Testimony of

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H. R. 8190 - To authorize appropriations for fiscal years 1970, 1971, and 1972 to carry out the National Traffic and Motor Vehicle Safety Act of 1966.

Prepared for delivery before the Subcommittee on Commerce and Finance of the House Interstate and Foreign Commerce Committee

March 17, 1969

INTRODUCTION

Mr. Chairman and members of the Subcommittee, I am pleased to appear before you today to highlight some of the specific actions that have been taken to achieve the objectives of the National Traffic and Motor Vehicle Safety Act of 1966.

The purpose of that Act is "to reduce traffic accidents and deaths and injuries to persons resulting from traffic accidents." Two years' experience with the Act has demonstrated the foresightedness of the Congress in enacting its provisions, but also has shown that the goal will not be an easy one to achieve.

During the two and one-half years that the National Highway Safety Bureau has been implementing the provisions of the law, the dimensions of various program requirements have come into sharper focus.

I would now like to summarize briefly some of the perspectives on these activities based upon operating experiences during this start-up period.

MOTOR VEHICLE SAFETY STANDARDS

In response to the requirements of the Act requiring the issuance of motor vehicle safety performance standards which protect the public against unreasonable risk of death and injury resulting from inadequate design, construction, or performance of vehicles, one standard, on seat belt assemblies, became effective in March 1967, 20 initial motor vehicle safety performance standards became effective January 1, 1968, and one additional standard became effective in April 1968, for a total of 22 standards in 1968. Four new and revised standards and four amendments to initial standards became effective January 1, 1969. One Department of Commerce standard was adopted in December 1968, and one new standard, on regrooved tires, will become effective on April 1, 1969 for a total of 6 new standards in effect in 1969. Two new standards and amendments to two existing Standards are already scheduled to go into effect January 1, 1970. In addition, three consumer information regulations are scheduled to become effective on October 1, 1969, covering passenger car stopping distances, tire reserve load, and acceleration and passing ability.

Developmental work is in progress on 25 proposed new standards, on 21 amendments to extend the scope or upgrade the existing Federal standards, and on 8 proposed consumer information regulations.

With the permission of the Committee, I would like to submit for the record one list of the Federal motor vehicle safety performance standards and selected regulations issued as of March 10, 1969, with a summary description of each, and another list of issued and pending rule-making actions for new safety standards, for amendments to existing standards, and for proposed consumer information regulations.

The initial standards had to be based upon standards that were already in existence at the time the law was passed. Additional standards that were issued the following year, although no longer bound by the statutory requirement, nonetheless were largely limited to comparatively simple safety features that could be treated within the state-of-the-art.

Standards have not as yet been issued for many important aspects of vehicle safety such as vehicle stability and handling which embrace substantially more difficult technical problems than those related to the initial standards. Some of these are well along in rule-making and will be issued this year. However, many important aspects of vehicle safety rule-making actions cannot be completed until research produces answers to as yet unsolved problems. Furthermore, the varieties of vehicles covered by the standards are increasing to ensure coverage of all vehicles on the roads, including trucks, buses and other heavy equipment.

In is unmistakably clear that in the development of future standards to keep current with the technical advances now taking place in the industry, the Department will have to enter new and complex fields of safety research for which there presently is limited, if any, experience or scientific information.

THE COMPLIANCE PROGRAM

The purpose of the compliance testing and review program is to determine whether vehicles and equipment manufactured after the effective date of the safety standards, and sold in the United States, do, in fact, conform to these standards. This regulatory function is critical to assuring that the manufacturer's representation to the public that the vehicles and equipment they purchase contain the safety protection required in the standards.

The compliance activities of the Bureau have started necessarily on a modest scale because of the newness of the program, the need to resolve legal issues, the development of basic procedures, and other start-up problems. With a little more than two years of operating experience the Bureau is now in a better position to identify

the magnitudes of an adequate effort to make the program an active force rather than a passive threat. The enforcement program consists of four related activities which I shall list briefly here. More detailed descriptions can be provided, if the Committee so desires, of the magnitude of the workload associated with each of these four elements:

1. A testing program conducted under contract.
2. Analysis of technical and performance data in support of certification requested by the Bureau from selected manufacturers.
3. Review of news articles, consumer complaints, limited field investigation, and coordinated action with the Bureau of Customs in support of jointly issued importation regulations.
4. Development of plans for the construction of facilities necessary for the Bureau to monitor and analyze effectively the extent of compliance on the part of industry in meeting the minimum performance levels established by the standards.

One fact has come into very sharp focus, namely, that it has not yet had sufficient time or resources to achieve fully effective enforcement. For all practical purposes, the compliance program so far has been little more than a token effort.

OTHER ISSUES RELATING TO NEW VEHICLE SAFETY STANDARDS

I would like to complete my discussion of the new vehicle standards development program by mentioning briefly several other important aspects of this part of the Bureau activity.

Cost and Lead Time: The Bureau now has a new organizational unit whose primary responsibility is for all work in this important aspect of rule-making. However, staffing limitations have prevented this office from assuming such responsibility.

Limited Production Vehicles: Public Law 90-283 grants to the Secretary of Transportation authority to exempt limited volume producers from the Federal Safety Standard for a period not to exceed three years. A number of petitions for such relief have been received.

Mini-Car Crash Survivability: The Bureau has initiated a program to analyze the comparative crash survivability of all types of vehicles in use on public thoroughfares. The program has started with the so-called "mini-car", that is vehicle of 1,000 pounds or less curb weight, because there are as yet no applicable Federal safety standards for these vehicles as a class.

Certification and Labelling: The Department recently issued regulations defining how certification requirements for motor vehicles and motor vehicle equipment under Section 114 of the Act must be met. These regulations also provide consumer information in accordance with Section 112 of the Act. The regulations, which will be applicable to products manufactured after August 31, 1969, specify the location and content of certification labels and specifically require identification of the actual manufacturer and the month and year of manufacture. There are a number of pending petitions for reconsideration of these regulations.

More detailed descriptions of each of these issues and related activities can be supplied if the Committee so desires.

DEFECT NOTIFICATIONS AND RECALLS

More than 11.2 million vehicles have been the subject of manufacturer safety defect notifications and recall campaigns from the start of the program in September 1966 to the First of March of this year. The staggering magnitude of this volume of new vehicles potentially with safety related defects is mute testimony to the importance of this provision of the law. Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires a motor vehicle manufacturer to furnish purchasers with notification of safety-related defects he discovers in his motor vehicle products.

Notifications of defects must also be furnished to the Department of Transportation. While the Act does not specifically require recall or repair, public defect notification has led manufacturers generally to recall vehicles and equipment suspected of being defective in order to inspect for and correct any defects which exist.

The Act requires notification be sent by certified mail to the first purchaser and to any subsequent purchaser to whom any warranty has been transferred on such motor vehicle or motor vehicle equipment. As a contribution to the hearings held by the Federal Trade Commission for early 1969 on warranty provisions and the recent reductions by manufacturers in warranty coverage, the Bureau asked the Commission to consider whether such reductions might restrict the number and extent of defect notification and recall campaigns.

In all, since the start of the program, manufacturers announced 360 safety-related notification and recall campaigns, involving more than 10.3 million domestically produced vehicles and approximately .9 million imported vehicles. Such information, as well as brief descriptions of the individual defects discovered, are tabulated by make and model and reported quarterly by the National Highway Safety Bureau. These reports are available in single copies from the Bureau and in multiple copies for sale through the U. S. Government Printing Office.

The Bureau is responsible for independently conducting tests and investigations to identify potential defects, to inform manufacturers and the public of defects which are discovered, and to monitor the effectiveness of notification campaigns, including the completeness and timeliness of defect discovery and notification, the extent to which all purchasers are notified, the degree of owner response, and the quality of defect inspection and correction by dealers and garages as prescribed by manufacturers' bulletins.

Because the Bureau does not have a testing facility where testing for potential defects can be conducted, the responsibility for learning of defects is heavily dependent on being alert to complaints received from independent sources such as letters from consumers and Congressmen, reports from other Government agencies, and articles in newspapers and magazines. To the extent possible with existing staff, a few field investigations of possible safety-related defects are being made in response to consumer complaints and other reports. These investigations are confined to the potentially most significant cases in terms of hazards to traffic safety. In all, about 2-1/2 million vehicles or about 23% of the total of all vehicles recalled were directly prompted by Bureau actions, resulting primarily from follow-up on published articles and owner complaint letters.

The Bureau is, with the assistance of the Bureau of the Census, conducting a defect notification recall campaign survey. A questionnaire has been designed to solicit responses from vehicle owners for determining the percentage of owners who respond to a campaign within specific periods of time and the owner satisfaction with the dealer service provided. The results of this survey will be used in the Bureau's continuing audit of the data requested by the Bureau and provided by manufacturers on campaign effectiveness and for developing recommendations for improvement in notification procedures.

The Bureau is also completing plans for a demonstration project, using an on-line, real-time, information retrieval system for storing defect notification and other vehicle data to enable a motor vehicle inspection station to correlate quickly the make-model-year of an automobile presented for inspection with specific defect notification campaigns. This program will also assist in the development of procedures for the discovery of potential difficult problems.

The importance of the defect aspect of the Bureau's overall safety effort cannot be overstated, nor the importance of this service to the American public. The level of help that can be provided will, however, depend upon resources.

USED VEHICLE SAFETY

The Federal motor vehicle safety performance standards, which I have been discussing apply only to newly manufactured vehicles, beginning with those produced after January 1, 1968. In the Act the Congress recognized that the 100 million vehicles in use on American roads present a critical gap in highway safety coverage. Accordingly, the Congress required in Section 108(b)(1) that the Department conduct a thorough study to determine the adequacy of motor vehicle safety standards and inspection systems applicable to used vehicles.

In June 1968 the Department submitted to Congress this report, entitled "Safety for Motor Vehicles in Use." The report concluded that an estimated half of the motor vehicles in use today are deficient in one or more aspects of safety performance. These deficiencies are due to normal deterioration with use, improper maintenance, and inadequate design or faulty construction. These deficiencies play a role in causing highway crashes. Routine crash investigation often overlooks vehicle failures. In some cases, the extent of crash damage misleads investigators to think a defect -- if discovered at all -- is the result of the crash rather than its cause.

There is the further requirement in Section 108 (b) that upon submission of the report to Congress, the Department issue safety

standards for vehicles in use, after consultation with the National Motor Vehicle Safety Advisory Council and interested public and private organizations. On November 26, 1968, the Federal Highway Administrator initiated the rule making procedures for these standards by issuing a Notice of Request for Comments. Comments were due February 26, 1969. The National Highway Safcty Bureau is beginning to compile and analyze the comments. Several inherent difficulties are now apparent in rule making on used vehicle standards: first, the degree of danger or criticality in individual deficient parts, second the probability or frequency of part failure, and third, the cost of repairs in relation to the resulting safety improvement. Because there are no precedents for these types of rule making decisions, the Bureau cannot estimate reliably when final rules will be issued.

In his request for comments on future used vehicle standards, the Federal Highway Administrator asked that particular attention be focused on feasibility and effective means of enforcement for such standards. The Vehicle Safety Act of 1966 does not specify a means of enforcement for these standards. However, the Act in Section 108(b)(1) states that it is the policy of Congress " to encourage and strengthen the enforcement of State inspection of used vehicles."

A principal conclusion of the report to Congress on used vehicle safety is that periodic vehicle inspection programs are needed in every State in order to determine compliance with Federal standards for used vehicles. One of the standards for State and community highway safety programs issued by the Department under the Highway Safety Act of 1966 requires as a minimum that every vehicle registered in a State be inspected either annually or at such other time as may be designated under an experimental, pilot or demonstration program approved by the Secretary of Transportation.

The position of the Department is that strong, periodic motor vehicle inspection in the States is vital to the success of the Nation's used vehicle safety effort. Therefore, it views with considerable concern recent moves reported in several States to repeal or reduce newly enacted inspection programs. The issue also is involved in the 5 States which have no vehicle inspection programs at all and in the 14 States which currently have only random or local option inspection programs. The Bureau therefore is attempting to communicate to these States the full safety effect upon used vehicle deficiencies and that the establishment of minimum vehicle inspection programs can only be the beginning of an adequate program to counter these deficiencies. The emphasis, as described in the report to Congress on Safety for Vehicles in Use, is that adequate inspection in all States could reduce current annual vehicle crash fatalities by anywhere from 3,000 to 15,000 lives.

Further study will be required for new and stronger programs for used vehicles beyond the planned issuance of initial standards. Current or programed research addresses such questions as dealer and garage repair practices, training and licensing of mechanics, quality of replacement parts, and owner maintenance practices.

Equally important is the interaction between new and used vehicle standards. Design of new vehicles should consider the reliability of extended performance; used vehicle safety can and must start on the new vehicle drawing board, and future standards for new vehicles could offer the used motor vehicle purchaser or owner greater safety and economy.

TIRE SAFETY

Effective January 1, 1968, Standard No. 109, "New Pneumatic Tires - Passenger Cars," specified the compliance requirements for tire dimensions and performance involving bead unseating resistance, strength, endurance and high-speed tests. It also defined tire load ratings and specified labeling requirements. Also effective January 1, 1968, Standard No. 110, "Tire Selection and Rims - Passenger Cars," specified requirements relating to vehicle load distribution on the tires and rim performance requirements under conditions of tire deflation.

In June 1968 the Bureau contracted with three commercial testing laboratories to evaluate tires against the requirements of Standard No. 109. We now have five contractors. We expect to add three more contractors by June 30, 1969. The total facility and testing capability of these contractors follows:

	March 1969	July 1969
Number of Wheels	6	9
Tire Positions	22	34
Tires Tested Per Week		
High-speed	216	360
or		
Endurance	66	102
or		
Complete Standard No. 109	45	75

As of February 26, 1968, 414 complete Standard No. 109 tests had been conducted. There were 72 failures on 38 individual tires as follows:

High Speed	-	21
Endurance	-	21
Physical Dimension	-	14
Strength	-	15
Labeling	-	1
Total		72 Failures

These failures are indicative of potential noncompliance with the standard. As a result, an additional 1900 tires have been scheduled for testing to individual phases of Standard 109 in addition to the token tire compliance program originally scheduled for 1968. It is anticipated that these tests will be completed by June 30, 1969.

To date, these tests have resulted in the recall of about 10,000 Mohawk 7:34-14 Air-flo Tires, approximately 42,000 General 9:00-15 Safety Jet Tires, and approximately 31,000 General 8:15-15 General Jet Tires. Because the tire manufactuers and dealers do not maintain the names and addresses of owners, they are unable to locate owners except by publicity. There is a need to require the tire manufacturers to develop a method for notifying the purchaser of defective tires.

REGROOVED TIRES

On January 24, 1969, a regulation was published setting forth the conditions under which regrooved tires would be allowed to be sold, offered for sale, introduced for sale, or delivered for introduction into interstate commerce. At the request of the National Association of Motor Bus Operators which has since filed a complaint and a motion for a preliminary injunction, the effective date of this standard has been extended from February 28 to April 1, 1969. It specifies that:

- Tires may be regrooved only if designed for such purpose.
- The maximum and minimum width of the groove.
- The minimum length of groove required for a safe level of traction.
- A minimum of 3/32" of undertread.
- The regrooved tire must not contain safety-related defects.

UNIFORM QUALITY GRADING

Because of technical difficulties, we have not been able to meet the time requirement of the Act for issuance of this consumer information standard for tire quality grading. To date we have found no suitable test procedures for the grading of endurance, treadwear and traction. The issuance of this standard depends on the analysis of the information the Bureau has requested recently from the motor vehicle and tire industry, the evaluation of tests that have been conducted by other Government agencies, and the results of research underway for several months and continuing at the National Bureau of Standards under contract to the National Highway Safety Bureau. It is anticipated that issuance of this standard will be delayed until at least one year from now.

RESEARCH AND DEVELOPMENT PROGRAM

Both Acts administered by the National Highway Safety Bureau mandate research, testing, development, and training. While one Act is directed largely toward motor vehicle performance standards and the other Act toward State and community highway safety programsstandards, programs under both laws share a large body of knowledge. Motor vehicle and highway safety research must be approached from a total systems point of view.

The Bureau's unified research and development program is directed toward accelerating and expanding the scientific and technical knowledge necessary to:

a. Develop safety performance standards relating to new and used motor vehicles and equipment.

b. Develop techniques of conducting accident investigations and improvements in the collection and analysis of driver, vehicle, accident, and injury information.

c. Provide guidance and assistance to State and local levels in the implementation of highway safety standards.

To prevent accidents, reduce human loss in accidents which do occur, and improve post-crash recovery, the program must focus on:

-- Man, in terms of pedestrians, as well as drivers and occupants.

-- Vehicle, of which there are many types ranging from motorcycles to large trucks.

-- Environment, in terms of the roadway, obstacles, traffic-control system elements, and natural environmental conditions.

-- The interactions among these three elements.

A list of our FY 1968 contracts for research and development can be provided separately if the Committee so desires. Here I would like to summarize briefly two important parts of the program, namely, the development of the experimental safety vehicle and the accident investigation and information analysis programs, respectively. More detailed information on each of these can also be supplied if so requested.

EXPERIMENTAL SAFETY VEHICLE

A very important part of the Bureau's systems approach to traffic and highway safety is the Experimental Safety Vehicle Program. This program will provide means of accelerating development of advanced safety concepts that can be adapted to production models

Preliminary reports on design alternatives have been received from three contractors and are now being evaluated pursuant to selection of an alternative for prototype design, construction and testing in Fiscal Year 1970 and 1971.

ACCIDENT INVESTIGATION AND INFORMATION ANALYSIS

All aspects of the entire safety effort depend upon a thorough understanding of the causation of the crash and the resulting injuries to drivers, passengers and pedestrians. Essential to this effort is the establishment of a data base enabling the Bureau to examine the relationships among the elements of the highway crash and to evaluate the effectiveness of existing or proposed countermeasures. Two complementary programs are being pursued dealing respectively with accident investigation and analysis of the resulting information.

The accident investigation program ranges from routine investigations of accidents by State and local officials to research investigation of accidents by medical and engineering teams of scientists.

The complementary program on accident and injury analysis involves the acquisition and analysis of existing data from many sources, and the long range design of a system that will produce better data at all levels.

An important part of this program provides for achieving compatibility among State accident information systems that will economically meet operational needs of the States while making available to the Bureau for program planning at the national level, mutually consistent data on accidents, vehicles, drivers and environmental conditions. The value of coordination of State data at the national level is already being demonstrated in the operation of the National Driver Register Service which enables States to identify driver license applicants who have been denied a license in another State for violations resulting in suspension or revocation.

HIGHWAY SAFETY RESEARCH AND TEST FACILITIES

The National Traffic and Motor Vehicle Safety Act of 1966 directed that the Secretary study the need for facilities to conduct research, development and testing in traffic safety, including an inventory of existing facilities that might be used for this purpose. The report submitted to the Congress on October 7, 1968 recommended the use of existing facilities in lieu of new construction wherever economically and technically feasible. The report:

--Identified existing facilities that could be modified, including the FAA Aeronautical Center and the BPR Fairbank Research Station.

--Included a Master Plan for acquisition and construction of facilities.

--Recommended the construction of two new facilities:

  --Vehicle and Highway Safety Proving Ground

  --Driving Simulation Laboratory

The proposed Proving Ground would consist of vehicle and driver test tracks, a high speed loop-track, and special facilities such as skid pans, a handling and evasive maneuver facility, urban street complexes, a vehicle barrier impact facility, and a water escape facility. The proposed Driving Simulation Laboratory would provide a resource to determine how drivers respond to outside factors, providing a real-time correlation of the vehicle and its control with visual, motion, and noise elements of the environment. The laboratory approaches would provide new, scientific insights into why drivers behave as they do in both normal and stress situations and would greatly accelerate the development of effective counter-measures.

As described in the report, an authorization of $10 million, to remain available until expended, is deemed necessary for planning and development of detailed designs and more refined cost estimates for the facilities program.

NATIONAL MOTOR VEHICLE SAFETY ADVISORY COUNCIL

The last topic which I would like to discuss deals with the National Motor Vehicle Safety Advisory Council. It is essential that the Department's standards and other related actions respond to the immediate needs and concerns of the general public whose welfare the program is mandated to protect. Therefore, the vehicle safety program purposely has been made receptive to the ideas and views of consumers as well as those of industry and technical experts. A primary avenue of communication is provided by the National Motor Vehicle Safety Advisory Council, created by the Act to advise the Secretary of Transportation.

Section 104 of the National Traffic and Motor Vehicle Safety Act of 1966 establishes the Advisory Council and provides that the Secretary of Transportation shall consult with the Council on motor vehicle safety standards.

I would like to submit for the record a list of the present membership of the Council, which was expanded in 1968 from its original membership of 17 to 22.

The major involvement of the Council, which met 7 times in 1968, was with standards and the proposed consumer information regulations. The concept of consumer information regulations was first endorsed by the Council in 1967. After receipt of comments to an Advance Notice of Proposed Rule Making from industry and the

public, the Council met in November 1968 to discuss the major relevant issues and recommended that the Department move expeditiously to publish detailed and specific proposals for consumer information so that they would be implemented on a feasible basis. This was subsequently accomplished. Other Council recommendations include that:

- all States move as fast as possible to establish motor vehicle inspection systems,
- the Department begin the process of setting uniform used vehicle safety standards by soliciting comments from all States and other interested parties in the public and industry,

  In response, the Federal Highway Administrator in November 1968 issued a request for comments along the above lines.
- the school bus safety performance standards with emphasis on steering, braking, driver vision and crash injury protection,
- the 90-day comment time for proposed rule-making,
- public meetings on candidates for standards prior to publication of Advance Notices,
- internationalization of vehicle standards.

Earlier recommendations of the Council already implemented by the Bureau deal with tire standards, certification and importation regulations, research, temporary exemption for small volume manufacturers, and film dramatization of crashworthiness features for mass distribution.

CONCLUSION

In conclusion, the National Highway Safety Bureau plans and programs are long range in nature and have been designed as a comprehensive attack on the problems of highway safety. Only as these plans and programs are brought to bear over a period of time on the full spectrum of highway and traffic safety problems can the appalling toll of traffic deaths and injuries be expected to decline. Some of the Bureau's programs are encompassed in the following long-range efforts:

1. Continue to broaden the scope of new vehicle performance safety standards and consumer information regulations with due consideration of cost and leadtime factors.
2. Extend the orientation of all standards from product performance at time of manufacture to performance after continued use.
3. Expand vehicle and tire compliance activities, with regard both to manufacturers conformance

with Federal safety standards and to maximum effectiveness of manufacturers' safety related recall campaigns.

4. Direct increased emphasis to the development of safety standards for vehicles in use.

5. Establish procedures and guidelines to insure minimum acceptable safety levels and standards compliance for the 100 million vehicles in use by inspection, repair and maintenance techniques and other methods in line with the likely availability of Bureau resources.

6. Improve the quality of accident investigations through the increased use of field team investigations and procedures so that proper data can be developed at the source for use in a comprehensive accident investigation system.

7. Conduct research essential to these programs. In addition, develop research and testing facilities that will enable the Bureau to (a) undertake realistic, full-scale research, development and testing of vehicle safety performance and (b) evaluate total driver performance safely under complete simulation of high risk driver-vehicle-highway interactions.

We believe that a good start has been made in a number of these areas. But we also know that much remains to be done, and that much more can be accomplished if this program is supported adequately with personnel authorizations, funds, and facilities. Long range planning estimates through fiscal year 1974 are being drawn up by program elements which will carry forward the efforts now underway and encompass additional efforts. These additional efforts will apply the large scale corrective measures which are required if the national tragedy of highway death is to be brought under control.

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Testimony of

ROBERT BRENNER

Acting Director
National Highway Safety Bureau

S. 1245 - To authorize appropriations for the fiscal years 1970 and 1971 for the purpose of carrying out the provisions of the National Traffic and Motor Vehicle Safety Act of 1966, and to amend the definition of "motor vehicle equipment" in that Act.

For delivery before the Senate Commerce Committee
April 14, 1969

INTRODUCTION

Mr. Chairman and members of the Committee, I am Robert Brenner, Acting Director, National Highway Safety Bureau, and am pleased to appear before you today to highlight the implementation to date of the National Traffic and Motor Vehicle Safety Act of 1966, and to testify with regard to S. 1245, the "National Traffic and Motor Vehicle Safety Act of 1969."

Two and one-half years' experience with the 1966 Act has demonstrated the foresightedness of the Congress in enacting it "to reduce traffic accidents and deaths and injuries to persons resulting from traffic accidents." But operating experience also has shown that the goal will not be an easy one to achieve. Much has already been accomplished toward meeting the mandate of the Congress, but problems have also emerged that were not anticipated at the start of the program. I would now like to summarize briefly some of these perspectives, emphasizing what I consider to be the more significant issues.

MOTOR VEHICLE SAFETY STANDARDS

The most basic provision of the Act requires the issuance of motor vehicle safety performance standards which protect the public against unreasonable risk of death and injury resulting from inadequate design, construction, or performance of vehicles. The Department has already issued a substantial number of vehicle safety standards or amendments, and development work is in progress on some 50 additional rule-making action.

With the permission of the Committee, I would like to submit for the record one list of the Federal motor vehicle safety performance standards and selected regulations issued as of March 10, 1969, with a summary description of each, and another list of issued and pending rule-making actions for new safety standards, for amendments to existing standards, and for proposed consumer information regulations.

The initial standards had to be based upon standards that were already in existence at the time the law was passed. Additional standards that were issued the following year, although no longer bound by the statutory requirement, nonetheless were largely limited to comparatively simple safety features that could be treated within the state-of-the-art, and without very much, if any, laboratory or field testing.

Standards have not as yet been issued for many important aspects of vehicle safety such as vehicle stability and handling which embrace substantially more difficult technical problems than those related to the initial standards. Some of these are well along in rule-making and

will be issued this year. However, rule-making in many important aspects of vehicle safety cannot be completed until research produces answers to as yet unsolved problems. It is unmistakably clear that in the development of future standards to keep current with the technical advances now taking place in the industry, the Department will have to enter new and complex fields of safety research for which there presently is limited, if any, experience or scientific information.

OTHER ISSUES RELATING TO NEW VEHICLE SAFETY STANDARDS

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Cost and Lead Time: The Bureau now has a new organizational unit whose primary responsibility is for all work in this important aspect of rule-making. However, staffing limitations have prevented this office from assuming such responsibility.

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Certification and Labelling: The Department recently issued regulations defining how certification requirements for motor vehicles and motor vehicle equipment under Section 114 of the Act must be met. These regulations also provide consumer information in accordance with Section 112 of the Act. The regulations, which will be applicable to products manufactured after August 31, 1969, specify the location and content of certification labels and specifically require identification of the actual manufacturer and the month and year of manufacture. There are a number of pending petitions for reconsideration of these regulations.

More detailed descriptions of each of these issues and related activities can be supplied if the Committee so desires.

CONSUMER INFORMATION REGULATIONS

Before discussing some aspects of the Bureau's program to evaluate manufacturers compliance with Federal standards, I would like to mention that the Department has initiated a comprehensive program to develop, issue, and enforce consumer information regulations requiring the motor vehicle and equipment manufacturers to make certain information available to the purchasers of new motor vehicles.

Goals include promoting improved vehicle characteristics through competition in the marketplace, providing the consumer with meaningful data on vehicle safety characteristics to permit him to make an informed choice, and providing the consumer pertinent information to guide him in the safe operation of the vehicle of his choice.

Three regulations were issued on January 17, 1969, covering passenger car Stopping Distances, Tire Reserve Load, and Acceleration and Passing Ability. Petitions have been filed by manufacturers objecting to these regulations and these petitions are now under consideration.

There are eight additional actions on proposed consumer information regulations on which comments were due on March 10. These comments are being reviewed and analyzed, and as appropriate, consumer information regulations will be issued.

COMPLIANCE

The purpose of the compliance testing and review program is to determine whether vehicles and equipment manufactured after the effective date of the safety standards, and sold in the United States, do, in fact, conform to these standards. This regulatory function is critical to assuring that the manufacturer's representation to the public that the vehicles and equipment they purchase contain the safety protection required in the standards.

To illustrate the nature of the compliance testing program, I would point out that the standards are issued generally in the orientation of performance (in contrast to design) criteria. The performance requirements are described in the form of various types of tests, the results of which indicate whether the standard has been met. Upon performing these tests, the manufacturer is in a position to provide the certification of compliance. The Government subsequently, in its compliance evaluation program, must perform corroborative testing or evaluations of manufacturers test data. A large number of different types of tests are required by the standards. They include:

1. Visual Inspection - verify that an item exists or that it meets specified physical characteristics, simply by examining it without tearing it down.

2. Teardown - verify that the parts of a subsystem meet specified physical characteristics by tearing the subsystem down and examining it.

3. Measurement - determine the dimensions, weights, or quantity of an item or the distance and angles between items.

4. Mathematical Analysis - determine what would happen to an item under specified conditions by using an appropriate mathematical model.

5. Environmental - expose an item to a test chamber or other device which stimulates temperature, humidity, salt spray, bright sunlight, dust, vibration or other conditions of climate and environment, and determine effect on item.

6. Laboratory Destructive - determine the physical, optical, or chemical properties of an item or equipment, using testing devices. This type of test includes the application of stresses which could result in damage or destruction.

7. Laboratory Nondestructive - determine the physical, optical, or chemical properties of an item or material using testing devices in tests which will not subject the test object to potentially damaging stresses.

8. Performance Under Simulated Conditions - operate an item in a test stand or device other than the vehicle in which it is normally installed.

9. Performance Under Actual Conditions - operate an item in its normal location on a vehicle.

10. Crash - run a vehicle into an object or strike it with an object.

In principle, corroborative testing and evaluations by the Government should encompass samples from all types of motor vehicles, and equipment that must comply with Federal standards. The practical impossibility of meeting this requirement is amply illustrated by the scope of the testing workload in relation to gross vehicle population numerics:

- 131 different tests are specified for the 1968 requirements for passenger cars alone
- some 500 domestic and foreign passenger car models are introduced in the United States each model year
- there are 47 domestic passenger car manufacturing locations, 53 truck producing plants and 6 for buses. The analogy for imported cars would be harbors and airport ports of entry.
- in the vast automotive parts manufacturing aftermarket, estimates are 1,500 leading companies and up to a possible 30,000 parts plants.

It is evident from the foregoing that a fully comprehensive compliance testing program of the 10 million vehicles produced in the United States each year would require enormous efforts far beyond the resources of the Bureau. Therefore, the Bureau is directing its compliance efforts to those areas in which indications are obtained of significant non-compliance problems. For example, a test of a limited number of tires for compliance with standards indicated 72 failures on 38 individual tires. Because of the high rate of failure experienced, it became obvious that a potentially large area of non-compliance may have been uncovered. The Bureau, therefore, scheduled an additional 1900 tires for testing.

Even with the present compliance program, significant results have been achieved. For example, with 680 compliance tests completed as of December 31, 1968, there were 79 indications of failure or about 11%. With this experience I believe it essential for the Bureau to be able to effectively handle instances of non-compliance and of safety related defects.

Although some of the compliance work can be, and is being conducted by analysis of manufacturer test data, the heart of the Government compliance program must center on independent corroborative testing by the Government. In the absence of Government facilities for these purposes, the Bureau has been utilizing industrial testing laboratories. In this regard, the Bureau issued contracts with eight independent testing laboratories to conduct the

wide variety of required compliance tests on a total of 73 vehicles, including seven imported models. In addition, 6,043 pieces of vehicle equipment were scheduled for testing by the laboratories on such items as safety belts, brake hoses, tires, door latches, lights.

All standards effective in 1968 were subjected to some compliance testing or surveillance. To date only a very small fraction of the approximately 500 new make-model combinations of passenger cars have been checked even once, and thus represent an almost insignificant percentage of the millions of vehicles produced.

It is important to note that imported vehicles that enter the United States after being sold in other markets must comply also with the Federal safety standards. Coordination was initiated with the Bureau of Customs of the Department of Treasury to enforce the regulations issued jointly by that Department and the Department of Transportation to control the importation of vehicles into the United States. Two professional Bureau staff are assigned to this task.

In addition to the laboratory testing that can be conducted with outside contractors, the Bureau has established correlated activities including the:

- analysis of technical and performance data in support of certification requested by the Bureau from selected manufacturers.
- review of news article complaints, limited field investigation, and coordinated action with the Bureau of Customs in support of jointly issued importation regulations.

The results of the Bureau's compliance program are just beginning to come to the public attention. In the limited testing and correlated data analyses to date, in excess of 100 indications of potential non-compliances have been identified; 72 of these non-compliance indications relate to Standard 109 (tires). A total of 84 potential import violations are also under investigation.

To date, two tire companies have initiated programs at the request of the Bureau to recall tires in a specific size and line after the Bureau discovered in its testing program a significant number of failures for each one. Consideration is being given at the present time to the imposition of civil penalities provided in the Act for violations of the standards on tires.

Based upon the experience to date, the Bureau fully recognizes that it has as yet hardly scratched the surface of what an adequate compliance program should entail in an effective regulatory program. The fact that significant numbers of potential non-compliance indications have already emerged with this modest effort only serves to emphasize the results which can be achieved. Improvements could be made if the Government had a facility where tests could be conducted to ensure compliance with safety standards. Without a Government facility, the Bureau, will have to continue to utilize independent testing laboratoreis which, in some cases, have to use makeshift arrangements to conduct many of the corroborative tests.

The testing conducted by these laboratories for the Government has been largely satisfactory to date, but the possibilities of at least appearance of conflict of interest must be recognized as long as these firms are also conducting standards testing for industrial clients. A Government-owned or at least a fully Government controlled compliance facility would provide the Bureau with the opportunity to improve its regulatory responsibilities, as well as to undertake additional traffic safety and motor vehicle safety research.

DEFECT NOTIFICATIONS AND RECALLS

More than 11.9 million vehicles have been the subject of manufacturer safety defect notifications and recall campaigns from the start of the program in September 1966 through March of this year. The staggering magnitude of this volume of new vehicles potentially with safety related defects is mute testimony to the importance of this provision of the law. Section 113 of the National Traffic and Motor Vehicle Safety Act of 1966 requires a motor vehicle manufacturer to furnish purchasers with notification of safety-related defects he discovers in his motor vehicle products. Notifications of defects must also be furnished to the Department of Transportation. While the Act does not specifically require recall or repair, public defect notification has led manufacturers generally to recall vehicles and equipment suspected of being defective in order to inspect for and correct any defects which exist.

The Act requires notification be sent by certified mail to the first purchaser and to any subsequent purchaser to whom any warranty has been transferred on such motor vehicle or motor vehicle equipment. As a contribution to the hearings held by the Federal Trade Commission for early 1969 on warranty provisions and the recent reductions by manufacturers in warranty coverage, the Bureau asked the Commission to consider whether such reductions might restrict the number and extent of defect notification and recall campaigns.

In all, since the start of the program, manufacturers announced 369 safety-related notification and recall campaigns, involving more than 11.0 million domestically produced vehicles and approximately .9 million imported vehicles. Such information, as well as brief descriptions of the individual defects discovered, are tabulated by make and model and reported quarterly by the National Highway Safety Bureau. These reports are available in single copies from the Bureau and in multiple copies for sale through the U.S. Government Printing Office.

The Bureau is responsible for independently conducting tests and investigations to identify potential defects, to inform manufacturers and the public of defects which are discovered, and to monitor the effectiveness of notification campaigns, including the completeness and timeliness of defect discovery and notification, the extent to which all purchasers are notified, the degree of owner response, and the quality of defect inspection and correction by dealers and garages as prescribed by manufacturers' bulletins.

Because the Bureau does not have a testing facility where testing for potential defects can be conducted, the responsibility for learning of defects is heavily dependent on being alert to complaints received from independent sources such as letters from consumers and Congressmen, reports from other Government agencies, and articles in newspapers and magazines. To the extent possible with existing

staff, a few field investigations of possible safety-related defects are being made in response to consumer complaints and other reports. These investigations are confined to the potentially most significant cases in terms of hazards to traffic safety. In all, about 2-1/2 million vehicles or about 23% of the total of all vehicles recalled were directly prompted by Bureau actions, resulting primarily from follow-up on published articles and owner complaint letters.

The Bureau is, with the assistance of the Bureau of the Census, conducting a defect notification recall campaign survey. A questionnaire has been designed to solicit responses from vehicle owners for determining the percentage of owners who respond to a campaign within specific periods of time and the owner satisfaction with the dealer service provided. The results of this survey will be used in the Bureau's continuing audit of the data requested by the Bureau and provided by manufacturers on campaign effectiveness and for developing recommendations for improvement in notification procedures.

The Bureau is also completing plans for a demonstration project, using an on-line, real-time, information retrieval system for storing defect notification and other vehicle data to enable a motor vehicle inspection station to correlate quickly the make-model-year of an automobile presented for inspection with specific defect notification campaigns. This program will also assist in the development of procedures for the discovery of potential difficult problems.

The importance of the defects notification aspect of the law is illustrated in the following: On March 18, 1969, General Motors Corporation, after consultation with the Bureau, announced that it would begin to notify owners of certain passenger cars and school buses to return them to their dealer for correction of possible braking malfunctions which might result in a safety hazard. 10,450 1967 and 1968 model school buses were involved in this recall campaign. The possibility of a safety defect in the braking system of these school buses was established through investigations by the Bureau and by the manufacturers, of a school bus crash in November 1968 in which one child was killed and twenty-one injured.

The importance of the defect aspect of the Bureau's overall safety effort cannot be overstated, nor the importance of this service to the American public. The level of help that can be provided will, however, depend upon resources.

TIRE SAFETY

Motor Vehicle Safety Standards for New Tires

Effective January 1, 1968, Standard No. 109, "New Pneumatic Tires - Passenger Cars," specified the compliance requirements for tire dimensions and performance involving bead unseating resistance, strength, endurance and high-speed tests. It also defined tire load ratings and specified labeling requirements. Also effective January 1, 1968,

Standard No. 110, "Tire Selection and Rims - Passenger Cars," specified requirements relating to vehicle load distribution on the tires and retention of the tire on the rim during blow-out.

In June 1968 the Bureau contracted with three commercial testing laboratories to evaluate tires against the requirements of Standard No. 109. We now have five contractors. We expect to add three more contractors by June 30, 1969.

As of February 26, 1968, 414 complete Standard No. 109 tests had been conducted. There were 72 failues on 38 individual tires as follows:

High Speed	-	21
Endurance	-	21
Physical Dimension	-	14
Strength	-	15
Labeling	-	1
Total		72 Failures

These failures are indicative of potential noncompliance with the standard. As a result, an additional 1900 tires have been scheduled for testing to individual phases of Standard 109 in addition to the token tire compliance program originally scheduled for 1968. It is anticipated that these tests will be completed by June 30, 1969.

To date, these tests have resulted in the recall of about 10,000 Mohawk 7:34-14 Airflo Tires, approximately 42,000 General

9:00-15 Safety Jet Tires, and approximately 31,000 General 8:15-15 General Jet Tires. Because the tire manufacturers and dealers do not maintain the names and addresses of purchasers, they are unable to locate owners except by publicity. There is a need to require the tire manufacturers to develop a method for notifying the purchaser of defective tires.

Regrooved Tires

On January 24, 1969, a regulation was published setting forth the conditions under which regrooved tires would be allowed to be sold, offered for sale, introduced for sale, or delivered for introduction into interstate commerce. At the request of the National Association of Motor Bus Operators and others, the effective date of this standard was extended from February 28, 1969 to April 1, 1969. A complaint and a motion for a preliminary injunction have been filed in the U.S. District Court for the District of Columbia seeking to enjoin the enforcement of these regulations and have them declared invalid.

The regulation specifies that:

1. Tires may be regrooved only if designed for such purpose
2. The maximum and minimum width of the groove
3. The minimum length of groove required for a safe level of traction
4. A minimum of 3/32" of undertread
5. The regrooved tire must not contain safety-related defects

Uniform Quality Grading

Because of technical difficulties, we have not been able to meet the time requirement of the Act for issuance of this consumer information standard for tire quality grading. To date we have found no suitable test procedures for the grading of endurance, treadwear and traction. The issuance of this standard depends on the analysis of the information the Bureau has requested recently from the motor vehicle and tire industry, the evaluation of tests that have been conducted by other Government agencies, and the results of research underway for several months and continuing at the National Bureau of Standards under contract to the National Highway Safety Bureau. It is anticipated that issuance of this standard will be delayed until at least one year from now.

USED CAR SAFETY

In June 1968, the Department submitted to Congress a report, entitled "Safety for Motor Vehicles in Use." The report concluded that an estimated half of the 94 million motor vehicles in use today are deficient in one or more aspects of safety performance. These deficiencies are due to normal deterioration with use, improper maintenance and inadequate design or faulty construction. These deficiencies undoubtedly play a role in causing highway crashes, but there is inadequate data on the cause and effect relationship. Routine crash investigation often

overlooks vehicle failures. In some cases, the extent of crash damage misleads investigators to think a defect -- if discovered at all -- is the result of the crash rather than its cause.

There is the further requirement in Section 108 (b) that after submission of the report to Congress, the Department issue safety standards for vehicles in use, after consultation with the National Motor Vehicle Safety Advisory Council and interested public and private organizations. On November 26, 1968, the Federal Highway Administrator initiated the rule making procedures for these standards by issuing a Notice of Request for Comments. In his request for comments, the Administrator asked that particular attention be focused on feasibility and effective means of enforcement for such standards. Comments were due February 26, 1969. The National Highway Safety Bureau is beginning to compile and analyze the comments. Several inherent difficulties are now apparent in rule making on used vehicle standards: first, the degree of danger or criticality in individual deficient parts, second the probability or frequency of part failures, and third, the cost of repairs in relation to the resulting safety improvement. Because there are no precedents for these types of rule making decisions, the Bureau cannot estimate reliably when final rules will be issued.

A principal conclusion of the report to Congress on used vehicle safety is that periodic vehicle inspection programs are needed in every State in order to determine compliance with Federal standards for used vehicles. One of the standards for State and community highway safety programs issued by the Department under the Highway Safety Act of 1966 requires as a minimum that every vehicle registered in a State be inspected at the time of initial registration and at least annually thereafter or at such other time as may be designated under an experimental, pilot or demonstration program approved by the Secretary of Transportation.

The Department of Transportation views with considerable concern recent moves reported in several States to repeal or reduce newly enacted inspection programs. The issue also is involved in the 5 States which have no vehicle inspection programs at all and in the 14 States which currently have only random or local option inspection programs. The Bureau therefore is attempting to communicate to these States the full effect upon safety of used vehicle deficiencies and that the establishment of minimum vehicle inspection programs can only be the beginning of an adequate program to counter these deficiencies. The emphasis, as described in the report to Congress on Safety for Vehicles in Use, is that adequate inspection in all States could reduce current annual vehicle crash fatalities by anywhere from 3,000 to 6,000 lives.

Further study will be required for new and stronger programs for used vehicles beyond the planned issuance of initial standards. Current or programed research addresses such questions as dealer and garage repair practices, training and licensing of mechanics, quality of replacement parts, and owner maintenance practices.

Equally important is the interaction between new and used vehicle standards. Design of new vehicles should consider the reliability of extended performance; used vehicle safety can and must start on the new vehicle drawing board, and future standards for new vehicles could offer the used motor vehicle purchaser or owner greater safety and economy.

RESEARCH AND DEVELOPMENT PROGRAM

Both Acts administered by the National Highway Safety Bureau mandate research, testing, development and training. While one Act is directed largely toward motor vehicle performance standards and the other Act toward State and community highway safety programs standards, programs under both laws share a large body of knowledge. Motor vehicle and highway safety research must be approached from a total systems point of view.

The Bureau's unified research and development program is directed toward accelerating and expanding the scientific and technical knowledge necessary to:

a. Develop safety performance standards relating to new and used motor vehicles and equipment.

b. Develop techniques of conducting accident investigations and improvements in the collection and analysis of driver, vehicle, accident, and injury information.

c. Provide guidance and assistance to State and local levels in the implementation of highway safety standards.

To prevent accidents, reduce human loss in accidents which do occur, and improve post-crash recovery, the program must focus on man, vehicle, environment and the interactions among these three elements.

A list of our FY 1968 contracts for research and development can be provided separately if the Committee so desires. Here I would like to summarize briefly two important parts of the program, namely, accident investigation and information analysis programs, and the development of the experimental safety vehicle. More detailed information on each of these can also be supplied if so requested.

The most fundamental research need in support of all programs of the Bureau is to establish the relationship between causes of crashes and the effects on the human occupants and pedestrians. Although it is possible to develop standards with limited knowledge in this regard, after the more obvious type of standards have been issued, additional standards cannot be chosen with reasonable confidence of their real payoff in the reduction of deaths, injuries and property damage. Consequently, without adequate knowledge of what failure under what conditions caused an accident with measurable losses, it becomes very difficult to assign priorities to the standard setting process, and likely that important safety requirements are overlooked while less serious features become the subject of rule-making.

Accident causation research of the type described requires the combined skills of physicians, engineers, psychologists, chemists, meteorologists, traffic engineers and similar professionals each of whom contributes a segment of knowledge to the explanation of the accident.

The Bureau has under contract 6 medical engineering teams, at the University of California at Los Angeles, University of Rochester, Boston University, Georgia Tech, Tulane and Baylor. A seventh team under the aegis of the Maryland Medico-Legal Foundation is operating in the Baltimore area.

Seventy-two in-depth accident investigations were conducted by these teams during 1968. As a result of these investigations 21 recommendations involving motor vehicle safety standards were made. One new team is planned for FY 1969 and twelve are planned during FY 1970. This will involve training of teams, field testing, and in-depth studies of about one accident per week per team, or about 1,000 studied during FY 1970.

Supporting these in-depth investigations are the State and local bi-level accident investigation teams, enlarging upon routine police investigation. Currently eleven State investigative teams consisting of a trained police officer and a traffic engineer are active in Pannsylvania. This program will be expanded through the use of grants in aid to the States under the Highway Safety Act of 1966.

Once date relating to the vehicles are collected, their significance can be ascertained only by extensive analysis and comparison with similar data from other accident investigation teams and with laboratory data.

An automated information analysis system is required to do this efficiently and to give the field teams investigating accidents access to data than may be needed for comparison with those obtained at the scene of the accident.

The Bureau's accident and injury information program involves the acquisition of existing data from many sources, and the long-range design of network systems to derive more adequate, compatible and valid data at all levels. An important part of this system is the already functioning National Driver Register Service whose purpose is to assist licensing officials in each State in locating the records that problem drivers may have established in other States. The Register currently maintains the names and descriptive data of drivers whose licenses have been denied, suspended, or revoked for any reason other than a denial or withdrawal of a license for less than six months because of a series of non-moving violations. The NDRS currently contains the records of 1.9 million drivers, receives approximately 65,000 inquiry checks daily from the States, and an average of 2,500 new records daily.

Another aspect of this research program that I would like to mention briefly here is the experimental safety vehicle program, which is an important part of the Bureau's systems approach to traffic and highway safety. This program will accelerate the development of

advanced safety concepts that can be adpated to production models . Preliminary reports on design alternatives have been received from three contractors and are now being evaluated pursuant to selection of an alternative for prototype design, construction and testing in fiscal years 1970 and 1971.

HIGHWAY SAFETY RESEARCH AND TEST FACILITIES

The National Traffic and Motor Vehicle Safety Act of 1966 directed that the LSecretary study the need for facilities to conduct research, development and testing in traffic safety, including an inventory of existing facilities that might be used for this purpose. The report submitted to the Congress on October 7, 1968, recommended the use of existing facilities in lieu of new construction wherever economically and technically feasible. The report:

- Identified existing facilities that could be modified, including the Federal Aviation Administration Aeronautical Center, and the Bureau of Public Reads Fairbank Research Station.
- Included a Master Plan for acquisition and construction of facilities.
- Recommended the construction of two new facilities:
  - Vehicle and Highway Safety Proving Ground
  - Driving Simulation Laboratory

The proposed Proving Ground would consist of vehicle and driver test tracks, a high speed loop-track, and special facilities such as skid pans, a handling and evasive maneuver facility, urban street complexes, a vehicle barrier impact facility, and a waterescape facility. The proposed Driving Simulation Laboratory would provide a resource to determine how drivers respond to outside factors, providing a real-time correlation of the vehicle and its control with visual, motion, and noise elements of the

environment. The laboratory approaches would provide new, scientific insights into why drivers behave as they do in both normal and stress situations and would greatly accelerate the development of effective counter-measures.

As described in the report, an authorization of $10 million, to remain available until expended, is requested for planning and development of detailed designs and more refined cost estimates for the facilities program.

NATIONAL MOTOR VEHICLE SAFETY ADVISORY COUNCIL

The last topic which I would like to discuss deals with the National Motor Vehicle Safety Advisory Council. It is essential that the Department's standards and other related actions respond to the immediate needs and concerns of the general public whose welfare the program is mandated to protect. Therefore, the vehicle safety program purposely has been made receptive to the ideas and views of consumers as well as those of industry and technical experts. A primary avenue of communication is provided by the National Motor Vehicle Safety Advisory Council, created by the Act with a majority of members representing the general public to advise the Secretary of Transportation.

I would like to submit for the record a list of the present membership of the Council, which was expanded in 1968 from its original membership to 17 to 22.

The major work of the Council, which met seven times in 1968, was on standards development and compliance and the proposed consumer information regulations. The concept of consumer information regulations was first endorsed by the Council in 1967. After receipt of comments to an Advance Notice of Proposed Rule Making from industry and the public, the Council met in November 1968 to discuss the major relevant issues and recommended that the Department move expeditiously to publish detailed and specific proposals for consumer information so that they would be implemented on a feasible basis. This was subsequently accomplished.

Recommendations of the Council already implemented by the Bureau deal with tire standards, certification and importation regulations, research, and temporary exemption for small volume manufacturers, and film dramatization of crashworthiness features for mass distribution.

CONCLUSION

In conclusion, the National Highway Safety Bureau plans and programs are long range in nature and have been designed as a comprehensive attack on the problems of highway safety. Only as these plans and programs are brought to bear over a period of time on the full spectrum of highway and traffic safety problems can the appalling toll of traffic deaths and injuries be expected to decline. Some of the Bureau's programs are encompassed in the following long-range efforts:

1. Continue to broaden the scope of new vehicle performance safety standards and consumer information regulations with due consideration of cost and leadtime factors.
2. Extend the orientation of all standards from product performance at time of manufacture to performance after continued use.
3. Expand vehicle and tire compliance activities, with regard both to manufacturer conformance with Federal safety standards and to maximum effectiveness of manufacturers' safety related recall campaigns.
4. Direct increased emphasis to the development of safety standards for vehicles in use.

5. Establish procedures and guidelines to insure minimum acceptable safety levels and standards compliance for the 100 million vehicles in use by inspection, repair and maintenance techniques and other methods in line with the likely availability of Bureau resources.

6. Improve the quality of accident investigations through the increased use of field team investigations and procedures so that proper data can be developed at the source for use in a comprehensive accident investigation system.

7. Conduct research essential to these programs. In addition, develop research and testing facilities that will enable the Bureau to (a) undertake realistic, full-scale research, development and testing of vehicle safety performance and (b) evaluate total driver performance safely under complete simulation of high risk driver-vehicle-highway interactions.

We believe that a good start has been made in a number of these areas. But we also know that much remains to be done, and that much more can be accomplished if this program is supported adequately with personnel authorizations, funds, and facilities. Long range planning estimates through fiscal year 1974 are being drawn up by program elements which will carry forward the efforts now underway and encompass additional efforts. These additional efforts will apply the large scale corrective measures which are required if the national tragedy of highway death is to be brought under control.

Testimony of

ROBERT BRENNER

Acting Director
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on

Pending matters relating to the Highway Safety Programs

Prepared for delivery before the Subcommittee
on Roads of the House Committee on Public Works

May 22, 1969

Mr. Chairman and Members of the Subcommittee:

Introduction

I am Robert Brenner, Acting Director, National Highway Safety Bureau. I am pleased to appear before you today to highlight our efforts in carrying out the provisions of the Highway Safety Act of 1966.

The Act mandates Federal leadership and grant support to States and local communities to improve their highway safety programs. It is the companion legislation to the National Traffic and Motor Vehicle Safety Act of 1966 which calls for the establishment of Federal motor vehicle safety standards. The two Acts have the same overall

objective of reducing the frightful toll of fatalities and injuries on the Nation's highways, and, as I will describe in greater detail later, are interrelated in a number of essential elements.

Two and a half years of experience with both Acts has shown the foresightedness of the Congress in launching this two-pronged attack on a major national problem. Much has been accomplished in this start-up period, but problems have also emerged that were not anticipated at the time the legislation was enacted. I would like to summarize briefly some of these accomplishments and problems, all of which are described in substantial detail in the Second Annual Report on the administration of the Act recently submitted to the Congress.

General Overview

The program of Federal leadership and assistance to State and local communities in highway safety called for in the law was long overdue and, when enacted, was without exact precedent. Invaluable guidance to the Bureau in its implementation was provided by the extremely comprehensive Report No. 1700 prepared by this Committee, to accompany its submission of H. R. 13290 to the Congress. I continue to refer frequently to this Report, and find that the principles and goals that it delineated and the problems that it anticipated still maintain today -- almost three years later. Permit me to quote one particularly passage:

> " Safety has become this year's most popular crusade, which is all to the good, but accident reduction is quite another matter. Well-meaning and public spirited citizens, including influential public officials, differ in good faith as to what course is best to follow under the circumstances. Everyone is eager to participate in the safety dialog, but there is a curious reluctance to face up to and shoulder the actual burden of reducing highway accidents. As the National Safety Council has so realistically remarked, the real test is how much safety will actually emerge from all this talk. The answer, for the immediate future, is what it has been for 50 years -- only so much as the individual citizen is determined it shall be. The cold-blooded fact is that it may be too late to do anything about the 50,000 people who are going to die this year, and probably those who may die next year, and perhaps even the year after.
>
> But, if we insist now upon a mandatory program, we may be able to keep more and more of our parents, and our husbands, and wives, and our children, and our friends, and ourselves, alive in the years after that."

A great deal of spadework had to be done to lay a proper foundation for the program of the scope called for in the law. Almost all of the specifics of the initial program substance are now either issued and in effect or are in the final stages of preparation. To cite the major elements:

Standards

16 program standards have been issued to date, after extensive consultation with the States, advisory groups, and the country's leading experts.

Program Manual Volumes

In accord with the legislative history, each standard is stated in broad terms of performance goals and objectives. To aid the States in implementing the standard detailed working guidelines, one for each standard has been prepared, again in consultation with the States and the country's leading experts. The 15 volumes issued to date are contained in an imposing 851 page document; two more volumes are now in final stages of review.

Administrative Procedures

Procedures for administering the matching Federal grant program to the States have been developed and are in operation.

Base Year Computation

Procedures which the States follow to establish their base year level of program activity have been completed.

State Needs Study

The States have completed their initial estimates of the funds needed to implement the newly established Federal standards. The results are summarized in our report submitted last year to the Congress in accordance with Sec. 207 of the law.

Although they participated fully and contributed substantially to the development of these foundation materials, the States have moved ahead on a broad front to implement the basic intent of the law without waiting for these materials to be finalized. This undoubtedly is one of the most encouraging signs of progress since the enactment of the law, and I shall presently cite some selected examples of results.

But the unpleasant reality which we discuss in our recently submitted Annual Report is that ". . . Death on the nation's highways hit an all time high in 1968, when an estimated 55,500 people died in motor vehicle crashes." The Report proceeds to state: ". . . It is difficult, if not impossible, to estimate accurately what the tolls would have been were it not for some positive gains that can be

attributed directly to improved motor vehicle safety performance and to the accelerated attention and emphasis of the States to their highway safety programs. But the inescapable conclusion must be that the new programs in the two years since passage of the long overdue landmark legislation have not as yet begun to reverse the upward trend in death tolls."

". . . Stated otherwise, the problem is worsening more rapidly than the capability of countermeasures thus far implemented to deal with it. If unchecked, motor vehicle crashes will produce at least a quarter million fatalities on our highways in the next four years, reaching an aggregate total in 1972 of 2 million deaths since 1900."

While we know that specific measures already initiated under the new legislation are producing results, we also recognize that gains apparently are being outdistanced by a number of factors which tend to make the problem worse. We do not understand all of the cause-and-effect relationships in this complex situation, but some important conclusions can be drawn from evidence which has become available recently.

Alcohol

Most importantly, we now know that the use of alcohol by drivers and pedestrians is a factor present in upwards of 25,000 deaths and in more than 800,000 crashes in the United States each year. A large number

of those killed in such crashes are passengers or drivers who had been drinking or occupants of cars rammed by these drivers. Many adult pedestrians hit by vehicles are under the influence of alcohol.

This evidence was detailed in a report submitted by the Department to the Congress in August 1968, as required by the Highway Safety Act of 1966. The report recommended a number of procedures to deal effectively with the problem of drinking and driving. Later on I will outline some of the positive actions, in keeping with the report recommendations, which have been taken by the States with the assistance of the National Highway Safety Bureau to deal with the drinking driver problem. But we also note what only can be considered as a negative factor, namely, an 8 percent increase occurred in the per capita consumption of distilled spirits between 1965 and 1967.

Speed

A second negative factor is that the number of vehicle miles being driven at high speeds is increasing, as is the average speed itself. The percentage of vehicles traveling at speeds above 60 miles per hour has tripled in the last 7 years. Although it is difficult to document, we strongly suspect that, with all other factors the same, the likelihood of an accident increases with excessive speeds, but there is no doubt that a crash at higher speeds is more likely to produce death or severe injuries. A corollary factor is the increase in number of vehicle miles traveled in the United States which has been going up at a

rate of about 4 percent annually in recent years. To put it simply, more peopled are driving more cars over greater distances at higher speeds.

Vehicle Condition

The Department submitted a report to the Congress in 1968 entitled "Safety for Motor Vehicles in Use" which highlighted another major factor contributing to the grime statistics. The report estimated that about half of the 94 million motor vehicles in use are deficient in one or more aspects of safety performance due to deterioration with use, improper maintenance or inadequate initial design or fabrication. Clearly, some of the safety deficiencies, such as faulty brakes, make a crash more likely, if not inevitable.

To the best of my knowledge, no one as yet has established the full role of unsafe vehicle condition in the accident picture. Reliable statistical data are not available on as patently obvious a safety need as good brakes. But although there are no research data correlating bad brakes to accidents, one would hardly venture onto a high-speed road in a vehicle with no brakes!

The problem here is that current, routine crash investigations and reporting often tend to overlook or understate the role played by vehicle factors in causing crashes and casualties. Most investigations are conducted by law enforcement people who focus on the traffic

violation aspect of the accident. In some cases the extent of the damage is likely to mislead investigators to think a defect -- if discovered at all -- is the result of the crash rather than its cause.

To fill in this gap of accident information, the Department has undertaken a comprehensive multi-faceted program to upgrade accident investigation and data analysis by the States. Another major element of this program is the establishment of about 20 specially trained multi-disciplinary teams, 7 of which are now in operation, to conduct in-depth studies of accident causation. The development of a national accident data network, which is now in the design stage, will also provide the basis for relating vehicle defects to vehicle crashes.

The urgency of the problem, however, has required immediate action in advance of hard scientific evidence establishing the association between the safety condition of motor vehicles and accident and death rates. Accordingly, the Department has strongly endorsed periodic motor vehicle inspection by the States of all vehicles in use on its public thoroughfares, better training of inspection personnel, closer supervision of inspection stations, and more detailed investigations of complaints.

Finally, in enumerating the factors which tend to negate the effectiveness of the measures taken to counter the rising number of crash fatalities, I would like to note that relatively few automobiles

are as yet equipped with the new safety features prescribed by motor vehicle safety standards. The average lifetime of vehicles is such that some cars manufactured in 1967, without the features required by Federal standards, will be on the roads until 1983. Even in 1975, almost 60 percent of the pre-1968 automobile population will still be in use.

Thus, we believe that alcohol, speed, and vehicle condition are important factors contributing to the discouraging death statistics for 1968. We are also studying other factors such as the increasing number of small cars now being driven on the Nation's roads. I presently shall describe some of the specific countermeasures that have already been taken, and that we plan to expand.

Effectiveness of Countermeasures

Despite the discouraging data for 1968, there are some encouraging indications that the programs initiated by the Department under the broad mandate of the law are beginning to take hold. In the 5 years preceding the passage of the two safety laws, highway deaths were increasing at an average of 6.9 percent each year. In the two years following passage of the law, this measure was down to a 2.3 percent annual average increase even though vehicle registration and mileage were up 6.4 percent and 8.6 percent.

Another very promising indicator, derived from data obtained from one insurance company covering four widely separated States, is that a sharp reduction is taking place in the number of casualties

per crash. For example, while the number of crashes and casualties increased slightly in Illinois during the first 7 month period of 1968, casualties per crash were down 3 percent.

This downturn in the number of casualties per crash is particularly significant to the Bureau in light of the general approach it adopted in organizing for implementation of the Congressional mandate to bring the problem under control. The problem clearly was highway deaths and injuries, and the challenge was to bring about sizeable reductions in these totals -- by whatever means worked best and most quickly. Stated simply, our goal is to reduce traffic injuries and deaths. To meet this goal we have identified three principal parts of an all-out attack on the problem:

First, we try to work to reduce those factors that cause crashes to occur.

Second, we are working on ways that, once a crash occurs, will give the vehicle driver and his passengers a better chance of escaping without serious injuries.

Third, we are doing things that will better the chances of the already injured people to later recover. Let me give some examples of this three-part effort to reduce traffic deaths and injuries.

In the first, or accident avoidance attack on the problem, we are working on safety standards which will improve the manufacture of tires. If we lessen the chances of tire failures while driving, we are lessening the chances of a crash. Better designed highways, such as the interstate system of highways, also reduce the chances of a crash -- in fact about halving the rate of traffic accidents on some of the older rural roads. Proper driver education and licensing are among our most important crash prevention programs under the Highway Act. But getting after the problem of drinking and driving is another, if not the most vitally important, crash prevention effort, and countermeasures aimed at reducing the incidence of drinking and driving are among our most important crash prevention programs.

To deal with the second, or crash phase of an accident a number of things have been done. This is to give people a better chance of walking away unhurt from a crash. One Federal standard requires that steering columns collapse on impact in a crash so that they do not spear you through the chest. Another standard requires that windshields be made to cushion and resist penetration of the head striking it in a crash.

But the best known crash protection feature is the safety belt -- both lap and upper torso types now required in all new cars by the safety regulations we have issued. There is absolutely no doubt that safety belts provide a great deal of protection if used -- and I repeat -- if used. Some studies show that minor injuries have been reduced by about 30 percent and fatal injuries by about 80 percent through the use of combination lap belts and shoulder harness. Even for only lap belts, the death rate per crash is only 60 percent of the death rate for occupants who do not wear such belts.

In short, this is a proven lifesaving device. But we even have problems with it, for it is one thing to require seat belts in every new car, but it is another matter to get people to wear them. Perhaps only about 25 percent to 30 percent of the occupants are using seat belts even when they are available. Manufacturers now are required to equip all new cars with these lifesaving safety belts; but we cannot force people to wear them -- this is up to the individual. In this regard in a recent talk to some teenagers I placed this question before them.

> "So I ask you -- the new generation of drivers -- what do you think should be done to 'turn people on' to using proven lifesaving features?"

Let me cite another example of the need to "turn people on to safety." We strongly support and urge helmets for motorcyclists. And this is not based on guesswork either. In 1965 and 1966, the death toll increased by 35 percent in each year. During this period only three States had laws requiring helmets to be worn by motorcycle drivers and riders and we, therefore, urged the States to pass laws requiring that helmets be worn by motorcyclists.

In the two years following the issuance of our standards calling for motorcyclist head protection, 37 States passed laws requiring helmets. Many States also passed laws which require motorcyclists to take special tests before they can get a permit to operate a motorcycle. In the States where the new laws passed, a remarkable decrease took place in the number of motorcycle death rates -- as much as 30 percent in some States. By comparison, some States which do not have these protection and special licensing requirements showed a very sharp increase in motorcycle crash deaths for the same period.

Let's take a look at those statistics again -- from a whopping 35 percent <u>increase</u> in motorcyclist deaths without the safety laws to a 30 percent <u>decrease</u> in these deaths when the laws were passed.

Considering this 65 percent swing in motorcyclist death reductions with motorcyclist safety laws it is difficult to comprehend that no less than 10 States and the District of Columbia still have no motorcyclist safety laws. It is even more difficult to comprehend that legislation has been introduced in several States to repeal motorcyclist safety laws already on the books!

Returning now to the third part of our three-part attack on reducing traffic deaths. Once people are injured in a crash, their chances of living and later full recovery depends directly on how quickly they receive proper medical attention. We are told that while something less than seven minutes goes by from the instant one of our men is wounded in Vietnam to the time medical attention gets to him, in contrast, 45 minutes is the average time it takes to get medical attention to an injured motorist on the Shirley Highway. In many rural areas of the country, hours may go by while an injured motorist lays dying waiting for medical attention to reach him.

Various types of emergency helicopter service patterned after the techniques developed in Vietnam are now being tried out with Bureau assistance in a number of States:

California, Nebraska, Arizona, Minnesota, Michigan, New York; one of the most important is now pending in Mississippi. We also are working on better systems of radio communication for calling for medical aid -- for obviously we have to communicate the need for medical help before it can be dispatched.

These are only a few of the procedures now under development, and which in the years to come will give people a better chance of coming out of vehicle crashes with only minor injuries. The fact that the number of casualties per crash is coming down is a clear indication that the crash survivability phase of our program is working.

These are exciting safety possibilities that we are sure will save life and reduce injuries. But we are even more sure that the best way to avoid injuries still is to stay out of an accident. This adds up to one overriding fact -- the overwhelming necessity for programs directed toward crash avoidance, toward the driver and those who would mix alcohol and driving. Because cars and roads are becoming safer all the time doesn't remove one iota of responsibility off the shoulders of any driver -- teenager or adult -- for safe driving. And the need for a systematic comprehensive approach on the full three-part attack on the problem has never been greater.

Some Examples of Progress in the States

We are now beginning to get some evidence that State efforts made over the past two and one-half years under the Highway Safety Act are beginning to yield significant results. Interestingly enough, this appears to be due to the energizing effect upon the States of the new Federal role in highway safety rather than the limited expenditure of funds to date. Through the issuance of the highway safety standards, the financial support of programs designed to meet these standards, and perhaps most importantly through the requirement for the States to develop a comprehensive highway safety plan, the attention of many State administrations and legislatures has been more sharply focused on highway safety then ever before.

Time does not permit me to describe the programs of the many States that have implemented aggressive all-out efforts. But the case of Wisconsin is particularly revealing.

In the six months ending March 1969, 447 traffic fatalities were recorded in Wisconsin as compared to 578 for the same period one year ago. This means 131 people are alive today who might very well have died if the traffic fatality rate had not been reversed. Since the passage of the Highway Safety Act in 1966, the State has led a determined attack on the problem which could well have made a significant contribution to this reduction in traffic deaths. Some of their efforts include the following:

A counseling service was established which reached 31,000 traffic violators and those involved in two accidents in a year. An evaluation of the effectiveness of the counseling showed that 15,360 persons who were counseled had 1,993 fewer accidents than could be expected.

The State Patrol was increased from 275 to 375 after receiving special training and additional patrolmen assigned to the most heavily traveled roads.

Increased emphasis was placed on motor vehicle inspection with emphasis on tires, brakes, and steering. Laws were passed requiring motorcyclists to take special tests and wear protective helmets.

In September 1968, a law was enacted requiring youngsters under 18 to take a driver-training course before a license can be issued.

Currently, the Governor is working to get legislation to make the use of seat belts mandatory, to raise the drinking age to 21, and to pass an implied consent provision which would require drivers suspected of

drunken driving to take tests to determine whether they are in fact intoxicated.

Mississippi is another State that has made excellent progress in reducing fatalities since the Highway Safety Act of 1966 was passed by the Congress. Since the inception of the Statewide highway safety program in Mississippi, there has been a reduction of traffic fatalities by 16% in 1968 as compared to the previous year. A large part of the State program consists of an improved enforcement effort.

Progress in the Alcohol-Driver Area

Turning to the progress the States are making in working to meet highway safety performance standards, consider Standard No. 8, "Alcohol in Relation to Highway Safety". I have already mentioned the importance that we attach to broadening the scope and number of State activities directed toward reducing highway crashes caused by drunken driving. Since the passage of the Highway Safety Act, 20 States have adopted implied consent statutes and 15 have adopted chemical test provisions or improved existing laws to set more strict presumptive levels for intoxication convictions.

One of the first large project grants made in the alcohol standard area was to the Michigan Department of State Police for the purpose of implementing a recently enacted "Implied Consent Law". The project permitted the acquisition of 188 breath testing machines (65 for use by

police, 63 by city police departments, 48 by sheriffs in larger counties, and 12 for training) and the training of 750 operators in the use of the equipment.

The combination of the new law and adequate implementation and enforcement are getting results in apprehending drinking drivers. The State Police alone reported an increase of 74 percent in the number of their drunken driving arrests. In calendar year 1968, all law enforcement agencies in the State arrested 17,685 persons for drunk driving, of which 3,924 refused to submit to a test and thereby became subject to license action. As to the balance of 13,761 who were tested, 11,367 had blood-alcohol concentration levels of .15 percent or higher, while 1,871 were in the .10 to .149 percent level. The highway safety standard set .10 percent as the percentage level of intoxication.

Progress in Emergency Medical Services

Standard No. 11, "Emergency Medical Services", is another program area that we believe has major potential of quick payoff. Its purpose is to ensure that victims of traffic crashes receive prompt and adequate emergency care through the establishment of a comprehensive system which includes the necessary emergency equipment, manpower, and facilities.

Since enactment of the Highway Safety Act, at least 12 States have enacted new laws giving counties and municipalities authority to provide ambulance services in the absence of adequate private facilities. They also provided for licensing and regulation of ambulance drivers.

Projects have been supported with financial grants in 39 States. These projects have involved training of personnel, emergency service licensing, helicopter/ambulance operation, and the development of comprehensive plans. Cooperative arrangements have been established with the Department of Health, Education and Welfare and with the Coast Guard to provide more effective use of helicopter capabilities.

Progress in Driver Education

The purpose of the driver education standard is to upgrade driver performance through proper training and education of teenagers and adults alike in safe, efficient, and courteous driving. About $9 million in Federal funds have been obligated for this program since passage of the Highway Safety Act which is more than has been obligated for any other highway safety program.

Projects funded to date provide for the expansion and improvement of existing courses of instruction for young people, in-service training for

driver education teachers, and procurement of simulation equipment and off-street facilities.

The Greater Minneapolis Safety Council has reported an interesting study which examined the driving records of 94 persons who were required to attend driver-improvement classes in which their driving violations before and after attending the courses were compared. It showed a 69 percent reduction in violations following the training. However, this study shows the inadequacy of much of the information available to date on the effectiveness of driver training. We really don't know, nor does the Minneapolis study show, whether training courses of this nature for traffic violators are more effective than the conventional ways of dealing with violators through fines, license suspension, jail sentences, etc.

Many other questions on driver education of a similarly highly pragmatic nature remain unanswered -- at least without hard scientific facts to back up the subjective opinions of our Nation's leading experts. For example, to the best of my knowledge, no one has provided conclusive data on how the driver education dollar should be apportioned between behind-the-wheel training and classroom instruction, or between more intensive teacher training.

Questions such as these make it imperative that we conduct much more research in driver education. They will not answer themselves, yet they deal with a program of vital importance to highway safety,

and one that continues, and rightfully, we believe, to command a major part of the safety dollar.

But we must go beyond driver education research. We must learn how the entire field of improving driver performance, by whatever means, shapes up as a family of countermeasures, when compared to improvements in vehicle and highway design, for example. It requires us to answer the question of how much attention is to be given to the driver, to the vehicle, and to the roadway; and on how the available resources are to be allocated among the several highway safety program elements.

Highway Safety Research and Demonstration

This leads to my next topic, our highway safety research and demonstration activities under the Act. Before describing some examples of this part of our program, I would like to refer again to the 16 volume Highway Safety Program Manual that, as I described earlier, we developed in order to assist States in their implementation of the 16 standards.

The enormity of the task of preparing the massive document may not be immediately apparent, but in effect the task was to organize 16 different bodies of knowledge and to condense or transform the information into workable guidelines. As I stated previously, the States participated fully in this task. The National Highway Safety Advisory Committee reviewed the material. We asked the Nation's top experts

to advise and help us. We retained the most qualified outside contractors. In short, we went all-out to get the best possible inputs into the first publication of the Manual.

We believe that it will prove to be quite helpful to the States, although we fully recognize that as experience in working with it mounts, the need for modification undoubtedly will become apparent.

But as we proceeded through successive drafts prior to the final issuance, we continually encountered issues or proposed working practices which could not be supported by hard scientific facts. This came as no surprise, for as has been repeatedly stressed from the earliest days that the legislation was proposed, no field of social purpose related to the health of the populace was more beset than highway safety with old-wives tales, half-truths, self-serving pronouncements, and general lack of scientific rigor.

The absence of scientific evidence to aid in writing the standards and the back-up manual is no less a manifestation of the paucity of research attention to the field prior to passage of the law. In a word, the law was long overdue and, when it came, the information base on which we had to rely as a foundation for our program decisionmaking was deficient in a number of areas.

We obviously could not delay the issuance of the standards or the manual until research could begin to fill in some of the broad gaps

in fundamental knowledge. Instead, we proceeded, relying upon the best judgment of the most qualified experts. But the urgent need for getting definitive research under way was never clearer.

In all, a total of 294 contracts at an aggregate dollar cost of $30,735,000 have been awarded so far to more than 193 universities, foundations, companies, and States. Included in the background data we have submitted is a summary of these research contracts. In passing, I would note that very little of this work is what I would characterize as "basic research". The bulk is directed toward highly specific program needs of the Bureau.

Safety Demonstration Projects

The objective of the demonstration project program is to facilitate and accelerate the application of research findings to operating highway safe programs. Demonstration projects are undertaken by means of Federally-financed contracts with the States and local communities to perfect and give visibility to new and improved techniques for advancing highway safety. Some examples follow.

We have obligated $44,864 this year to the University of Miami Medical School to develop methods of emergency medical treatment in crash victims utilizing the telemetry of electro-cardiographs and voice communication between paramedical personnel on the scene of a crash and physicians at the hospital. We hope to develop the simplest and most reliable technical systems necessary to connect rescue and first-aid personnel on the scene of a crash with medical personnel at the nearest hospital.

$127,000 has been obligated to the State of Iowa to introduce automated, electro-mechanical teaching and testing procedures into the driver licensing procedure. We expect that better instruction through these procedures will result in improved driver skills and that a better screening of driver capabilities will result.

A $213,000 grant to the District of Columbia will determine whether motor vehicle defects, identified by the manufacturers and supposedly corrected at the time the vehicle was recalled, have been corrected. This will

be done by establishing a system at the District's motor vehicle inspection stations to enable the inspector to obtain, very carefully, manufacturer defect data for the make, model, and year of the vehicle being inspected and then checking to see whether the defects have, in fact, been corrected.

This program also involves the improvement of inspection procedures to include the latest diagnostic equipment.

We intend to undertake, in the near future, a new program which we call "Safety Demonstration Cities and Counties." This will involve working with one or more cities and counties to assist them to carry forward in coordinated fashion their highway safety programs. More effective coordination will be sought among such areas as driver training, safer vehicles, improved pedestrian safety, public attitudes, alcohol in relation to safety, and identification and improvement of high-accident locations.

The procedures, guidelines, and results of these projects will be documented and evaluated as possible models for nationwide use.

Accident Investigation and Information Analysis

One of the research needs that cuts across the board for virtually all other research efforts as well as program implementation by the States is accident investigation and information analysis. Progress in highway safety is dependent, to a considerable extent, on a thorough data base derived from improved investigation of crashes and their resulting casualties. Procedures and techniques now under development will form the basis for a significant upgrading of the accident

investigation process employed by State and local officials for routine investigations. In addition, the Bureau has undertaken a program for the in-depth investigation of accidents through the use of multi-disciplinary teams.

The basic level of data will be gathered by routine policy investigation of accidents. The goal is to provide the police officials with more meaningful accident report forms which will yield as much information as possible without hindering their other law enforcement duties. An improved report system is being field tested at the present time.

The second level of effort in the States involves the development of procedures for a team approach to accident investigations in which a highly trained police officer and a traffic engineer participate jointly in the investigation.

The in-depth accident investigations involve the training of teams of medical-engineering and legal experts who, in turn, will train others. Seventy-two in-depth accident investigations were conducted by 7 teams during 1968 resulting in 21 recommendations involving motor vehicle safety standards. One of these teams conducted an investigation of a school bus crash in Alabama in 1968 which led to the recall of over 10,000 school buses by General Motors for correction of possible braking malfunctions which might result in a safety hazard.

In FY 1970 and FY 1971 we will activate twelve new multi-disciplinary teams. The work of these teams will result in the accumulation of a comprehensive body of knowledge of accident and injury causation leading to the development of countermeasures and the assessment of the effectiveness of new safety features.

Closely paralleling accident investigation in importance is the system for aggregating and interpreting the resultant data and correlating results with data on exposure to risk. At the present time there are wide disparities among States in regard to both the quality and the quantity of information being gathered and substantial gaps in the availability of essential accident data. The need for a better information system is clear. Thus, a high priority program of the Bureau is aimed at developing a coherent national system composed primarily of independent and compatible State systems which will provide:

Operational data required by each State for its own operational purposes such as driver licensing, motor vehicle registration and inspection and traffic law enforcement.

Data required for analysis by each State.

Exchange of data between States so that operational program requirements will not suffer when driver and vehicle transfer from one State to another.

Driver, vehicle, accident, injury and fatality data required by the National Highway Safety Bureau for purposes of program analysis and to meet research needs as well.

A basic concept of the proposed network is that it is to be centered on the development of strong data systems in the States. The Department's role is to (a) to facilitate information exchange among States and between States and Federal agencies and (b) to provide funds, which will be matched by the States, to assist them in establishing the data system.

The National Driver Register

The National Driver Register is a Federal-State cooperative driver license records exchange program. It provides the individual State licensing officials with a single source for locating records that problem drivers have established in other States. The Driver Register does not maintain a master file of all the licensed drivers in the United States, but only abbreviated identification records of individuals who have had their driver license either suspended, revoked, canceled or denied by the States.

The Register currently contains the records of 1.9 million drivers, receives approximately 65,000 inquiry checks daily from the States and an average of 2,500 new records daily. All search requests are processed by the Driver Register within 24 hours from the time of

receipt, and all probable identification reports are immediately dispatched to the inquiring States. The individual States retain autonomy in initiating any action based on the information provided by the Driver Register.

The individual States vary in their use of the Driver Register. Presently, 17 States and the District of Columbia check all original and renewal driver license applications against the Driver Register file. An additional 24 States check the Register on all original license applications, while the remaining States submit search requests on a "suspicious case" basis.

I would like to submit for the record a table comparing denials and withdrawals of driving rights with total number of licensed drivers by age group, and a table showing repeat violators by age group.

Safety Manpower

During FY 1967, a study was started to inventory the highway safety specialists in the States and to identify present and future manpower needs. The study revealed that the States now employ more than 65,000 specialists in 36 generalized job classifications. The States estimate that they will need more than 95,000 personnel in these jobs by 1973, exclusive of manpower requirements of the county and city level, to implement the 16 highway safety program standards at State level. This

information will permit the Bureau to plan and implement manpower recruitment, development and training strategies with greater certainty than has been possible in the past.

Other studies in the manpower field resulted in the development and pilot test of an entry-level course for ambulance attendants; the evaluation and revision of automobile mechanic training courses to accommodate expanding motor vehicle inspection programs; conduct and evaluation of a course for highway safety program managers; and the development of State management guidelines which describe managerial policies and techniques for conducting the State safety programs required by the standards.

National Highway Safety Advisory Committee

The Advisory Committee was established by the Highway Safety Act of 1966 which provides that the Committee shall advise, consult with, and make recommendations to the Secretary of Transportation on matters relating to the activities and functions of the Department in highway safety.

The criteria for membership were originally specified in the Highway Safety Act and were subsequently revised by Public Law 90-150, expanding the Committee from 29 to 35 members appointed by the President and with the Secretary as Chairman. The Committee met three times during 1968.

At several of these meetings the Department consulted with the Committee on three proposed highway safety program standards involving pedestrian safety, police traffic services and debris hazard control and cleanup. The recommendations of the group as to these proposals were adopted by the Secretary, and the new standards together with those recommendations were published in the Federal Register on November 2, 1968.

In 1968 the Advisory Committee also recommended:

- changes to the draft program manual including the provision of priorities within the standard areas
- preparation of draft standards on school bus operations and accident investigation
- a thorough review by the Secretary of the extent to which accepted safety features of highway design and construction are actually being used
- the Department's and the State's cooperation with a coordinated private sector movement to implement the State and community highway safety standards provided that there be a central staff point for the Department and for the private sector and that no one private organization be endorsed

The Committee was also given a more permanent sturcture including standing subcommittees for standards and manual; priorities and goals; research; and public support. The leadership of these subcommittees and that of an executive subcommittee was drawn from appointed member ranks.

I would like to submit for the record a list showing the membership of the Committee.

Mr. Chairman, this concludes my prepared statement. I will be pleased to answer any questions.

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OVERVIEW

These then are some of the salient accomplishments since the start of the highway safety program a little more than two years ago. The groundwork has been laid for a coordinated and comprehensive attack on the national tragedy of highway deaths and injuries at the State levels. Highway safety standards have been developed and issued covering a wide spectrum of safety measures. Back-up materials have been prepared to assist States in their implementation of the standards. Broad programs have been drawn up by all of the States and are now being implemented.

By the end of FY 1969 more than 90 million dollars will have been obligated in grants to the States to help them finance the cost of nearly three thousand individual projects designed to implement the highway safety standards. But of even greater importance is that the Highway Safety Act of 1966 has served to focus the attention of State governments on highway safety and to bring to the fore the requirement for a much greater effort if appreciable reductions are to be made in the tragic

toll of traffic casualties. Significant progress has been made in some States as alert and responsive administrations begin to face up to the magnitude of the problem.

But I would not want what has generally been a fine start in developing a national highway safety program to obscure the many problems which have arisen since enactment of the basic legislation. One serious problem is in indications that several States are considering what only can be interpreted as backward steps in safety. I already have mentioned the introduction of legislation to repeal motorcyclist helmet laws. In other States, the repeal of motor vehicle inspection laws is being considered. However, the most serious problem which, of course, cuts across all levels of government, is the availability of resources. In comparison with a three-year authorization of $267 million, a total of $92 million was made available for obligation during this period. To speak with candor, there is some question as to whether the States could have obligated the full authorization had it been available during the start-up period.

But there is no question on this point now. Initially, the States had no precise perspectives of what had to be done. Now, the full scope of the State programs and plans is clearly described in their program submissions to the Secretary. Let me discuss these submissions briefly.

The Act requires that each State must be implementing an approved highway safety program by December 31, 1969. Failure to do so renders a State ineligible to receive its apportionment of Federal grant-in-aid highway safety funds. If after January 1, 1970, a State is not implementing an approved highway safety program, it could also have its Federal-aid highway funds reduced by 10 percent.

A State program comprises the legislative, organization, operational and financial plans, which together form a blueprint for future action on highway safety. All States have submitted plans which have just been reviewed by the National Highway Safety Bureau. Action by the Bureau has resulted in provisional approvals for most State plans. As we enter the next phase of review it is the intention of NHSB technical personnel to meet on a face-to-face basis with officials representing the various highway safety elements in the States to improve their programs so that a truly comprehensive plan of attack will be outlined. It is expected that by December 31, 1969, all of the plans will have been discussed with State officials, and the Secretary will have taken an affirmative action on the approval of their programs.

We recognize fully that these blueprints developed by the States for future action on highway safety are not perfect; they couldn't possibly be, not only because of the newness of the effort, but also because there are so

many gaps in the knowledge needed for this kind of pragmatic, operational planning. But these program plans, by far, represent the most comprehensive planning ever attempted on a State-by-State basis in highway safety. They comprise an excellent starting point. And I want to emphasize that these program plans have not been developed by the States in a casual, haphazard manner. Instead they represent the result of very careful analysis and judgment within the bounds of existing knowledge.

Mr. Chairman, this concludes my prepared statement. I will be pleased to answer any questions.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
NATIONAL HIGHWAY SAFETY BUREAU
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EMERGENCY MEDICAL SERVICES FOR HIGHWAY SAFETY

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National Highway Safety Bureau
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U.S. Department of Transportation

Remarks Prepared for Delivery
Before
Eighth Annual Conference of the
Ambulance Association of America
Portland, Oregon

October 14, 1969

It is a pleasure to be here with you, some of our country's most important leaders in the field of ambulance operations. I welcome this opportunity, not only to share some of the National Highway Safety Bureau's viewpoints and programs in emergency medical services, but also to learn your reactions to this new Federal emphasis in your field.

One may properly inquire as to why our Bureau, the vehicle and highway safety unit of the Department of Transportation's Federal Highway Administration, should be seeking to stimulate improved emergency medical services throughout the country. The answer is too tragically clear:

> ....men, women, and children injured in vehicle crashes are dying and others are being maimed for life because they did not receive prompt and proper emergency medical services....

During the next half-hour, 3 people will die and 700 will be injured in vehicle crashes. Notwithstanding some signs of progress, the 1967 death total of some 53,000 Americans rose to over 55,000 in 1968. By 1972 if present trends continue, the 2 millionth victim of a vehicle crash will have died since the turn of the century.

The stark evidence of a failure some place in the vehicle-highway-driver complex that is a man-made means of getting to and from work, or to that ball game -- or home from that cocktail party -- is the corpse in a morgue. Can it be explained by:

- his inadequate early training in how to drive
- brakes that were not designed right to start with
- properly designed brakes that were poorly maintained
- improper superelevation at that curve in the road
- his failure to buckle his seat belt
- a rigid guardrail that speared him
- a knob on the dash that poked through his head

Or maybe his life ebbed away as he lay bleeding -- waiting for an ambulance that came too late, or being handled by an attendant who

knew nothing about first aid, and drove to a hospital with an inadequate emergency room.

I do not know where the failure occurred in this complex. Could the life have been saved:

- by preventing the crash in the first place?
- by reducing the injury potential in the crash forces?
- by providing proper rescue and other life salvage to that bleeding mess?

The answer is yes to all three types of measures -- and this, of course, is the essence of the approach we have adopted in the Nation's all-out attack on the problem to correct for failures wherever they occur in the overall complex of factors that culminated in that body in the morgue.

We now have well-documented data that death rates on rural highways are greater than on their urban counterparts on the Interstate System, the remainder of the Federal-aid system, and other roads off of the Federal-aid system.

Fatality Rates per 100M Vehicle Miles in 1967

	Rural	Urban
Interstate	3.68	2.12
Other Federally Aided	7.66	3.85
Non-Federally Aided	7.07	3.77

While other factors undoubtedly are present, we strongly suspect that the difference in quality of emergency medical services between urban and rural areas is at least one major factor.

Our interest in proper emergency medical services to aid vehicle crash victims is readily described; it is our last chance to save a life and correct for earlier failures. I use the term "failure" advisedly. When a crash occurs, there has been a failure somewhere in the man-vehicle-highway system that provides for motor travel. Brakes could have failed; a dangerous intersection may not have been marked; the driver may have been drunk.

If the crash results in serious injury and possibly death, there has been another failure -- either improper crash protection was provided in the vehicle or available protection such as a seat belt was not used.

Under these conditions, the last chance to salvage a life is in prompt and proper emergency medical service. And it would appear that at least in rural areas, we are missing on this last chance as well.

The senselessness of a high-speed crash because some blind drunk driver failed to negotiate a simple curve is matched by the senselessness of the injury of an occupant who cracked through a windshield because he neglected to fasten his seat belt. And by not quickly

providing proper medical services to that victim, we compound the tragedy even further -- certainly not a hallmark of as highly civilized a culture as we believe ourselves to be.

Motor vehicle accidents are not acts of God; they are acts of man. And it is up to man to correct his errors and failures that result in death and maiming injuries to his fellow man. But the mounting death totals will not be reduced by some simple, cleverly conceived measure. There will be no magical single breakthrough, but progress will come only through a multiplicity of actions and programs, each accounting for a small improvement within its scope of application. The potential of emergency medical service as one element in this comprehensive attack is unmistakably clear.

At this time, I would like to describe briefly what the National Highway Safety Bureau has been doing to improve emergency medical services as an integral part of stimulating a national commitment of reducing traffic deaths and injuries. I say national, not Federal, to emphasize that the problem will be brought under control only by Federal, State, and local governments working cooperatively with each other and private enterprise -- on the design boards in Detroit or in your ambulances going to the rescue of a highway victim.

The law under which the Bureau functions in the emergency medical services field is the Highway Safety Act of 1966, Public Law 89-564.

This Act requires that States have a highway safety program developed in accordance with uniform standards promulgated by the Secretary of Transportation. To date, sixteen standards have been issued, one of which is Standard 4.4.11, "Emergency Medical Services". Its express purpose is to provide an emergency care system that can respond quickly and effectively to highway accidents in order to reduce the number of deaths and disabilities.

We assist the States in meeting these standards through matching grants for specific projects and programs. Additional funds are available to us to undertake demonstration projects, funded entirely by the Federal Government, and for research contracts to develop data to help us solve unanswered questions.

The Bureau also administers the National Traffic and Motor Vehicle Safety Act of 1966 under which vehicle safety standards are issued for new production vehicles. This Act also provides our authority for investigating safety-related defects for all vehicles on the road today.

These companion pieces of legislation provide us with the double-barrelled tool we must have if we are to attack the problem of highway safety. One Act covers vehicle characteristics and enables us, for example, to specify the safety features which Detroit must build into new ambulance production. It also enables us to check to see that they

do, in fact, comply with the safety standards we have issued. The other Act provides us with the authority to establish highway safety goals which the States must meet through their own efforts and the resources we provide.

An example in this latter category indicates the approach we have taken.

In Minnesota, we have funded $550,000 to the State Department of Health to undertake a comprehensive four year Statewide emergency medical services project. This includes a survey of all EMS resources in the State, recruitment and training of emergency care personnel and the purchase of 90 ambulances for use in local communities.

A key feature of our grant programs in emergency medical services is the training of personnel, a critical need in many States and communities. Projects assisted with Federal funding are providing training in ambulance services for over 40,000 people throughout the United States. However, this represents but a small part of the total need for trained personnel and personnel are only one element in an emergency medical service system. To find ways of utilizing the limited available Federal funds to best improve the system, we have undertaken a number of demonstration projects which we hope will provide us with answers on how significant improvements in EMS can be made in the quickest way.

For example, through Mississippi State University we have undertaken an effort involving 60 hospitals to develop a comprehensive and integrated system for emergency medical services in a predominantly rural area. The use of helicopters in combination with improved ground ambulance services will be tested in two areas of 50 mile radius each, or over 15,000 square miles

The problem of providing proper emergency medical services, however, is much more complex than the equipment and training of ambulance attendants. Our marvelous record of salvaging life of our wounded soldiers in Vietnam is being made, not only because the equipment is good and is handled by trained paramedics, but also because they are supported by a vast communications network. And back of the communications capability are the emergency medical rooms, operating rooms, surgeons, nurses -- all ready to complete the other vital ingredient in the salvage of life.

It is the totality of this system, not any single element, that is doing the job in Vietnam. Our problem is how to adapt the key elements of this amazing procedure of saving battlefield casualties to saving of lives of highway crash victims.

Unfortunately, when it comes to devising programs, because of the long neglect of systematic study of the complex interaction of the numerous elements which comprise an emergency medical services system, we are faced with a host of unknowns not the least of which is the price tag that the society is willing to pay for proper emergency

medical services. If we had unlimited time and research resources, we could try one approach and then another if the first did not work. But appalling statistics I cited earlier impact a most compelling urgency to our efforts. For these reasons, we are moving ahead with many different types of action programs even while we are probing our research on how to obtain the greatest payoff for each dollar of investment. This is not an easy task since it requires answers to such questions as:

- Should we concentrate in rural areas where distances are great and medical services scant, or in urban areas where there is a high concentration of crash injuries?
- How much should be invested in training personnel rather than investment in new equipment?
- What is the optimum mix between helicopters and ground ambulances?
- How much should we invest in improved communications?
- And, finally, how much can a community afford to pay for emergency medical services. The old maxim that when it comes to saving life only the best should be applied simply does not match the economic facts that prevail in every community throughout the country.

Hopefully, the research and demonstration projects now under way will give us some answers in these and other areas in the near future.

But vital as this information is, it provides us with only the first tool to meet the challenge of devising an effective and efficient emergency medical service in all the States. With the needed research findings in hand we will be setting up demonstration projects to test the validity of the research, to test modifications, and practical methods of introducing new techniques more quickly into EMS systems. As these demonstrations prove out new techniques, we expect the States to use them as guides in establishing their own projects which will be funded, initially, by both the States and the Federal Government. Eventually, we would hope to see the States take over the entire burden of sustaining those projects whose value has been demonstrated and expanding on them while we in the Federal Government move on to other unresolved problems.

This is not likely to happen tomorrow or the day after, but we all are tremendously encouraged by the progress that has been made in the last two or three years. Many States and local communities have now recognized the necessity for a "systems" approach to EMS; surveys of available resources are being made; the effectiveness of existing systems are being assessed, and equipment and personnel training are being upgraded.

The nightmares of broken, bleeding bodies in smoldering wrecks on our highways is all too commonplace today. But where there is yet life in those bleeding masses, there is yet hope -- a hope that rests largely in proper emergency medical service -- the last chance for man to correct for all of his previous failures that culminated in that shrieking crash, in the ensuing moans of the injured, and then in the stillness of waiting for help even as a life so senselessly perhaps ebbs away.

We have come a long way; we have an even longer way to go. You, the ambulance "systems managers" are a vital link between the crash victim and the hospital. Yours is a vital role in the exciting efforts now under way in your States and communities to bring into being comprehensive systems of emergency medical services. Yours is a central role in giving that badly injured crash victim his last chance to live.

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