollary material. (A complete set of the issues of Medical Tribune containing these articles is being submitted to the subcommittee, and additional reprints will be supplied as soon as they are off the press.)

As practitioners who are among the first to see the horrifying effects and human tragedies of auto accidents, physicians are a key group in establishing and applying measures to prevent accidents. In their contacts with patients and patients' families, with hospitals, schools, police, civic organizations, and public-spirited bodies of many varieties, the doctors can do much to educate people for auto safety.

One of the conclusions reached early in the publication of the Medical Tribune series was that physicians as a whole are avidly interested in the factual story of safety research and are eager to have far more information made available to them. The response to the safety series, in the form of letters and requests for more copies, demonstrated an enthusiastic awareness of the job that physicians can do to reduce accident injuries and deaths.

In addition, we have found that research scientists working on auto safety projects in the medical field are equally enthusiastic over the fact that much useful information can be made available to practicing physicians. As the months went by, we heard from many doctors who were putting this information on research findings to practical use, in television programs sponsored by county medical societies, through talks given to civic organizations, and by many other means.

Physicians are not only agents for the use and transmission of safety information—they are also research investigators. They are impressed by the advances made through determining the physiologic and biologic bases of accident causation—in other words, the public health approach. Treating accidents as a disease problem leads logically to establishment of a national research center.

Reporting work on this project naturally led through all the major fields of research endeavor, from the human factors that affect auto-driving ability to problems of vehicle and highway designing, law enforcement, and public education. It is our feeling that the valuable work now being accomplished by many dedicated scientists would be vastly augmented and benefited by establishing the National Accident Prevention Research Center as proposed in H.R. 133.

In addition to stimulating and supporting a coordinated research program, the center can become a major source for the dissemination of vital information and the training of accident-prevention experts. These benefits will in turn reflect through the various cooperating organizations, State, county, and community groups and professional societies with immediate advantages throughout the Nation.

From all the official statistics made available to your committee, it becomes clear that well-directed research into the prevention of accidents, whether on the highway, in the home, in the factory, or in recreation, will bring about the saving of lives and the alleviation of human suffering. While no vaccine may result to eliminate this disease complex, the benefits flowing from H.R. 133 will, in our opinion, be as dramatically effective.

STATEMENT OF WALTER A. CUTTER, PH. D., DIRECTOR, CENTER FOR SAFETY
EDUCATION, DIVISION OF GENERAL EDUCATION, NEW YORK UNIVERSITY

Mr. Chairman, I favor H.R. 133, subject to such modifications as may be desirable in realizing the primary purposes of the measure—research and training. The size and complexity of the problems of accidents in the United States

requires additional resources, and, as contemplated, the U.S. Public Health Service, within its professional competencies and with added training in accident prevention methods for its personnel, can make a substantial contribution. Three areas of special significance may be noted.

1. A RESEARCH CENTER

The Center for Safety Education, since its establishment in 1938, has been concerned in research in many phases of the accident problems. Such research has taken the form of staff research, studies supported by special grants, and researches carried on as part of the requirements for the doctorate. In this entire period, several areas of need have been noted, and the director of research of the center, working directly and through various research committees, has been helping to meet these needs.

They are—

- (a) An increase in the number of competent full-time researchers, with adequate support;
- (b) Improved research;
- (c) Continuity of research;
- (d) Coordinated research in which selected aspects of a major problem could be simultaneously studied with a view to uniting their findings in application;
- (e) Facilities for evaluating completed researches;
- (f) Facilities for increasing the utilization of validated research findings through application in the practical field of accident prevention.

To meet these needs, it is clear that funds are necessary, and, equally important, an established plan which through the years will bring about many of the benefits contemplated in H.R. 133.

We endorse very heartily the proposed activities of the Public Health Service in these directions and believe that the establishment of such a research center can make a tremendous contribution to safety in the United States.

2. RESEARCH PERSONNEL

There are highly competent people functioning in accident research in this country, but they are too few in number. To attract competent research personnel into the field of accident research, there must be these elements: specific projects to direct or participate in, and continuity of support. Researchers presently employed in universities or by other agencies can sometimes be persuaded to attempt particular researches. Otherwise, it is impracticable to secure independent researchers for special studies and then turn them loose, with the hope of picking them up again as need arises.

The availability of competent researchers for such periodic employment is doubtful. The need is for a corps of researchers to be recruited, developed, and supported.

This need H.R. 133 is designed to meet, and again the measure is heartily endorsed.

3. TRAINING

A major part of the work of the Center for Safety Education is concerned with safety education and training in accident prevention techniques.

The following programs are presently in force, with their duration:

- (a) Higher degrees program, leading to the degrees of master of arts, doctor of philosophy, and doctor of education: 24 years;
- (b) Certificate (nondegree) program in Industrial and Truck Fleet Safety: 24 years;
- (c) Training of safety personnel, military and civilian, Department of the Army, and U.S. Air Force: 20 years;
- (d) State traffic safety management, a program designed to improve official State programing and management of traffic safety: 4 years;
- (e) Special courses and seminars for college and university teachers, high school teachers, school administrators, police, public utility personnel, and others: 24 years.
- (f) Such training programs as the Center may be invited to devise.

These are mentioned to illustrate both the center's interest and its participation in educational and training programs on a broad scale.

In light of the foregoing, it may be stated that this basic concern with training comes about through recognition of the value of and need for trained personnel for accident prevention programing.

The Division of Accident Prevention, U.S. Public Health Service, has similarly recognized this need. The Center for Safety Education is presently conducting an orientation and training program for accident prevention specialists, U.S. Public Health Service, who, upon completion of course work and directed field experiences, will be assigned to State and local health departments to facilitate work in accident prevention by public health personnel.

Such training must be expanded if the very considerable resources of the Public Health Service are to be directed to the vital area of accidents. These men may be described as general practitioners, schooled in all the major areas of accidents and competent to decide upon and recommend those accident areas most in need of immediate attention and most susceptible to preventive programs on the basis of present knowledge.

Along with research activities noted in H.R. 133, expanded training must be viewed as indispensable to the realization of the purposes of this measure. The present training program now going on at New York University represents a first in that it is designed to provide both broad training and specific skills, and it is increasingly evident that such broad training is a pressing necessity. It should be undertaken on a larger scale without delay.

This section of H.R. 133 is heartily endorsed, particularly in view of its anticipated outcomes.

STATEMENT OF DR. SAMUEL R. GERBER, GENERAL CHAIRMAN, BLUEPRINT FOR LIFE SAFETY CAMPAIGN OF THE GREATER CLEVELAND SAFETY COUNCIL

The Blueprint for Life safety campaign and its sponsor, the Greater Cleveland Safety Council, are deeply indebted to the U.S. Public Health Service.

Without the encouragement, leadership, and support of the Public Health Service, it is doubtful the Blueprint campaign ever would have been undertaken.

Certainly, Blueprint never could have attained its scope, intensity and impact without the materials, services and counsel provided by PHS.

The Public Health Service has provided Blueprint with materials, safety films and other special services costing more than \$200,000. And while this investment by PHS did not bring cash into the Blueprint funds, it did bring to the campaign a strength, vitality and sustenance that lifted the project far above the level it otherwise could have reached.

Later, the seven 15-minute safety films produced by PHS and now in wide use throughout Greater Cleveland, along with other materials, will be made available to every community in the Nation that desires them.

Blueprint for Life is a pilot run for the Nation—a laboratory test in accident prevention, an exciting exploration into the vast and uncharted potentials of organized safety.

Nothing comparable to Blueprint in scope and size has even been attempted before in this country or elsewhere. This is a sustained, continuing, all-out attack by all segments of a community of 1,700,000 persons—not on accidents of one type, but on fires and accidents of all types, regardless of where and when they occur.

It has a specific goal—the saving of 100 lives and the prevention of 12,000 disabling injuries in 1 year.

Equally and perhaps even more important, it proposes to actively continue this lifesaving effort as part of the Safety Council's program after the actual 12-month campaign period has ended.

If the campaign succeeds, it will mark a dramatic and major breakthrough in accident prevention. If it fails, it will have struck organized safety a body blow.

In the first 4 months of the campaign—September 1961, to January 1962—the death toll from fires and accidents of all kinds in Greater Cleveland came down by 30 from the same period a year before.

This indicates that with equal or increasing activity in the campaign, the goal of saving 100 lives can and will be realized.

This campaign, it is true, could not be waged as effectively without the facilities of the U.S. Public Health Service and the task force of statisticians and other specialists PHS has provided.

But, it is also true that it could be waged with infinitely more ease, precision and efficiency if the U.S. Public Health Service had the research center proposed in H.R. 133.

And similar campaigns throughout the United States can be conducted—and doubtless will be conducted—with much greater chance of success if such a research center is created.

Definite, specific and accurate facts and figures as to just where fires and accidents of all kinds are occurring, to whom they are occurring, and precisely why they are occurring, are tragically unavailable in Greater Cleveland, and elsewhere.

Through the help of PHS, the Blueprint campaign is uncovering such facts in Greater Cleveland—but slowly and laboriously. Had we had such facts when the campaign began, we could have pinpointed our attack instead of scattering it.

A research center in USPHS, serving as a clearinghouse for accident facts and figures from all over the Nation, and stimulating more and more research on local, State and National levels, would provide every community with a source of vital information essential to any real success in reducing the fire and accident toll.

We know from first-hand experience in the Blueprint campaign that such a research center is a must for successful accident prevention efforts. We cannot urge too strongly that it be made possible through passage of H.R. 133.

STATEMENT OF ROBERT F. BORKENSTEIN, CHAIRMAN, DEPARTMENT OF POLICE
ADMINISTRATION, INDIANA UNIVERSITY

This presentation is intentionally limited to one facet of the total accident prevention program because it is the only one with which I am intimately acquainted.

The explosive growth of the American highway transportation system has generated problems that in terms of property loss approach catastrophe and that in term of loss of life certainly constitute an epidemic. It is the charge of traffic policing agencies to move this mass of man and material as rapidly as possible in reasonable safety. This obviously had not been satisfactorily accomplished in spite of sincere efforts by traffic police officials to use the information, tools, and police power available to them.

Few social problems reach as many people in their everyday lives as safety in motor transportation. Involvement in a crime is highly unlikely but participation in a motor vehicle accident is never over a few feet away. Yet, like so many great problems, little is actually known about the fundamental causes. Salving the sore is about as far as the remedy goes. Most of the accident-prevention panaceas applied today have no lasting effect, or partially solve the problem by impeding the rapid flow of traffic, thereby defeating the very purpose of regulation. Of course, there are exceptions to this in which imagination and intelligent ideas have been applied.

There is urgent need for more fundamental information that will put real meaning into efforts to prevent accidents through traffic regulation. The areas of driver behavior, driver training, fundamental accident causes, penology in traffic offenses, and traffic laws based on scientifically developed evidence including the eliciting of voluntary compliance, all warrant careful study.

The coordination of organizations capable of recognizing the problems and of investigating them systematically is urgently required. Moreover, such coordination must encourage the development of research teams that can stay together for continuity over years. The lack of such continuity limits the ability to interest high-caliber scientists to engage in this type of research.

It is not enough to permit the agencies faced with the problems to try to solve them empirically from their limited and often biased points of view. It is not enough to permit scientists with little knowledge of the complex "real world" of the subjects they are studying to try to solve them in their laboratories independently. There must be a central agency capable of supporting those organizations capable of producing valid information and that can bring this information to the attention of those who can translate it into action programs useful on the firing line of traffic policing.

We are in the process of developing an undergraduate course in this very area in the face of a real dearth of research information.

There are vast untouched factfinding resources ready to tackle these problems in private and university organizations. Intelligent direction by a coordinating organization could focus the accumulated information on the problems by acting as a clearinghouse and disseminating agency. The Department of

Police Administration at Indiana University has a definite interest in such information as part of the body of scientific evidence teachable in a logical way to present to future police officials.

For these reasons, as well as our interest as American citizens in our national welfare, we are most enthusiastic over the possibility of the establishment of a National Accident Prevention Research Center.

As longtime members of police agencies and now as members of an academic institution, we recognize the need of one for the other. There must be liaison between them and an agency such as the one proposed could effectively be just that.

STATEMENT OF THE REVEREND HOWARD HARPER, D.D.

I wish to speak in favor of the establishment of a National Accident Prevention Center.

While I do not at this hearing officially represent either organization, I cannot help speaking from the point of view of an officer of the National Council of the Protestant Episcopal Church, and a member of the National Committee of Religious Leaders for Safety (of the National Safety Council).

To anyone who believes in man's worth as the image of God, it is difficult to see how this bill could be opposed. The preservation of human life is a religious matter. To prevent the destruction of life is our duty to God, and failure to use every means within our power to prevent such destruction is of the nature of sacrilege.

It is probably true that some—even many—accidents are not preventable, and will continue in the face of all our efforts.

But I know it is also true that many can be prevented through the improvement of mechanical safety devices, and I believe it is true that many more can be prevented through psychological studies of the human factors involved.

In both the mechanical and the psychological areas activities are, of course, now going on—uncoordinated, piecemeal, local. A national center would perform the double service of bringing together already existing knowledge and of further advancing our understandings on a total national scale.

I would be strongly in favor of this bill even if I were not concerned about the religious values involved. Having also the religious concern, I am doubly in favor of it.

I earnestly urge the establishment of a National Accident Prevention Center.

STATEMENT OF DR. PERRY F. PRATHER, COMMISSIONER OF HEALTH, STATE OF MARYLAND; CHAIRMAN, LEGISLATIVE COMMITTEE, ASSOCIATION OF STATE AND TERRITORIAL HEALTH OFFICERS

There is overwhelming evidence that accidents, as a cause of illness, disability, or death, constitute one of the major public health problems today.

In addition to the human suffering and misery the costs are staggering, not only to individuals and families but also to employers, the community, and the State. This is true whether the accident occurs at work, in the home, or on the highway.

Let me cite an example of the cost, alone, of a small segment of the problem in one of the smaller States, with slightly over 3 million population. The State of Maryland operates three hospitals for the treatment and rehabilitation of adult patients with long-term illness or disability. The capacity of the three hospitals will be 1,100 beds but it is a new program and we now have a census of 780. One hundred fifty-seven, or 20 percent, of the cases are the result of an accident. The total operating cost of the three hospitals is 3½ million. Twenty percent of this figure is 700,000. If one adds to this the cost of caring for disabled accident victims in general hospitals, special hospitals for children, nursing homes, and in their own homes, the figure would be enormously increased. These figures do not take into account the loss of the services of these people to society. The first 12 names from the list of 157 patients that was forwarded me by the hospital superintendents were of persons with the following occupations—salesman, painter, roofer and sheet metal worker, tree trimmer, steelworker, supervisor, steelworker, engineer, laborer, housewife, schoolteacher and laborer. They ranged in ages 28 to 71.

The importance of accidents as a cause of mortality has been highlighted by the continued drop in the percentage of deaths from other causes, particularly the communicable diseases. Among children and adolescents accidents now rank as the leading cause of death, primarily because preventive medicine has succeeded in lowering the mortality rate which previously occurred from infectious diseases. Accidents are to a large extent preventable. Considerable progress has been made by industry through accident prevention approached initially by consideration of safety measures adapted to work situations for the protection of workers. Also safety factors have been installed in the products of industry, such as seat belts in cars and other measures directed toward the reduction of motor vehicle accidents. Programs to reduce home accidents are increasing, particularly in the design of homes. While we can be gratified by the progress that has been made, it is woefully insufficient.

If we accept the fact that accidents are to a large extent preventable we must develop an effective preventive program, but to do this much more research into the causes of accidents is needed. The causes are multiple and complex. They include a host of environmental factors and many human factors. The investigation of such multiple causes can best be done through carefully designed and controlled research by many different types of experts. A Federal research center for accident prevention would offer the means for intensified and coordinated research. It would operate on a large enough scale to make feasible the use of the most modern technological aids in research. The application of computers in accident prevention research could help to produce research findings more quickly and hasten the establishment of a sound control program. In the past in both accident research and accident prevention the many important variables which constitute the human factors have been the most neglected. Accidents that are the result of human factors constitute 70 percent of all accidents.

The U.S. Public Health Service, through its various centers and institutes, is doing a very effective job in assisting in the control of communicable disease, heart disease, and cancer, by their research and dissemination of knowledge to the medical and health professions. I am confident that they could very materially assist the medical profession and public health authorities in the field of accident prevention if they were given the authority and funds to establish a research center in accident prevention.

The establishment of such a center under the U.S. Public Health Service would in no way interfere with the prerogatives and responsibilities of the many other agencies involved in accident prevention. Rather it would complement and support them. Since the major cause of accidents is now known to be due to human behavior, research in this field should be the responsibility of persons skilled in health matters.

STATEMENT OF KATHERINE PEDEN, PRESIDENT, NATIONAL FEDERATION OF BUSINESS AND PROFESSIONAL WOMEN'S CLUBS, INC.

Mr. Chairman and members of the committee, my name is Katherine Peden. I am the president of the National Federation of Business and Professional Women's Clubs, Inc., with a membership of 175,000. Our national executive offices are located at 2012 Massachusetts Avenue, N.W. in Washington, D.C.

Our national legislative platform, adopted at the annual convention July 1961 at Chicago, Ill., calls for support of legislation to strengthen measures to promote public health and safety. Mr. Roberts, of Alabama, introduced H.R. 133, a bill to amend title III of the Public Health Service Act to establish a National Accident Prevention Center which is covered by Item IV of our platform.

I speak in favor of the bill. Although I am very conscious of the loss of property, man-hours and general progress from avoidable accidents, I am more deeply concerned with the loss of life and limb from the standpoint of human suffering.

We are continually reminded through the media of the press, radio and TV of the precautions that should be taken to avoid accidents, specifically traffic accidents. We are told of the predicted number that will die over a holiday weekend by automobile, boat and other accidents, but the announcement usually reaches us that the predicted number has been exceeded. This is done holiday after holiday and year after year and the fatalities seem to increase rather than decrease. It would appear to me and I am confident to many others that all the written notices and public announcements are of little avail and that

legislation is necessary to curb these ever increasing number of accident fatalities.

Traditionally the States have the responsibility of making and enforcing traffic safety laws but statistics show that State control is inadequate as far as interstate bus and truck traffic is concerned, so we have the Interstate Commerce Commission responsible for common carrier safety. We firmly believe that the Federal Government has a responsibility to protect the public in a number of areas where State regulations are cumbersome or impossible. No one is advocating that control by the State should be relinquished or abolished. We are of the opinion that it should be strengthened, especially regarding vehicle safety standards.

I have noted with regret that many times safety bills in the Congress receive very little attention. I am positive that this is not for lack of concern by the members of that body, but because all too little interest is shown by the general public.

This bill calls for an amendment to title III of the Public Health Service Act to establish a National Accident Prevention Center. There are today many research projects headed by the Government and private industries. It is our thinking that a research center would be decidedly helpful in ascertaining the causes and prevention of accidents. It would establish an information center where advice and assistance of experts in the field of accident prevention would be available to those concerned. The activities of such a research center would go much further than traffic accidents. It would cover industrial, farm, home, mine, radiation, aircraft, railways and highway hazards.

In answer to the question is this not a job of the States—it is our opinion that it can never be a job of the State alone as long as we have interstate commerce. Research is costly, it not only takes money but it must have manpower and the facilities. I know this committee does not need to be reminded that facilities for such a job are expensive. It is our opinion that the Federal Government, which is set up to do such jobs, can do them more reasonably and quicker than the States or local communities can by doing it alone. Many accident prevention projects are of deep concern and receive great activity on the part of local and State commissions; however, such a research center as we are advocating here today can do much to aid such local and State projects.

We favor and are supporting H.R. 133.

STATEMENT OF HAROLD BRANDALEONE, M.D., F.A.C.P., NEW YORK, N.Y.

Mr. Chairman and members of the committee, I am Harold Brandaleone, M.D., of New York City, N.Y., where I am engaged in private practice of medicine, as well as the practice of industrial medicine. I am associate clinical professor of medicine at New York University College of Medicine. Even though I am chairman of the committee on standards for motor vehicle drivers of the Industrial Medical Association, I am appearing today as an individual because the Industrial Medical Association has not formed an official opinion concerning bill H.R. 133.

I would like to express my appreciation for the opportunity to appear before you in order to acquaint you with my opinion concerning bill H.R. 133, to establish a national accident prevention center.

I appeared before this committee a few years ago and presented a statement which is hereto attached. In summary this statement expressed the devoted interest of the industrial physician in the prevention of motor vehicle accidents.

As early as 1954, the committee on standards for motor vehicle drivers of the Industrial Medical Association was formed. Shortly thereafter we published a manuscript presenting the recommendations for medical standards for motor vehicle drivers, a copy of which is attached.

At that time, this committee emphasized the need for the formation of a Federal agency to coordinate all investigation on motor vehicle accidents as well as to maintain a library for all accident prevention data. It also recommended that such an agency should provide funds for proper investigation to study motor vehicle accidents.

In May 1956, the New York University-Bellevue Medical Center sponsored a symposium on the medical aspects of motor vehicle accident prevention. This symposium, consisting of physicians, safety experts, engineers, licensing commissioners, highway commissioners, members of law-enforcement agencies, members

of the legal profession and the judiciary, officials of the Interstate Commerce Commission and the Armed Forces, as well as other Federal agencies interested in motor vehicle accident prevention, recommended the formation of a Federal agency to coordinate all investigation and to provide funds for research.

In recent years, many agencies, private, academic, and Federal in nature, have been studying accident prevention. Nevertheless, the continued mortality and morbidity resulting from accidents make it the leading cause of death in persons from ages 1 to 34 years. The National Safety Council estimated that accidents cost \$13.6 billion in 1960. Property damage in motor vehicle accidents alone cost an estimated \$2.2 billion, and property damage and loss of production caused by work accidents cost \$2.2 billion.

All agencies working on the problem of accident prevention agree that there is a need for the establishment of a Federal accident prevention center.

Dr. Ross A. McFarland outlined in the report of the working group on research and evaluation of the conference on the teaching of accident prevention in schools of public health held at the University of Michigan School of Public Health on November 8-10, 1961, the details for the needs of research.

In a study of the role of the human factors in accident prevention, prepared for the accident prevention program of the division of special health services, the Bureau of State Service, by Frank Freeman, Charles E. Goshen, and Barry G. King, the authors concluded in part that, "The expenditure of a major research effort in the study of human factors is fully warranted. A carefully planned long-range program is called for to attack the basic problems of accident prevention. The major emphasis in human factors accident prevention research should be placed in four subject areas: (a) the interaction of physical, emotional, and mental conditions in accidents; (b) the development of improvement of attitudes toward safety; (c) the effective methods of communication of accident prevention information to specific groups in segments of the population; (d) the development and introduction of broad training programs." There were 17 specific recommendations made by this study.

In a report made by Operations Research Inc., on an analysis of responsibility and capability of the Public Health Service in accident prevention, it was recommended that a mechanism for strengthening accident prevention activities could take place by the establishment of a Public Health Accident Prevention Center in the Public Health Service. This report suggested that such a center provide vigorous grant and aid programs that would most nearly meet the essential program and service requirements, that they provide research and technical assistance relating to accident prevention and such a center should have authority for contracts, special projects and demonstrations, consultation, technical service and publication of reports. A volume has been published in May 1961 by the U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Accident Prevention, on Accidental Injury Statistics. A study of this report clearly indicates the magnitude of the problem as the outstanding public health problem in this country today.

For these reasons, I emphatically favor the establishment of a Federal accident prevention center under the jurisdiction of the U.S. Public Health Service to coordinate research and to promote and encourage wider effort by public and private agencies in accident prevention. The center would (1) conduct, promote, and coordinate research investigations into the causes and prevention of accidents; (2) make research facilities of the Public Health Service available for such purposes; (3) authorize grant and aid to institutions in private and public agencies for research; (4) establish a clearing house for collecting and disseminating information; (5) obtain the advice and assistance of experts in accident prevention; (6) establish an accident prevention advisory board in the Public Health Service. The cost of establishing such an agency, irrespective of its size, would be less than the billions of dollars each year lost as a result of accidents.

UNIVERSITY OF CALIFORNIA,
Los Angeles, Calif., February 13, 1962.

HON. KENNETH A. ROBERTS,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D.C.

DEAR SIR: I wish to make reference to the notice of the February 6, 1962, hearings before your Subcommittee on Health and Safety which I received on January 24, 1962, from Mr. Williamson. Beyond question you directed that this notice be sent us because of your knowledge of our research work and its rela-

tionship to some of the objectives set forth in H.R. 133. I would have been pleased to testify before your committee but such an appearance inevitably would have involved the name of the university and this made it desirable for me to first obtain authorization from the office of the president of the university. Unfortunately, there was not sufficient time to prepare a written statement, get it through proper channels, secure authorization, and inform your committee of my availability.

I should like you to know that in recent years the research done in driver behavior and highway safety by me and my associates has been greatly intensified through the substantial financial support we have received from the Public Health Service. The Public Health Service's recognition of, and attitude toward, the highway safety problem is soundly based and, to us, extremely gratifying. I, and my associates A. Burg, S. Hulbert, D. Severy, and A. Siegel, are strongly of the opinion that the objectives set forth in H.R. 133 are unmistakably in the public interest and will enable the Public Health Service to be even more effective in marshaling and supporting the Nation's research capability. Well directed and adequately supported activity by a single agency such as is embodied in H.R. 133 could make substantial inroads in bringing about a reduction in the annual traffic death and injury toll. The sporadic, piecemeal efforts of the past have not resulted in any significant program and it appears quite unlikely that continued, small scale, essentially uncoordinated efforts will achieve any marked improvement in traffic safety. Under the provisions of H.R. 133 the Public Health Service would be able to help focus this Nation's scientific potential on traffic safety and to promote concerted effort on an appropriate scale.

The Public Health Service, by its past record in effectively dealing with major threats to our welfare, has demonstrated a philosophy and capability which, coupled with the provisions of H.R. 133, give new and greater promise of breaking the link between this Nation's rubber-tired transportation and the annual 38,000 deaths and 4 million injuries. Such manifestation of this linkage has already gained widespread acceptance in the public mind as being the inevitable annual "overhead cost" of highway transportation.

Sincerely,

J. H. MATHEWSON,

Professor of Engineering, Assistant Director, Institute of Transportation and Traffic Engineering.

NEW YORK, N.Y., February 8, 1962.

Representative KENNETH A. ROBERTS,
Chairman, Subcommittee on Health and Safety, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.:

The Motor & Equipment Manufacturers Association would like to express interest in House bill 133 which provides for a National Accident Prevention Center. We recognize the public service that can be performed through the pooling of information and resources on accident prevention and pledge our support of any steps taken along this line to reduce the number of highway accidents. Our association has large resources of knowledge and experience in the design, production, installation, and use of safety equipment on motor vehicles that will be made available to a National Accident Prevention Center if it is created by act of Congress. Numerically we are the largest group of automotive manufacturers in this country. We have more than 500 manufacturer members, and their interests embrace every phase of the manufacture and use of automotive parts, equipment and supplies, including safety equipment. Their products are sold to vehicle manufacturers and to every type of distributor for use on all types of motor vehicles. We stand ready to cooperate when the opportunity is presented.

WILLIAM A. RAFTERY,

General Manager, Motor & Equipment Manufacturers Association.

FLORIDA STATE BOARD OF HEALTH,
Jacksonville, February 5, 1962.

HON. OREN HARRIS,
*U.S. Representative,
 House Office Building,
 Washington, D.C.*

DEAR MR. HARRIS: I am gratified to know that hearings are being held by your Subcommittee on Health and Safety on H.R. 133, a bill to establish a National Accident Prevention Center. Legislation of this nature is very essential for the development of effective public health programs in accident prevention. In our State we have at present a relatively limited accident prevention program. We acknowledge the magnitude and importance of the problem but are deterred by uncertainty as to the nature of programs which would have beneficial effect. We recognize also that multiple agencies share responsibility; without a well defined national program, such as would be provided through a National Accident Prevention Center, we hesitate to move on problems with which other agencies also are involved. We believe the proposed center would provide the leadership needed to effectively mobilize and coordinate a substantial accident prevention program.

The research functions of such a center would be particularly significant. This national center would assume responsibility for investigations which are beyond the resources of State and local bodies. It also would encourage research at State and local levels through its proposed program of grants-in-aid for research.

The concept of this center is sound and commendable. It is warmly endorsed by public health in Florida. We hope your subcommittee will regard this as high priority legislation and will give strong leadership for its passage by Congress.

Very sincerely,

ALBERT V. HARDY, M.D.,
Acting State Health Officer.

SAFETY RESEARCH AND EDUCATION PROJECT,
 AT TEACHERS COLLEGE, COLUMBIA UNIVERSITY,
New York, N.Y., February 3, 1962.

HON. KENNETH A. ROBERTS, M.C.,
*Chairman, Subcommittee on Health and Safety, Congress of the United States,
 House of Representatives, House Office Building, Washington, D.C.*

DEAR CONGRESSMAN ROBERTS: It will not be possible for me to attend hearings on the National Accident Prevention Center before the Subcommittee on Health and Safety on February 6.

I should, however, like to go on record in favor of an agency in the U.S. Public Health Service to be called a National Accident Prevention Center.

There are some facts of life that those of us interested in research in accident prevention have come to accept. The people in command of data sources, and with direct field experience, such as motor vehicle administrators, safety educators, enforcement officials, etc., are usually not well equipped to design research, nor should we expect them to be.

A desirable function of the National Accident Prevention Center would be to seek out persons in command of the data sources and assist them in the design and conduct of research.

In addition, it has become increasingly apparent that a clearinghouse for collecting and disseminating research findings in accident prevention, and in the many related disciplines is long overdue. Such a facility would minimize duplication of efforts of accident prevention specialists, and allow scientists who are not specialists to familiarize themselves quickly with the state of the art.

Sincerely,

JAMES L. Malfetti, *Executive Officer.*

NATIONAL ASSOCIATION OF MOTOR BUS OWNERS,
Washington, D.C., February 5, 1962.

Hon. KENNETH A. ROBERTS,
U.S. House of Representatives,
Washington 25, D.C.

DEAR CONGRESSMAN ROBERTS: We are writing you in regard to your bill, H.R. 133, which proposes the establishment of a National Accident Prevention Center.

This association, which serves as spokesman for the intercity motor bus industry, is vitally interested in highway and employee safety. Our member carriers maintain extensive safety programs the effectiveness of which is apparent from the fact that the safety record of the intercity motor bus industry has shown steady improvement and is better than that of any other form of transportation. Directly and through our association, the industry supports and works closely with other organizations in the safety field such as the Automotive Safety Foundation, the President's Committee for Highway Safety and the National Safety Council.

The ability of the Public Health Service to make major contributions to safety through research is widely recognized and, in our view, is an appropriate activity of the Federal Government.

We are, however, disturbed by the breadth of the proposals set forth in H.R. 133, particularly with reference to their potential impact on the National Safety Council with which we are closely affiliated. A program on a relatively modest scale such as that proposed in subsections (1) through (4) of section 382 of the bill is, we believe, an appropriate Federal project. Most of the remainder of the proposals, we believe, are not appropriate because they would be certain to infringe on the activities of the many private organizations which are contributing so greatly to safety through public education and otherwise.

It is our firm conviction that, except as to research contributions and enforcement where clearly in the public interest, safety activities should be carried on under private auspices and by government at the State and local levels and not by means of a substantial expansion of the Federal Government.

This is particularly important with respect to the highly probable impact of these broad proposals on the activities of the National Safety Council. The council, now in its 50th year, performs with outstanding success many of the same functions encompassed in H.R. 133, pursuant to its charter granted by the Congress under Public Law 83-259.

The National Safety Council operates in every phase of the safety field. It receives the benefit of financial support as well as the serious personal efforts of representatives of every segment of the public, industry, and government including several Federal agencies. In addition to the impact of H.R. 133 on the actual operations of the council the proposal in section 383(b) poses a threat to the financial support which is essential to those operations.

We respectfully urge, therefore, that any measure which may be enacted in this field be sufficiently restricted to prevent encroachment upon the activities or support of the National Safety Council, its affiliated State and local safety councils, and the numerous other outstanding private safety and related organizations.

We shall very much appreciate it if this communication is incorporated in the record of the hearings on H.R. 133.

Cordially yours,

A. W. KOEHLER, *Secretary-Manager.*

NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY,
Ithaca, N.Y., January 31, 1962.

Mr. KENNETH A. ROBERTS, M.C.
Chairman, Subcommittee on Health and Safety, House of Representatives
Committee on Interstate and Foreign Commerce, House Office Building,
Washington, D.C.

DEAR MR. ROBERTS: Thank you for the information you have sent to me regarding governmental activities pertaining to safety particularly your bill to establish a National Accident Prevention Center.

I wanted you to know that the proposed activities of such a center are very much in line with the needs as expressed at the annual meeting of the agricultural safety specialists of the several States working in conjunction with the National Safety Council—known as the Farm Safety Institute.

Another needed activity on a national level which I hope you may have in mind is the tabulation and summary of records on fires. Because fires are a leading cause of accidental death as well as a gigantic destroyer of property, attention is needed in this area.

For several years I have served on the National Fire Protection Association-Committee on Rural Fire Protection. This past year I assisted in the planning and conduction of a national farm fire safety seminar. For some 15 years I have had one association or another with fire organizations in New York, New Hampshire, and Maine. In each of these associations, the needs for an improved system of fire records has been agreed upon, but little done to implement the need.

You are probably aware of the fact that NFPA does keep a record of major fires and that the National Board of Fire Underwriters, the Association of Fire Marshals (only 27 States have a State fire marshal), and firemen's organizations including paid, volunteer, and chiefs groups, etc., are all involved—yet no coordination in national fire reporting has even been fruitful.

In my opinion, part of the problem has been a failure to agree on the values and purposes of such records. Usually, a tabulation of losses and a yearly record for the fire company is the main goal. For the fire marshals it is also to learn about causes. In almost no instance has the use of records for a full blown research program in reducing the instance and severity of fires been a goal. The idea of using fire loss records as a basis for improved merit or incentive rating of individual insurance risks has been a negligible factor.

I believe a National Accident Prevention Center could do a great deal to help jell this problem. In particular, I would agree that in the interests of national uniformity, whether it is the Uniform Motor Vehicle Code, accident report forms, or aspects of fire protection, the Federal Government should tie the disbursement of public funds to measures that assure this uniformity.

The National Accident Prevention Center is needed, and I hope it is acted upon favorably.

Sincerely,

E. W. Foss, *Rural Safety Specialist.*

AMERICAN PHARMACEUTICAL ASSOCIATION,
Washington, D.C., February 6, 1962.

HON. KENNETH A. ROBERTS,
Chairman of the Subcommittee on Health and Safety, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.

MY DEAR MR. ROBERTS: The American Pharmaceutical Association (A. Ph. A.) is the national professional and scientific society representing pharmacists in the United States. Since its establishment in 1852, our association has devoted itself to promoting higher public health standards through various efforts including proper supervision over the distribution and use, especially by the laity, of drugs and therapeutic devices.

A primary interest of A. Ph. A. is ascertaining how the profession of pharmacy may best serve in all public health endeavors. One objective of the association, as stated in our constitution, is:

"To cooperate to the fullest extent in conducting research examinations, investigations, experiments, and in the dissemination of information in the field of pharmacy with agencies of the U.S. Government, such as the U.S. Public Health Service, the Surgeons General of the Army and Air Force, the Bureau of Medicine and Surgery of the Navy, the Department of Medicine of the Veterans' Administration, and similar agencies of the States and territories of the United States."

The following comments are offered in favor of H.R. 133, because the objectives of the American Pharmaceutical Association parallel the principles and purpose of H.R. 133.

The A.Ph.A. has continually supported such programs aimed at accident prevention. On numerous occasions our membership has formally expressed its concern in this area.

For example, in our 1957 annual meeting, the membership of the association passed the following resolution:

"Resolved, That the American Pharmaceutical Association reaffirm its endorsement of the development of a coordinating program for poison control cen-

ters as proposed by the Public Health Service of the Department of Health, Education, and Welfare; and be it further

"Resolved, That the American Pharmaceutical Association urge its members to participate to the fullest extent in the development of local poison control centers and offer their cooperation in serving their respective communities in the gathering and dissemination of information with respect to antidotes and treatment facilities for accidental poisoning from various sources."

In our 1959 annual meeting, the association membership again expressed itself in this area by stating:

"Be it resolved, That the American Pharmaceutical Association continue to study the problem of accidental poisoning, insofar as drug and nondrug items are concerned, in order to determine how best to meet pharmacy's responsibilities * * *"

Indication of our continued interest is also afforded by the following resolution of our 1961 annual meeting:

"Whereas the National Health Council will hold a forum in Cleveland, Ohio, in March 1962, on accident prevention; and

"Whereas accidental poisoning constitutes one of the major areas of accidental deaths: Therefore be it

"Resolved, That the American Pharmaceutical Association express its keen interest in the forthcoming National Health Forum and assure the National Health Council of its cooperation in this endeavor; and be it further

"Resolved, That the American Pharmaceutical Association encourage its members to initiate, support and participate in community accident prevention programs."

A natural interest for pharmacists lies, particularly in the area of drugs, chemicals, and other hazardous substances, their labeling to prevent accidental injury, and other matters related to preventing unintentional self-injury with these articles. We feel that much could be accomplished if a central organization coordinated accident prevention information and programs and focused proper attention on research in this aspect of public health and safety.

The public health and safety would be the benefactor of improved dissemination and exchanges of knowledge relating to the cause and prevention of accidents.

The National Accident Prevention Center which H.R. 133 proposes, could contribute substantially to the progress of efforts now being made in accident prevention.

We respectfully request that these comments favoring the measure be made a part of the record of H.R. 133.

Sincerely yours,

WILLIAM S. APPLE, Ph.D.
Secretary.

EVANSTON, ILL., February 6, 1962.

Congressman KENNETH L. ROBERTS,
House Office Building, Washington, D.C.:

This communication relates to House bill 133 now before Subcommittee on Health and Safety. The traffic institute's position on this bill is based on its special concern with traffic safety.

The interest in safety on the part of Congress is indeed heartening. Nevertheless, the traffic institute, which for more than a quarter of a century has been actively teaching accident prevention, feels obliged to recommend that the bill not be passed, at least in its present form.

Some of the functions of the proposed National Accident Prevention Center are already being performed by other agencies such as the National Safety Council and the highway research board. The act does not specify or even suggest the relationship of the proposed center to the many existing public and private agencies with traffic safety interests. The act does not specify or even suggest the relationship of the proposed center to the many existing public and private agencies with traffic safety interests.

Other functions of the proposed center such as granting research funds, are being performed satisfactorily by the U.S. Public Health Service under existing

administrative arrangements. The act does not make clear what the new center could accomplish in support of research beyond what is now being done under existing law or could be done with additional appropriations.

There are now more than 40 organizations with nationwide programs intended to prevent traffic accidents. Although these have a common objective, there are confusing differences among them in activities emphasized and policies recommended. Many of these organizations have State and local counterparts. Unless specific guidance is provided in creating a new and presumably important organization with functions relating to traffic safety, there may be further dispersion of funds and duplication of effort. It would be sincerely hoped that the personnel of any such new agency would seek neglected aspects of traffic safety to which its efforts might be directed; but it would be feared that it might, instead, copy facilities and duplicate functions already provided for, divide available Federal funds between agencies with overlapping functions, and compete for technical and advisory personnel.

So far as traffic safety goes, the proposed National Safety Center, an additional agency with very general functions, is much less needed than some means of strengthening and coordinating existing Federal, State, and private agencies. Support for organizations in a position directly to influence roads, cars, drivers, and pedestrians, which must be improved to reduce existing accident rates would be especially beneficial. Therefore, the traffic institute hopes that House bill 133 will not become law.

BERNARD R. CALDWELL,
Director, Traffic Institute, Northwestern University.
By J. STANDARD BAKER,
Acting Director.

SAN FRANCISCO, CALIF., *January 26, 1962.*

Congressman OREN HARRIS,
Subcommittee on Health and Safety,
House Office Building,
Washington, D.C.

MR. CHAIRMAN: It is my desire as an unattached citizen, interested in public safety on our highways, to file the following statements for the record, for bill H.R. 133.

I approve the establishment of a National Accident Prevention Center with certain reservations, such as, this center be not dominated by big business or others who put policies or selfish interests ahead of safety for the people. I add these reservations for the following reasons:

Between 1917 and 1922 I designed, constructed, made, tested, and sold the first glareless vehicle headlights ever to be made. (See enclosed patent No. 1,323,963, December 2, 1919.) I made these headlights in Oakland, Calif., and had an approval from the California Vehicle Department to sell them. General Electric Co. was aware of those headlights as early as 1919, and General Motors, in 1922. To my knowledge no glareless headlights have been used since, as the 50 States' legislatures exclude them in their vehicle headlighting laws.

My knowledge of the projection of light is more extensive than that of many persons as the projection of light has been one of my hobbies for the past 45 years. I studied the projection of light, its effect on the human eyes, and light characteristics under some of our most renowned physicists. For those reasons, and for my scientific accomplishments, a few persons rate me as an expert on vehicle headlights.

The laws of optics have never been changed since they were formulated thousands of years ago. Therefore, I contend that the application of those laws in analyzing the projection of light, be it from an automobile headlight or other means, is the same today as it was thousands of years ago.

I hope the members of this committee, as well as those in the National Accident Prevention Center, realize that the laws of optics are basic, and for that reason the National Bureau of Standards now use light as a standard of measurement because of its extreme exactness.

I also hope the committee members realize that the laws of optics—not man—dictates how a vehicle headlight must be designed and constructed if it is to project the proper character of light of the proper light beam pattern on the highways without glare when viewed from outside its main projected beam of light.

However, in recent years, the headlight industry and its allied societies have given the people vehicle headlights that increased the glare on our highways rather than less glare. The headlight industry has forced these glaring headlights upon the people every legislative year, by influencing the people's State representatives, by having the headlight laws changed so that every State vehicle light law will conform to industry's latest fad of a more glaring type of headlight. Evidently industry wants to sell their particular glaring headlight to the people rather than to mitigate the people's losses on our highways.

Our vehicle headlight laws should be made national and in harmony with the laws of optics—not in harmony with the whims of the headlight industry at the expense of the people's lives and property.

The majority of our citizens are ignorant of all this. They are also ignorant that a glareless headlight was designed, constructed, tested, sold, and used by many people over 40 years ago, and that the headlight industry has used deception and misinterpretations and other evasive means to keep those glareless headlights from the people, although industry has known about them since 1919, over 42 years ago.

From my experiences, researches, and contacts with State legislators, insurance companies, and others, who profess to be interested in safety on our highways, and also after reading the book, "The Electric-Lamp Industry," by Arthur A. Bright, Jr., Macmillan Co., New York, 1949 (pp. 333, 334, 346, 455, 456), who also confirms what I am about to say, I discovered that the policies of big business (General Electric and its allied societies, insurance companies, and others) come before the safety of the people on our highways.

My file of documents concerning vehicle headlights is voluminous. And the knowledge and references which my wife and I have retained in our minds from our experiences in trying to get the States, the National Government, and others, interested in mitigating our nightly highway losses are also voluminous.

As far as we know, we are the only two individuals who have been devoting our time and money to correct the glaring headlight problem without any thought of compensation or sponsors. Our knowledge that glareless headlights are simple in design and cheap to make, and our compassion for the people who have been crying for glareless headlights because they too want to live and help mitigate their losses, has caused us to carry on this campaign without any thought of monetary gain. (See enclosed labor newspaper clipping.)

While attending the California State Legislature I witnessed several safety devices of other manufacturers being flagrantly rejected, although some of those devices had been tested and approved by other State legislatures and their testing departments.

It will therefore be a pleasure for my wife and me to testify before your committee on the National Accident Prevention Center and tell of our experiences with the California State Legislature and others, as well as to give a demonstration and a technical blackboard talk on the present-day vehicle headlight glare and how to design a headlight that does not glare when viewed from outside its main projected beam of light, if we are required to do so.

All this should be of interest to this committee, and to the National Accident Prevention Center, as policies for profit should not be valued above the lives of our citizens.

Yours truly,

MILO C. CAUGHREAN,
Inventor and Licensed Chief Engineer.

Subscribed and sworn to before me this 26th day of January 1962.

[SEAL]

ADA MILES,
*Notary Public in and for the City and County of
San Francisco, State of California.*

My commission expires March 17, 1963.

UNITED STATES PATENT OFFICE

MILO C. CAUGHREAN, OF KETCHIKAN, TERRITORY OF ALASKA

INCANDESCENT ELECTRIC LIGHT

Specification of Letters Patent

1,323,963

Patented Dec. 2, 1919

Application filed May 12, 1917. Serial No. 168,117

To all whom it may concern:

Be it known that I, MILO C. CAUGHREAN, a citizen of the United States, and a resident of Ketchikan, Territory of Alaska, have made certain new and useful Improvements in Incandescent Electric Lights, of which the following is a specification.

My invention relates to electric light globes to be used with search lights, head lights of automobiles, spot lights, and any other similar devices.

An object of my invention is to provide an electric light globe having a reflector whereby certain rays of light, which would ordinarily diverge, are reflected toward the main parabolic reflector from which they are again reflected in a direction more nearly parallel to the axis of the main reflector, thereby condensing the light.

A further object of my invention is to eliminate, to a large extent, certain divergent rays, and thereby obviate the danger which attends the use of search lights owing to the blinding glare which sometimes is encountered by people who are passing, even if the main body of light is concentrated on another object. The invention is particularly adapted for search lights on vessels, the invention serving to cut out certain divergent rays which tend to blind those on the deck of the vessel.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings which form a part of this application, in which:—

Figure 1 is a section through an automobile head light.

Fig. 2 is a section through a modified form of the device, and

Fig. 3 is a section through a search light showing one embodiment of my invention.

In carrying out my invention I make use of a main parabolic reflector 1 which may be of any suitable material, such as glass having a reflecting backing, polished metal, or the like. The electric light globe 2 has the usual filament 3. Supported near the filament is a small reflector 4 which is curved to reflect rays of light back again upon the main reflector 1. The filament 3 is held on an insulating base 6 and the globe 2 is provided with the usual connections with the socket 7. These connections may be of any screw type, such as the Edison screw connection, the Ediswan, or any other suitable means of attachment.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The globe 2 is preferably of such dimensions that the filament 3 and the small reflector 4 are disposed substantially at the focus of the main parabolic reflector 1. Now it will be obvious that the rays of light from the filament 3 which strike the small reflector 4 will be reflected back to the large parabolic reflector 1.

The reflector 4 has a curvature such that the rays that are reflected from it will be reflected again by the parabolic reflector in substantially parallel lines, such as those shown at X. Such rays would of course diverge if the reflector 4 were not present, but being reflected to the main reflector and again reflected, the light will be concentrated instead of diverged. That light which is directly transmitted to the reflector 1 by the filament is reflected in substantially parallel lines as shown at Y. The result is that many of these divergent rays are cut

out or rather are reflected in a direction more nearly parallel with the axis of the main reflector.

In Fig. 2, I have shown in modified form of the device in which the small reflector 4' is not held by the same wires which hold the filament 3', as in Fig. 1, but by additional wires 8. The principle upon which the device works however, is substantially the same. That is to say, the filament 3', as well as the reflector 4' being disposed substantially at the focus of the parabolic reflector 1' both send rays to this reflector which are reflected in the general direction parallel to the axis of the main reflector 1'.

In Fig. 3 I have shown a search light casing 9 in which there is a bulb 2' having a filament 3' and a reflector 4'. The arrangement is similar to that described in Fig. 1, the rays of light which pass from the filament to the reflector 4' being again reflected by the main parabolic reflector 1' and passing out of the search-light casing in substantially parallel lines.

It will be understood that it is impossible to make all of the rays which are sent out by the filament and the small reflector 4' pass in a direction exactly parallel to the main axis, but by making the filament relatively small and placing the small reflector close to the filament, they both may be brought substantially to a position approximating the focus of the parabolic reflector, thereby condensing a great part of the light, and cutting out many diverging rays, thus eliminating the glare on each side of the beam of the parallel rays, and adding to the intensity of the beam.

By constructing the electric light globe with the reflector inside thereof, the globes themselves may be sold to users of parabolic reflectors who can replace the ordinary lamps with these improved globes and thereby secure the results enumerated above.

I claim:—

1. The combination with a main parabolic reflector, of an incandescent lamp comprising an insulated base, a transparent globe carried by said base, a filament within the globe, rigid supporting arms carried by said base at opposite sides of said filament and extending forwardly beyond same, a secondary reflector having its reflecting surface facing said filament and the main reflector, and supported stationarily at the forward ends of said supporting arms, said filament being disposed substantially at the focus of the main reflector.

2. The combination with a main parabolic reflector, of an incandescent light comprising a base, a transparent globe carried by the base, a filament also carried by the base, rigid arms carried by the base and extending outwardly therefrom, a curved reflector supported stationarily at the outer ends of said arms, said curved reflector being disposed symmetrically with respect to the axis of the parabolic reflector between said filament and said globe, and the reflecting surface of said curved reflector facing said filament and also said main parabolic reflector, said filament being situated substantially at the focus of the main parabolic reflector.

MIL0 C. CAUGHREAN.

[From Organized Labor, official publication of the Building and Construction Trades Council of San Francisco, Nov. 30, 1959]

INVENTOR WAGES CRUSADE FOR GLARELESS AUTO HEADLIGHTS

(By Harold Rossman)

The next time you drive on the highway at night and meet an oncoming vehicle with bright lights that almost blind you, you'll probably cuss and wonder why someone doesn't invent glareless headlights.

It's a good question, but it may already have been answered—at least there's a fellow in San Francisco who says he invented them years ago but can't get the major light manufacturers or anyone else to listen to him.

That's a strong claim, but it becomes quite plausible when you meet Milo C. Caughrean, an inventing kind of a fellow who has taken out seven U.S. patents including original invention of the no-glare light bulb which makes his idea possible.

Milo, 71, is a retired machinist, member of IAM Local 68, and licensed marine engineer. He was born in Missouri but migrated to Alaska with his folks in 1900 and spent 45 years in Alaska including 14 years in gold dredging operations north of the Arctic Circle.

Milo's interest in lighting started while navigating narrow coastal channels in Alaska at night and being blinded by the beams of the searchlight.

He decided to do something about it and devised a cupped metal shield to go over the filament of the light bulb. This cut off the direct beams which bounce in all directions and reflected all light back against the parabolic reflector to be projected forward as perfectly parallel, glareless beams.

He applied for a patent in 1917 and in 1919 was granted U.S. Patent No. 1,323,963 on the filament shield.

He came to the States in the twenties and tried to interest General Electric, Westinghouse, and the other big lampmakers in his invention, but it was no go. Milo thinks it was because the engineers with fancy university degrees didn't like taking theoretical pointers from a self-taught inventor who hadn't gone past the first year of high school.

Later he organized the Caughrean-Feddersen Corp. in Ketchikan, Alaska, to manufacture the bulb.

He had been warned that the big companies would run him out of business, but he went ahead and started a plant in Oakland. The business failed after a year—because Caughrean couldn't get the highly refined copper and special wire for the bases of the bulbs—suppliers said they had barely enough for their regular customers, the big lampmakers.

Ironically, since 1939 the five big concerns that make auto headlights have been using filament shields—but with no gain to Caughrean; his patent expired in 1936.

In subsequent years Caughrean turned his thinking to the problem of a glareless automobile headlight. True, he already had a searchlight that did not throw glare beams to the side, but the searchlight throws a round spot, not the shaped, wide beam needed to illuminate the width of a road.

Present types of headlights shape and spread the light by using a lens molded into a lot of prisms that bend the light from the bulb and reflector. But the prisms also bounce light to the side—the glare that hits your eye when a car is on the other side of the road approaching you.

Caughrean decided to eliminate this prismatic lens and use a plain glass cover for his light. He experimented and discovered that by "ellipsing" the parabolic reflector of a headlight—that is, by compressing it top and bottom to make it slightly oval in shape—he could shape a flat, wide pattern of light, and that by using a filament-shielded bulb in such a reflector he could produce a headlight throwing enough light in front but causing no glare when seen from a side angle.

Again no one seemed interested and he put the idea aside to develop other inventions including a refinement of the gear pump, an arctic sled and other devices.

In 1954 the growing toll of deaths on highways prompted President Eisenhower to declare a national safe driving day and set up a Highway Safety Committee. Caughrean immediately tried to interest the President and the national committee in his safe headlight, but got a polite brush-off.

Since then, and without any thought of personal profit because his idea is not patentable, he has engaged in a personal crusade with the aid of his wife, Bessie, to have his nonglare headlight recognized and put into use.

In 1956 he served a demand on the General Electric lamp division to cease and desist from advertising its headlamps as glareproof. Back came a reply from the legal division that these lamps meet the specifications of the Society of Automotive Engineers and comply with present legal requirements of the various States.

He communicated with the Society of Automotive Engineers but that body told him "it would be outside the scope of our activities for us to undertake to evaluate or promote your design of 'glareless' headlamp."

The SAE letter also made the curious statement that while it publishes test standards for automobile lighting, "The fact that a device meets the requirements of one of these standards does not mean that the society has approved it."

On two occasions in 1957 Caughrean went up to Sacramento to try to talk about safe auto lights with the safety regulations and devices subcommittee of the State Assembly. He had with him equipment to give a demonstration of his theories but was not given an opportunity to show it.

In 1958 he and Bessie made a trip to Washington, D.C. at their own expense and for 12 days tried to get action with the Federal Trade Commission and other Federal agencies and officials, but without result.

In his apartment at 415 Jones Street, San Francisco, Caughrean was quite eager to explain his ideas and demonstrate his light.

Much condensed, this is what he says is wrong with present auto headlights: the filament shields used are not of the correct spherical shape to be fully efficient; the prismatic lenses are molded and inexact so that no two lenses will be alike, which means that they throw stray pencil beams as much as 8 or 10 times as powerful as the light source; engineers try to focus the parabolic-reflected light and direct light beams with the same lens prism patterns, which is impossible.

He conducts a demonstration with a parabolic reflector without rigid backing so that it can be bent.

He switches it on and compresses it slightly, and you see the light pattern flatten, broaden, and focus on what would be the road. You stand ahead and to the side, as in an oncoming car, and see no side glare. Then he places in front of it a prismatic lens from one of today's headlights, and in the same position you do get the glare.

"You see, it's the lens," he says.

Caughrean cites General Motors figures that headlight glare is a factor in one-third of all nighttime auto accidents. This accident factor can be cut down, he insists.

But no one is willing to listen.

(Whereupon, at 10:45 a.m., February 21, 1962, the subcommittee was adjourned, subject to call of the Chair.)



