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REPORT TO THE CONGRESS

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For Safer Motor Vehicles —
More Effective Efforts
Needed To Insure Compliance With
Federal Safety Standards

B-164497(3)

National Highway Traffic Safety Administration
Department of Transportation

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

APRIL 24, 1973

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-164497(3)

To the President of the Senate and the
Speaker of the House of Representatives

We are reporting on the need for more effective efforts by the Department of Transportation to insure compliance with Federal motor vehicle safety standards.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget, and to the Secretary of Transportation.

A handwritten signature in cursive script that reads "James B. Axtell".

Comptroller General
of the United States

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COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

FOR SAFER MOTOR VEHICLES--
MORE EFFECTIVE EFFORTS NEEDED
TO INSURE COMPLIANCE WITH
FEDERAL SAFETY STANDARDS
National Highway Traffic
Safety Administration
Department of Transportation
B-164497(3)

D I G E S T

WHY THE REVIEW WAS MADE

GAO reviewed enforcement activities of the National Highway Traffic Safety Administration to determine the extent to which the agency provided assurance to the public that motor vehicle and equipment manufacturers were meeting safety standards established pursuant to the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1381).

In 1971 about 55,000 people died and 3.8 million people were injured as a result of about 16.4 million motor vehicle accidents in the United States. Property damage alone cost about \$7.4 billion.

The goal of the Department of Transportation, of which the Safety Administration is an agency, is to reduce the highway fatality rate by one-third by 1980.

About 44 million new cars--38 million domestic and 6 million foreign--have been manufactured and marketed subject to Federal motor vehicle safety standards and regulations.

FINDINGS AND CONCLUSIONS

The Safety Administration's testing program--its major activity for

determining compliance with Federal motor vehicle safety standards--has been funded at an average of \$1.8 million a year over the past 3 years.

The testing program has provided little assurance to the American public that motor vehicles comply with the standards and thereby provide the safety benefits intended--protection against unreasonable risk of accidents, injury, or death.

The motor vehicle industry annually produces about 9 million vehicles, comprising 500 different makes and models. The Safety Administration has been testing about 55 vehicles each year for compliance with some of the safety standards. (See p. 8.)

Since the Safety Administration began testing, U.S. manufacturers have recalled millions of vehicles for various safety reasons. The Safety Administration's testing program has resulted in (1) four domestic vehicle recalls involving about 105,000 vehicles and (2) four recalls of vehicles produced by foreign manufacturers, involving 140,000 vehicles. Most of the domestic vehicles were recalled as a result of a single test. (See pp. 7 and 8.)

The Safety Administration can make a number of improvements to increase the testing program's effectiveness within the limits of available resources.

The Safety Administration selected vehicles and equipment for 1972 testing primarily on the basis of a sampling of manufacturers and equipment lines and consideration of prior test results or the lack of prior tests. The Safety Administration selected standard areas in which to test vehicles and equipment on the basis of its assessment of the "safety criticality" of the standards; this assessment included consideration of prior test experience and information from outside sources. (See pp. 10 and 11.)

Although the primary purpose in enforcing motor vehicle standards is to reduce injuries and deaths from traffic accidents, the Safety Administration has not systematically used traffic accident data and studies in selecting what to test for compliance.

The performance of vehicles and items of equipment in traffic accidents should be a major factor in selecting vehicle makes and models and equipment items for testing and in assigning testing priorities. (See pp. 12 to 14.) This would improve safety standards enforcement by focusing attention on indications of safety problems and on priority standard areas having a high potential for reducing traffic accidents, injuries, and deaths.

A total of 34 safety standards were effective on or before September 1, 1972. However, more than half of the funds obligated for compliance testing in the past 3 years was used for testing manufacturers'

compliance with two tire safety standards. Less than a third was used for testing performance of a total vehicle to determine manufacturers' compliance with other safety standards, including those affecting the integrity of vehicles in crash situations. (See p. 18.)

GAO's review of accident data, information from tire studies, and the Safety Administration's test failure rates has indicated that the Safety Administration is emphasizing tire testing considerably more than is warranted. (See pp. 18 to 20.)

The Safety Administration's 1972 testing priorities were not fully in line with its prior test results and its classification of some standards as critical. Some re-alignment of testing priorities is indicated. (See pp. 21 to 23.)

Vehicle manufacturers are required to certify that their vehicles comply with the safety standards. More effective use of manufacturers' certification data to supplement and refine the Safety Administration's limited testing program could help the agency achieve its enforcement goals.

The Safety Administration should place major emphasis on systematically reviewing manufacturers' certification data for indications of (1) misinterpretation of the safety standards, (2) faulty test procedures or techniques, (3) inadequate testing, (4) failure to follow up on test failures, and (5) failure to assure continuing compliance with a standard.

The Safety Administration could then follow up on these indications. (See pp. 24 and 25.)

The agency needs to take more timely action to resolve test failure cases and particularly to have unsafe vehicle and equipment conditions corrected. Delays in resolving such cases could expose the public to unnecessary risks of accidents, injuries, and deaths. (See pp. 27 and 28.)

RECOMMENDATIONS

The Secretary of Transportation should require

- systematic use of accident data and studies as a key factor in selecting vehicles, equipment, and standard areas for compliance testing;
- evaluation of compliance testing priorities on the basis of accident data and studies and the results of prior compliance tests;
- expanded and systematic use of manufacturers' certification data to supplement and refine the Safety Administration's standards enforcement coverage; and
- timely action in resolving test failure cases, particularly in having unsafe vehicle and equipment conditions corrected.

AGENCY ACTIONS AND UNRESOLVED ISSUES

In commenting on a draft of this report, the Department stated essentially that it was doing as much and as well as could be expected with available resources. The Department said that

- it was using accident data as much as practicable and that it anticipated using it in the future;
- it reevaluated compliance-testing priorities annually;

--de-emphasizing tire testing would be retrogressive;

--it would continue to use manufacturers' certification data but such use involved manpower considerations and had limited surveillance usefulness; and

--although it could not fully control the time involved in having unsafe conditions identified through its enforcement program corrected, it had reduced the timelags.

The Department and automobile industry representatives cautioned that use of accident data should involve meaningful evaluation of its relationship to specific vehicle safety standards. Industry representatives said that valid judgments as to compliance of crash-involved vehicles with specific standards could not be reached by simply examining accident data.

The representatives agreed, however, that the results of accident investigations could indicate vehicle performance in relation to safety standards and could provide guidance in determining priorities for compliance checking and enforcement.

MATTERS FOR CONSIDERATION BY THE CONGRESS

This report shows that the Government can improve its efforts to insure that the purposes of the National Traffic and Motor Vehicle Safety Act of 1966 are being met through enforcement of Federal motor vehicle safety standards. It presents information to help the Congress assess the efforts being made to reduce motor vehicle accidents, injuries, and deaths and to bring the purposes stated in the law closer to achievement.

CHAPTER 1

INTRODUCTION

In 1971 about 55,000 people lost their lives and 3.8 million others were injured as a result of about 16.4 million motor vehicle accidents. The cost of property damage alone was about \$7.4 billion. The Department of Transportation's goal is to reduce the highway fatality rate by one-third by 1980.

In 1966 congressional concern over the increasing number of motor vehicle deaths led to the enactment of the National Traffic and Motor Vehicle Safety Act (15 U.S.C. 1381), the purpose of which was to reduce motor vehicle accidents and the deaths and injuries resulting from such accidents. As one means of achieving this goal, the Congress directed that:

- Federal motor vehicle safety standards be established.
- Vehicle manufacturers certify that their vehicles comply with the safety standards.
- The Federal Government enforce compliance with the safety standards to insure that the public will realize the safety benefits intended--protection against unreasonable risk of accidents, deaths, or injuries.

As of February 1973, the Department's National Highway Traffic Safety Administration had issued 43 vehicle safety standards. (See app. II.) Thirty-four of these standards were wholly or partially effective on or before September 1, 1972. One will not become completely effective until August 15, 1977, when multipurpose passenger vehicles and trucks will have to be equipped with passive restraint systems. The remaining nine are to become effective at various dates through September 1, 1974. The Safety Administration has also issued 11 regulations containing requirements for manufacturers' certifications, recordkeeping, reporting, and consumer information.

About 44 million new cars--38 million domestic and 6 million foreign--have been manufactured and marketed subject to Federal safety standards and regulations.

The Safety Administration is authorized to (1) purchase and test vehicles and vehicle equipment, (2) require manufacturers to provide technical data on their vehicles' performance and safety and to report and provide information on compliance with the standards, (3) inspect and investigate manufacturers' plants and records, and (4) cooperate with Federal, State, and other public and private agencies in planning and developing methods for inspecting and testing vehicles.

The Safety Administration's program for determining manufacturers' compliance with the safety standards and regulations consists primarily of testing cars and components, considering consumer complaints, and investigating the causes of accidents. Generally, the Safety Administration meets its testing and accident investigation requirements through contracts with non-Government organizations.

The amounts appropriated to the Safety Administration for the past 3 fiscal years are as follows.

	<u>Fiscal years</u>		
	<u>1971</u>	<u>1972</u>	<u>1973</u>
	——(millions)——		
Traffic and highway safety (note a)	\$42.9	\$ 69.3	\$ 77.2
State and community highway safety (note b)	51.0	47.0	80.0
Constructing compliance facility	<u>-</u>	<u>9.6</u>	<u>-</u>
Total	<u>\$93.9</u>	<u>\$125.9</u>	<u>\$157.2</u>
Standards enforcement testing (excluding salaries)	\$1.5	\$1.7	\$2.2
Percent of total budget	1.6	1.4	1.4
Percent of amount available for traffic and highway safety	3.5	2.5	2.8

^aIncludes safety research and establishing and enforcing Federal motor vehicle safety standards.

^bIncludes grants to States and communities for highway safety programs and projects structured within the guidelines of Federal highway safety standards.

CHAPTER 2

OBSERVATIONS ON STANDARDS

COMPLIANCE ACTIVITIES

The Safety Administration's testing program, funded at an average of \$1.8 million a year over the past 3 fiscal years, is the agency's major activity for determining compliance with Federal motor vehicle safety standards. In our opinion, the program has not been as effective as it could have been.

Since inception of the program, domestic manufacturers have recalled millions of vehicles for various safety reasons. Excluding recreational vehicles, the Safety Administration's testing program has resulted in 4 recalls involving about 105,000 vehicles produced by domestic manufacturers and 4 recalls involving about 140,000 vehicles produced by foreign manufacturers. One test, which was not initially planned, accounted for over 100,000 of the 105,000 domestic vehicles recalled.

A breakdown of the Safety Administration's recalls follows.

<u>Source of recall</u>	<u>Type of vehicles or equipment recalled</u>	<u>Number of recalls</u>	<u>Number of vehicles recalled</u>	<u>Number of equipment items recalled</u>
Compliance testing	Domestic cars	3	103,700	-
	Foreign cars	4	140,661	-
	Trucks	1	695	-
	Recreational vehicles	4	27,418	-
	Tires	10	-	225,303
	Child car seats	5	-	58,558
	Total		<u>27</u>	<u>272,474</u>
Letter survey	Recreational vehicles	<u>18</u>	<u>4,081</u>	-
Consumer complaints and other sources	Domestic cars	2	127,180	-
	Foreign cars	10	121,849	-
	Trucks	1	4,002	-
	Trailers	3	10,845	-
	Total		<u>16</u>	<u>253,876</u>
Total		<u>61</u>	<u>540,431</u>	<u>283,861</u>

The recalls resulting from complaints and other information usually involved defects which were noticeable from inspection or normal operation, such as faulty (1) lights and emergency flashers, (2) seatbelts, and (3) rear-view mirrors. The recalls resulting from the letter survey involved a situation in which there was a general lack of understanding about safety standard requirements for doorlocks on mobile homes.

The industry annually produces about 9 million automobiles comprising about 500 different makes and models. The Safety Administration acquires an average of 55 new vehicles annually and tests these vehicles for compliance with some of the standards.

In testifying in 1969 before the Subcommittee on Commerce and Finance, House Committee on Interstate and Foreign Commerce, the former Director of the National Highway Safety Bureau--predecessor of the Safety Administration--stated that:

" * * * samples of many hundreds of car models should be tested during each model year for the Bureau's compliance program to be considered adequate."

* * * * *

"I mentioned in my testimony that hundreds of vehicles should be checked. That is actually an understatement. Each year for passenger cars alone we see introduced on the market about 500 make-model combinations."

* * * * *

"So I think that each make-model combination should be tested at least once. I don't think that is asking too much when you are talking about production of some 9 million vehicles a year."

In commenting on a draft of this report (see app. I), the Department said that it recognized the desirability of directing greater emphasis and resources to its standards enforcement testing program but that it had to consider budgetary constraints and the needs of other priority areas.

We believe that, within the limits of its resources, the Safety Administration can have a more effective testing program by improving its procedures for selecting vehicles and equipment items and for establishing priorities for testing compliance. Testing efforts have not been systematically focused on problem areas identified through analysis of available accident data as having a high potential for reducing highway accidents, deaths, and injuries. From an analysis of accident data and studies and test failure rates over the years, we believe that the Safety Administration has emphasized testing tires more than is warranted. Also, the Safety Administration does not use manufacturers' certification data or, to a lesser extent, its own experience, in developing testing plans.

AVAILABLE ACCIDENT DATA NOT USED
TO IDENTIFY AREAS FOR TESTING

A special task force of officials of the National Highway Safety Bureau (predecessor of the Safety Administration) reviewed compliance testing in July 1969 and recommended, among other things, that priority effort be expended:

"* * * on trouble indications and high payoff areas (brakes, steering, and crash survivability), pursuing other cross-the-board testing on a reduced but variable basis so as to retain a threat against noncompliance."

In September 1969 a committee of the National Motor Vehicle Safety Advisory Council reported to the Advisory Council that the Safety Administration's program for checking industry's compliance with vehicle safety standards was so inadequately staffed and financed as to permit only a "token" effort. The Advisory Council--established under section 104 of the 1966 act--recommended in a letter to the Secretary of Transportation that:

"Within the limitation of the present budget, the [Safety Administration] should try to place priority on the areas where non-compliance is most likely to affect the number of deaths and injuries on the highway and concentrate efforts in those areas."

The compliance-testing program, however, has not been systematically directed toward problem indications and priority areas having a high potential for reducing traffic accidents, deaths, and injuries.

The selection of vehicles for compliance testing in fiscal year 1972 was to have been based on (1) the results or lack of prior compliance testing, (2) complaints about defects, (3) engineering judgment based on evaluations of vehicle designs, and (4) accident investigation data. In actual practice, however, the selection of test vehicles was based primarily on prior test results or the lack of prior tests, as described below.

The Safety Administration assigned a demerit rating to various vehicle makes in seven standard areas it considered critical--windshield defrosting and defogging; brakes;

head restraints; seatbelt anchorages; steering column rearward displacement; windshield retention; and fuel tanks, filler pipes, and connections. The ratings ranged from one demerit for a "critical" standard area where prior testing had shown acceptable performance to 20 demerits for an area where a vehicle had been tested against a standard and had failed. Some information on the other three selection factors-- complaints, engineering judgment, and accident data--was shown on the listing of potential test vehicles; however, demerit ratings were not assigned on the basis of such information, and vehicles generally were selected for testing in descending order of magnitude of total demerit points.

The Safety Administration selected vehicle equipment for testing during fiscal year 1972 primarily on the basis of a sampling of manufacturers and equipment lines and consideration of prior test results or the lack of prior tests. The Safety Administration selected safety standard areas in which to test vehicles and equipment on the basis of its assessment of the "safety criticality" of the various safety standards; this assessment included consideration of prior test experience and information from scientific publications and other sources. Traffic accident data was not a factor in either selection process.

Thus, although the Safety Administration's primary purpose in enforcing motor vehicle standards is to reduce injuries and deaths resulting from traffic accidents, it has not systematically used traffic accident data and studies in selecting which vehicle standard areas, vehicle equipment, or vehicles to test.

Safety Administration officials have contended that meaningful accident data has not been available to show the relationship between accident-causing factors and compliance or noncompliance with vehicle safety standards and that accident data consequently has not been a factor in the selection processes.

The 1966 act authorized the Safety Administration to collect data from any source to determine the relationship between motor vehicle or motor vehicle equipment performance characteristics and (1) accidents involving motor vehicles and (2) deaths or personal injuries resulting from such accidents.

Under this authority, the Safety Administration has collected accident data from various sources and has sponsored 16 multidisciplinary accident investigation teams during fiscal years 1968-72 at a total cost of about \$7 million. The multidisciplinary teams, located throughout the United States, consist of medical specialists and members of safety-related disciplines, such as traffic engineers, mechanical engineers, human factors engineers, police technicians, lawyers, and psychologists. The stated objectives of these teams include

- identifying factors contributing to collisions,
- identifying factors producing injuries,
- evaluating the effectiveness of new safety features,
and
- evaluating relevant Federal motor vehicle safety standards.

As of September 1972, data on about 1,100 vehicle accidents had been received from these teams and put into a computer file.

The Motor Vehicle Manufacturers Association has been sponsoring similar multidisciplinary teams since 1966 and, as of September 1972, had collected data on about 1,400 vehicle accidents. Cornell University also maintains data on accident investigations which is available to the Safety Administration.

We believe the accident data that is being collected and is available to the Safety Administration could serve as a valuable source of information for determining factors in accidents and for evaluating the performance of vehicles and equipment in relation to crash survival. Examples are discussed below.

In reviewing an accident data summary prepared by an accident investigation team from the University of California (at Los Angeles), we found that, in an accident involving a 1970 station wagon, the car's windshield had become completely detached, thus "offering no energy absorption, providing no containment, and allowing contact with [the] hard surface of

[the] cowl." The safety standard dealing with windshield retention permits only 25-percent detachment.

The multidisciplinary accident investigations files contained data on six more cases in which this vehicle make's windshield had separated in accidents at impact speeds as low as 25 miles an hour. The Cornell data file included two more such cases; in one of these cases the vehicle impact speed was estimated to be only 12 to 15 miles an hour.

We met with Safety Administration officials to discuss this matter and to ascertain whether the Safety Administration had scheduled tests to determine whether the vehicle make met the safety standard for windshield retention. We were advised that this vehicle make (a 1971 model) had initially been selected for brake testing but that, in recognition that the testing program did not call for enough vehicles to be crash tested, a decision was made to crash test 15 more vehicles, including the vehicle make in question. When the vehicle was crash tested, its windshield became completely detached.

The Safety Administration found that the manufacturer had certified the 1971 vehicle make as meeting the windshield retention safety standard on the basis of tests performed on 1967 and 1968 models. The manufacturer subsequently crash tested 19 vehicles to investigate the problem, found that 53 percent of them did not meet safety standard requirements, and instituted a recall campaign to correct about 100,000 1970-72 vehicles that had been sold.

At one point, the Safety Administration's accident investigations division took the initiative to work up data showing that certain vehicle makes involved in accidents investigated by multidisciplinary teams had problems with fuel tank leakage and/or disengagement and that fire resulted in some of these cases. The data also included the location of the fuel leakages and the primary areas where vehicles were deformed in the accidents. The division prepared this information to illustrate the analyses that could be made of available accident data. The division pointed out that, although the results of the data presented could not be used to establish statistical significance, the results could show clinical trends that could be useful in developing and implementing safety standards.

The data identified nine vehicle makes that had fuel tank problems in accidents that had been investigated. The Safety Administration planned to test the fuel systems of two of these vehicle makes during its 1972 testing program; for the remaining vehicle makes, either tests had not been made or, where tests had been made, retesting was considered desirable but had not been scheduled.

Also, with the assistance of agency personnel, we demonstrated that accident data collected by multidisciplinary investigation teams and stored in computers could be manipulated to provide useful information on crash-involved vehicles' performance in relation to various safety standard areas. For example, a printout was prepared showing that there were 170 accident cases involving windshield bond separation. The printout showed the specific make, model, and year of the crash-involved vehicle.

For each accident on which a multidisciplinary investigation team prepared a report, the computer-stored accident data contained about 600 variables from which information could be extracted and summarized for the Safety Administration's use in analyzing vehicle performance in relation to safety standards. These variables included such things as estimated speed at impact; vehicle body style, weight, and loading; degree and area of passenger ejection; and extent of occupant injury.

Although it may not be possible to establish whether particular vehicle makes and models comply with Federal safety standards by simply reviewing printouts of basic accident data, data printouts could be tailored to provide useful guides in selecting vehicles for testing and in establishing testing priorities that could have a high potential for reducing traffic accidents, injuries, and deaths.

In its comments on a draft of this report, the Department said that it used accident data in selecting vehicles and standards for testing. According to the Department, it was not until the selection process for the fiscal year 1972 test program was underway that using any of the emerging accident investigation data in a truly meaningful way was found practicable. The Department also said that, with additional refinements, it anticipated using accident data more in future selection processes.

However, we noted that vehicles generally were selected for testing for the 1972 program on the basis of a demerit rating system that gave no weight to accident data.

The Department cautioned that use of accident statistical data should involve meaningful evaluation of its relationship to specific vehicle safety standards. Comments from automobile industry representatives also suggested caution on the use of accident data. Industry representatives pointed out that, because of the many variables involved, valid judgments about crash-involved vehicles, compliance with Federal motor vehicle safety standards could not be reached simply by examining accident data. The representatives generally agreed, however, that the results of accident investigations could indicate vehicle performance in relation to safety standards and could provide the Safety Administration with guidance in determining priorities for compliance checking and enforcement.

One of the industry representatives stated his belief that:

"* * * [the Safety Administration] would be operating much more nearly in the public interest if it paid closer attention to data available only through the investigation of actual traffic crashes."

Another one said that:

"* * * we applaud the GAO aim of pinpointing areas for compliance testing * * *."

* * * * *

"* * * we would like to support the main thrust of your report, namely that accident investigations can serve as a valuable source of information for determining the cause of accidents and the performance of vehicles and equipment in relation to crash survival."

We did not intend to suggest that compliance or noncompliance of specific vehicle makes and models with Federal safety standards could be established simply by reviewing basic accident data being gathered and made available to the Safety Administration. We believe, however, that

useful accident data is available and should be used by the Safety Administration as a key indicator or guide in selecting vehicles for testing and in establishing testing priorities.

Industry representatives also offered the following views.

1. If a safety problem that allegedly was to have been taken care of by issuing a standard continues, the standard may not be adequate and, in light of the kinds of conditions and crash configurations prevailing in actual accidents, may have inappropriate performance values. The Safety Administration should use traffic crash data as a guide in developing motor vehicle safety standards, in evaluating existing standards, and in determining needed changes in standards.
2. To expand and improve the available accident data, the Safety Administration should place more emphasis on investigating motor vehicle crashes.
3. One industry representative expressed the belief that the Safety Administration should look closer at the reasons for the high cost of collecting accident data. He said that, for the money spent, it should be possible to obtain data on far more crashes than is now being obtained.
4. Another representative stated that a system is needed for reporting on accidents more promptly.

Some industry representatives' views summarized above concerned matters that we did not include in our review work. Although we are not in a position to comment on them, we believe they may be of interest to the Congress and the Safety Administration. Regarding the promptness of the accident reporting system, the Safety Administration has taken steps to shorten the timelag by having the multidisciplinary accident investigation teams forward their reports directly for computer processing instead of first routing them through a review process at the Safety Administration's offices in Washington.

Recommendation

We recommend that the Secretary of Transportation require the systematic use of accident data and studies as a key factor in selecting vehicles, equipment, and standard areas to be tested for compliance. This use should improve the enforcement of safety standards by focusing attention on indications of safety problems and on priority standard areas having a high potential for reducing traffic accidents, injuries, and deaths.

NEED TO REEVALUATE TESTING PRIORITIES

Emphasis on tire testing

More than half of the funds obligated for testing compliance in the past 3 fiscal years was used for testing manufacturers' compliance with tire safety standards; less than a third was used for testing performance of a total vehicle to determine manufacturers' compliance with other safety standards, including those affecting the integrity of vehicles in crash situations. Details are shown in the following table.

<u>Fiscal year</u>	<u>Vehicle testing</u>		<u>Tire testing</u>		<u>Other equipment and miscellaneous</u>		<u>Total amount</u>
	<u>Amount</u>	<u>Per-cent</u>	<u>Amount</u>	<u>Per-cent</u>	<u>Amount</u>	<u>Per-cent</u>	
1970	\$ 430,246	26	\$ 984,066	59	\$252,688	15	\$1,667,000
1971	340,213	23	928,675	61	244,062	16	1,512,950
1972	<u>650,055</u>	38	<u>637,558</u>	38	<u>417,193</u>	24	<u>1,704,806</u>
	<u>\$1,420,514</u>	29	<u>\$2,550,299</u>	52	<u>\$913,943</u>	19	<u>\$4,884,756</u>

The above amounts include the procurement, testing, storage, transportation, and computer support directly related to tire testing. They also include tire phase testing, which covers tire retesting and special tire tests. The decrease in funding for tire testing for fiscal year 1972 does not mean that such testing is being deemphasized; rather, it means that a smaller sampling of each product line has been determined to be adequate to determine compliance.

We recognize that tire testing should continue; however, our review of accident data and information from tire studies indicates that disabled passenger vehicle tires are not significant factors in traffic accidents and that the Safety Administration's relative degree of emphasis on tire testing, in terms of the total enforcement program, is therefore more than warranted. In a 1970 summary of available surveys and studies of the condition and use of tires, the National Bureau of Standards estimated that as major contributing factors in traffic accidents involving four-wheel, four-tire vehicles in noncongested areas, tire disablements ranged from

0.6 percent to 1.6 percent. The summary indicated that, even within this range, major factors in the tire disablements were underinflation and poor condition (thin or bald tires).

Much of the data used in the Bureau's summary was based on tire studies published by the Traffic Institute of Northwestern University. The institute concluded that a major factor in accident-related tire disablements studied was the worn condition of the tires and that, at most, less than one-tenth of 1 percent of the tire disablements in the study resulted in accidents.

The files on about 2,500 detailed vehicle accident investigations--sponsored by the Safety Administration and the Motor Vehicle Manufacturers Association--are maintained on computer at the Highway Safety Research Institute (University of Michigan). As of September 1972 the files had provided no evidence that new-tire disablements were a significant factor in traffic accidents. Only 30 of the accident investigations cited tires as a possible factor in the accidents. Further information available in Safety Administration files for 19 of the 30 cases cited worn or underinflated tires in all 19 cases.

The Safety Administration has issued two standards on tires--number 109 on new tires and number 117 on retreaded tires. On December 5, 1972, a U.S. court of appeals, ruling on a petition by a tire company, suspended part of standard number 117. In its decision, the court stated that:

"The deleterious economic effect on the industry of required compliance with Standard 117 might be permissible if retreads unquestionably were major safety hazards and if compliance with the standard clearly enhanced retreads' safety under on-the-road conditions. However, it appears to be a fair statement from the record that, except for excessive wear (bald or thin tires), tires in general, retreaded tires included, pose no significant safety problem." (Underscoring supplied.)

If the Safety Administration's emphasis on testing tires was brought more in line with the small significance of tires as a factor in traffic accidents, proportionately greater attention could be focused on safety problem indicators and on

standard areas having a higher potential for reducing traffic accidents, injuries, and deaths.

Safety Administration officials stated that prior testing results dictated compliance-testing priorities and efforts and that these efforts were directed to standard-related areas where testing experience indicated some problem with manufacturers' compliance with the standards. Test failure rates for fiscal years 1968-72, as shown in the following table, do not appear to provide a good basis for the emphasis placed on tire testing.

<u>Federal safety standard or regulation</u>		<u>Test failure</u>
<u>Number</u>	<u>Description</u>	<u>(percent)</u>
575 (note a)	Consumer information	53
103	Windshield defrosting and defogging	23
105	Brakes	20
213	Child seating	16
108	Lamps, reflective devices, and signals	14
104	Windshield wiping and washing	13
110	Tire and rim selection	12
212	Windshield mounting	11
210	Seatbelt assembly anchorages	10
209	Seatbelt assemblies	9
204	Steering control rearward displacement	7
109	TIRES	6
116	Brake fluids	5
206	Doorlocks and retention components	5
301	Fuel tanks, filler pipes, and connections	5
202	Head restraints	5
106	Brake hoses	4
207	Anchorage of seats	4
205	Glazing materials	-
112	Headlamp concealment devices	-
203	Impact protection from the steering control system	-

^aThis regulation requires a manufacturer to inform a first purchaser of the vehicle's (1) stopping distance, (2) tire reserve load, and (3) acceleration and passing ability. The failure rate is based on the percentage of cases where tests showed that the vehicles or tires did not meet the performance specified by the manufacturers.

In commenting on the extent of its tire testing, the Department said that congressional concern had been expressed about performance standards and quality-grading regulations for tires and that deemphasizing that aspect of the program would be retrogressive. The Department indicated that our comparison of dollar expenditures for tire testing and other purposes presented only part of the picture. It contended that, from a relative operational coverage standpoint equated in terms of the number of vehicle makes and models and the number of available tire lines, testing coverage for vehicles and tires in 1971 was nearly equal and in 1972 was substantially greater for vehicles than for tires. Also, the Department said that there were indications of duplication in the dollar amounts for tire testing shown in the report.

We do not dispute the importance of testing tires. We believe, however, that the Safety Administration should strive to use available funds effectively. As we said earlier, available accident data and information from tire studies indicates that disabled passenger vehicle tires are not significant factors in traffic accidents and that the Safety Administration's relative degree of emphasis on tire testing, in terms of its total enforcement program, is more than warranted.

We note that funds for testing tires cover only two standards, whereas the remaining funds cover 32 standards, including 7 which the Safety Administration has classified as critical.

Our reexamination of items comprising the dollar amounts for testing tires for fiscal years 1970-72 and further discussions with Safety Administration personnel did not disclose any duplication in the dollar amounts shown in the report. The amounts were derived from Safety Administration reports showing compliance program fund allocations and actual obligations for the years involved and include obligations for procurement, testing, storage, transportation, and computer support directly related to tire testing.

Prior test experience not reflected
in current testing plans

The following table compares the Safety Administration's priority testing categories for its 1972 program with test failure rates and with the seven safety standard areas it considered critical for testing.

<u>Federal safety standard</u>		<u>Test failure (percent)</u>	<u>Standard areas considered critical in selecting vehicles for testing</u>
<u>Number</u>	<u>Description</u>		
Top priority:			
106	Brake hoses	4	
109	Tires (new)	6	
117	Tires (retreaded)	(a)	
105	Brakes	20	X
108	Lamps, reflective devices, and signals	14	
209	Seatbelt assemblies	9	
213	Child seating	16	
High priority:			
103	Windshield defrosting and defogging	23	X
104	Windshield wiping and washing	13	
116	Brake fluids	5	
210	Seatbelt assembly anchorages	10	X
204	Steering control rearward displacement	7	X
301	Fuel tanks, filler pipes, and connections	5	X
212	Windshield mounting	11	X
202	Head restraints	5	X
207	Anchorage of seats	4	
206	Doorlocks and retention components	5	
Lower priority:			
110	Tire and rim selection	12	
112	Headlamp concealment devices	-	
201	Occupant protection in interior impact	-	
203	Impact protection from the steering control system	-	
205	Glazing materials	-	

^a Standard became effective January 1, 1972, and was suspended in part in December 1972. Test failure data was not available.

As can be seen, some of the safety standard areas given top testing priority had lower test failure rates than standard areas with less than top-priority rankings, and some safety standards not designated as critical were given higher priority than those designated as critical. The need for some realignment of testing priorities is indicated. As a minimum, the Safety Administration's designation of priorities should be reconciled with its designation of certain standards as critical.

Also, 8 of 58 vehicle makes, selected for the 1972 testing program primarily because they had not been tested previously in certain critical standard areas, were scheduled for testing in areas in which they had been tested and had shown acceptable performance. For example, 1 vehicle was given 24 demerits primarily because it had not been tested previously in 5 of the 7 critical standard areas. Instead of being scheduled for tests in the untested areas, it had been scheduled for testing in a standard area in which it had already shown acceptable performance.

The Department commented that it reevaluated its testing priorities annually, using prior test data, engineering analyses, accident data (where available), consumer complaints, and consideration of manufacturers' shares of the market. Of this information, prior test data and engineering analyses were stated to be the most quantifiable in the sense that hard engineering data was available.

We noted, however, that the Safety Administration's 1972 testing priorities were not fully in line with its test failure rates and its classification of standards as critical.

Recommendation

We recommend that the Secretary of Transportation require evaluation of testing priorities on the basis of accident data and studies and the results of prior compliance tests.

NEED FOR MORE EFFECTIVE USE OF
MANUFACTURERS' CERTIFICATION DATA

One way for the Safety Administration to improve its compliance monitoring and enforcement capability is to make more effective use of manufacturers' certification data.

The 1966 act requires manufacturers of motor vehicles and equipment to certify that their products meet Federal safety standards. Such certifications are generally based on prototype and pilot production data accumulated during development, performance data obtained after production through testing and other means, and production quality control data. Data developed by manufacturers to support their safety certifications is available to the Safety Administration.

In September 1969, the National Motor Vehicle Safety Advisory Council recognized the Safety Administration's limited testing capabilities and suggested that it review manufacturers' procedures for compliance testing and use manufacturers' certification data more.

For the most part, the Safety Administration had requested and used manufacturers' certification data primarily when possible noncompliance of motor vehicles or equipment had already surfaced because of testing, inspections, or information from other sources. It had not widely used manufacturers' data as an initial source of information for identifying areas where the basis for certifying compliance with Federal safety standards might have been questionable and further investigation might have been warranted. Safety Administration officials explained that, because of the limited extent of its testing, test failures generally had resulted in corrective actions only when manufacturers' certification data for the areas tested indicated some omission, inadequacy, or serious question.

In testifying in 1969 before the Subcommittee on Commerce and Finance, House Committee on Interstate and Foreign Commerce, the former Director of the National Highway Safety Bureau pointed out that the compliance program was inadequate and provided relatively little assurance to the public that vehicles sold in the United States met the safety standards or that the manufacturers' certifications were correct. The Safety Administration's compliance approach, however, has remained relatively unchanged.

Vehicle-manufacturers have recalled millions of vehicles for various -safety reasons, independent of the Safety Administration's compliance efforts. It appears to us that more effective use of manufacturers' vehicles certification data could help the Safety Administration achieve its standards enforcement goals and could provide greater assurance to the public that manufacturers are complying with Federal motor vehicle safety standards.

In some cases, such as the one cited on pages 12 and 13, the data might show that the manufacturer had not assured continuing compliance with a standard. Also, such data might indicate such things as misinterpretations of safety standards, faulty test procedures or techniques, inadequate testing, or failure to adequately follow up on test failures and could point to the need for further testing and investigation. Also, if an analysis of accident data indicated a possible problem area, a review of the manufacturer's data could help in promptly resolving whether the requirements of the standard in question were met.

The Department commented that:

- Since the start of the standards enforcement program, it had made 129 requests for manufacturers' certification data, including 65 since January 1, 1972, as part of its pretest activities. The primary benefit of reviewing certification data in these cases was to gain familiarity with industry testing techniques.
- Reviews of certification data were time consuming for engineers at high professional levels and an operating balance must be maintained between manpower allotted to testing and pretesting activities.
- It would be naive to expect manufacturers to submit data that had not first been thoroughly screened to avoid disclosing noncompliance.
- Most noncompliance cases it discovered resulted from a breakdown in manufacturers' internal processing and quality controls used to assure continuing compliance rather than from design error. The case on pages 12 and 13 was a good example.

We believe that the Safety Administration could improve its compliance monitoring and enforcement capability by reviewing manufacturers' certification data to identify anything that might point to possible compliance problems. Gaining familiarity with industry testing techniques would be an additional natural consequence of such reviews.

Our discussions with agency people and a check of investigative files showed that agency reviews of manufacturers' certification data can and do give rise to various compliance questions warranting further investigation. The data submitted by the manufacturer in the case cited on pages 12 and 13 clearly showed that the manufacturer had failed to assure continuing compliance of the vehicle with the standard in question. The data indicated that certification for the 1971 vehicle was based on tests performed on 1967 and 1968 vehicles. The safety standard in question did not become effective until January 1970.

Recommendation

We recommend that the Secretary of Transportation require expanded and systematic use of manufacturers' certification data to supplement and refine the Safety Administration's standards enforcement coverage.

DELAYS IN ACTING ON COMPLIANCE TEST FAILURES

There were 2,159 failures from May 15, 1968 to June 30, 1972, resulting from the Safety Administration testing program. As of August 31, 1972, 637 (30 percent) had not been resolved either through corrective or punitive actions or through closing the cases. About one-third (265) of the 637 unresolved failures resulted from the Safety Administration's fiscal year 1968 test program.

Hearings before the House Committee on Interstate and Foreign Commerce in 1969 brought out that there was a 6-month delay between the first time a tire was found to be defective in a Government-sponsored test and the time a tire defect notification and recall campaign was publicized. In the 10 tire recall campaigns resulting from the Safety Administration's testing program as of August 31, 1972, the period of time from tire-testing failure to recall notification ranged from 5 to 21 months--the average was 14.6 months. For all 27 recalls resulting from the Safety Administration's testing program, the timelag ranged from 1 to 21 months--the average was 8.7 months.

The length of time it takes to resolve test failure cases raises a question as to how much safety benefit the public receives from some of the Safety Administration's investigations. For example, in a case that led to a tire recall in May 1970, some of the tires involved had been produced in early calendar year 1968 and had failed Safety Administration tests that same year. Although the tires were later recalled, they had been in use about 2 years before the public was informed of the safety hazard involved.

A Safety Administration official stated that some of the delays in processing test failures occurred because data on the failures was not provided to the legal staff promptly and did not provide an adequate basis on which to pursue the test failures against the manufacturers.

The Department commented that a manufacturer is entitled to due process during the investigation and that this sometimes means lengthy negotiations. The Department said, however, that it has tried to reduce the investigative-corrective time and that improvements had been made. The Department said that currently it took about 5 months to close out an investigation.

An analysis of the status of the 62 new investigation cases opened by the Safety Administration in calendar year 1972 as a result of compliance test failures showed that, by the end of the year, 47 of the 62 cases were still open. Fourteen of the 47 cases had been open more than 5 months, with the average being about 8 months, and the remaining 33 cases were less than 5 months old. The agency had closed out 15 cases in less than 5 months (on the average) without any corrective action. These 15 closed cases do not indicate an improved situation. For example, in the 2 previous years (1970 and 1971), the agency opened about 225 investigative cases as a result of compliance test failures and closed 52 of them in less than 5 months without any corrective action.

In our opinion, delays in resolving test failure cases, particularly in having vehicles and equipment with safety defects corrected, could expose the public to unnecessary risks of accidents, injuries, and deaths.

Recommendation

We recommend that the Secretary of Transportation require more timely action in resolving test failure cases, particularly in having unsafe vehicle and equipment conditions corrected.

CHAPTER 3

SCOPE OF REVIEW

We made our review primarily at the National Highway Traffic Safety Administration's headquarters in Washington, D.C.

We reviewed the applicable legislation, regulations, policies, procedures, and practices pertaining to the enforcement of the Federal motor vehicle safety standards and regulations. We examined applicable records and reports and interviewed Safety Administration headquarters officials.

We reviewed accident data files available to the Safety Administration and, with the assistance and cooperation of agency employees, performed various computer analyses to demonstrate the feasibility of using available accident data to provide valuable information on the performance of vehicles and equipment in motor vehicle accidents.

We visited Ann Arbor, Michigan, and interviewed officials of the University of Michigan's Highway Safety Research Institute to discuss the availability of its accident data to the Safety Administration.

We also obtained comments from six major vehicle manufacturers on the systematic use of traffic accident data in selecting standard areas, vehicles, and equipment for compliance testing and in establishing priorities.



OFFICE OF THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

ASSISTANT SECRETARY
FOR ADMINISTRATION

December 20, 1972

Mr. Richard W. Kelley
Associate Director
Resources and Economic Development
Division
United States General Accounting Office
Washington, D. C. 20548

Dear Mr. Kelley:

We are happy to respond to your request for comments to the draft report entitled "Greater and More Effective Efforts Needed to Assure Compliance with Federal Motor Vehicle Safety Standards," forwarded under cover of your November 10, 1972 letter. I have enclosed two copies of the Department's reply.

Thank you for the opportunity to comment on the report.

Sincerely,

A handwritten signature in cursive script, reading "William S. Heffelfinger".

William S. Heffelfinger

Enclosures

DEPARTMENT OF TRANSPORTATION REPLY

TO

GAO DRAFT REPORT TO THE CONGRESS OF THE UNITED STATES

ON

GREATER AND MORE EFFECTIVE EFFORTS NEEDED

TO ASSURE COMPLIANCE WITH

FEDERAL MOTOR VEHICLE SAFETY STANDARDS

SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

During the period August 1971 through September 1972, representatives from the General Accounting Office conducted a review of Standards Compliance Activities as performed within the Office of Standards Enforcement, Motor Vehicle Programs, National Highway Traffic Safety Administration. The General Accounting Office recommends that the Secretary of Transportation take steps to:

[See GAO note.]

- "--arrange for the systematic use of accident data and studies as a key factor in selecting vehicles, equipment, and standard areas for compliance testing;
- "--reevaluate compliance testing priorities on the basis of accident data and studies and the results of prior compliance tests ;
- "--reconsider the need to place heavy emphasis on testing tires ;
- "--arrange for an expanded and systematic use of manufacturers certification data as a means of supplementing and refining the Safety Administration's compliance testing efforts; and
- "--provide for more effective and timely action to obtain correction of unsafe vehicle and equipment conditions that have been identified."

GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

SUMMARY OF DEPARTMENT OF TRANSPORTATION POSITION

The National Highway Traffic Safety Administration agrees in principle and recognizes that it is eminently desirable to direct greater emphasis and resources to the compliance test program. Budgetary constraints and the claims of other priority areas precluded funding above approximately 55 percent of the Motor Vehicle Programs' budget (\$3.1 million) allocated to this area in FY 1972.

The importance of good sound accident data as an invaluable input to the total safety program is recognized. It would be a mistake, however, to use such data without first assuring its technical validity. Data generated is used to best advantage anywhere in our safety programs where it is found possible and advantageous to do so.

Compliance testing priorities have been and will continue to be reevaluated on an annual basis using our own prior test experience, coupled with engineering analysis of candidate items for test, consumer complaints, and accident data where this is available and meaningful. Final judgment in this area requires a very fine balancing of the many complex issues to be considered.

Congress has on many occasions expressed its concern relative to performance standards and quality grading regulations for tires. It would be retrogressive to de-emphasize that aspect of the program. Significant progress has already been made in the general uplifting of the industry's safety and quality level. Our aim is to level off the enforcement action in the tire area along the lines already achieved in the FY 1972 program.

The use of manufacturers' certification data must be in concert with the test program. Reduction of the compliance program to the level of a paper review operation, as is the case with the majority of States who presently have a State certification program, would be a mistake. No reports indicating noncompliance have ever been submitted to the accrediting organization. Consistent with our experience in past years, we plan to extend the use of manufacturers' certification data. This will be done in accordance with the reservations noted in the Position Statement below.

APPENDIX I

The National Highway Traffic Safety Administration's mission is to provide effective and timely action to obtain correction of unsafe vehicles and equipment conditions. The end result depends on the number of problem areas discovered, manpower available to work towards their solution, plus the degree of cooperation by the manufacturers concerned. On our part, we shall continue to strive for speedy, timely, and equitable resolution of the noncompliance problems that arise.

POSITION STATEMENT

[See GAO note.]

"--arrange for the systematic use of accident data and studies as a key factor in selecting vehicles, equipment, and standard areas for compliance testing;"

Accident data is used, to the degree possible, as one of the factors involved in the selection of vehicles and standards for inclusion in the test program. However, it is not the panacea that the draft report would appear to suggest. As with all new programs, the multi-disciplinary accident investigation team effort developed through an evolutionary process. It was not until the selection process for the FY 1972 test program was under way that it was found to be

GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

practicable to consider using any of the emerging accident investigation data in a truly meaningful way. With the additional refinements, some now present and others planned for the future, in the form of special studies which have direct application to standard areas, we do see greater use of accident data in the test program selection process.

"--reevaluate compliance testing priorities on the basis of accident data and studies and the results of prior compliance tests:"

Compliance testing priorities are reevaluated on an annual basis using engineering data from prior compliance tests, engineering analysis relating to similarity of vehicle systems and subsystems across model lines which recognize our prior test experience as performance indicators of similar models, accident data (where available), consumer complaints, and share of the market. Of these, prior testing experience and cross usage of vehicle systems and subsystems across model lines are the most quantifiable in the sense that hard engineering data is available. Accident data, by virtue of the existing state-of-the-art in the accident investigation field, is, of course, much more subjective and must be viewed accordingly in establishing test priorities. The same is also true to an even greater degree when considering consumer complaints. A manufacturer's share of the market is considered in targeting our program coverage to recognize the level of participation of a particular vehicle or car line in the national traffic picture.

A note of caution must be sounded relative to the use of accident statistical data where insufficient familiarity has been established, with that data, to permit a meaningful evaluation of its relationship to a specific standard.

[See GAO note.]

GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

[See GAO note.]

Congress, itself, has continued to show great interest in the subject of tire safety since the inception of the program. Recognizing that interest, we do not consider the tire testing activity carried out by the Administration as one of undue emphasis. Rather, in our judgment, it is a program area where significant progress has been made in meeting the Congressional intent.

The table on page 20 of your draft report only presents one side of the picture. It ignores the relative operational coverage afforded in various program areas by concentrating, only, on related dollar expenditures to the exclusion of other critical operating factors. For example, with approximately 11.5 million vehicles produced annually offering some 500 make/model combinations in passenger

GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

cars, the number of cars tested with FY 1971 funds was equivalent to 3 cars per million produced while the figure for FY 1972 would be 5 cars per million produced. A similar comparison in the tire area, with an annual production of 180 million, offering some 1,130 tire lines, would be 8 tires per million produced for FY 1971 and 10 tires per million produced for FY 1972. This seemingly higher rate per unit manufactured, for tires, disappears when equated in terms of make/model combination for vehicles and tire lines available. Here the emphasis swings the other way with a 6.8 percent figure for cars in FY 1971 and 12 percent in FY 1972, compared to 6 percent of tire lines in FY 1971 and 2.5 percent in FY 1972. In summary, the problems of sampling across product lines is certainly more complex than the approach, seemingly, advocated in the draft report. Additionally, the dollar figures presented in the table do not correlate with the actual expenditures for the test program in relation to compliance testing to Federal Motor Vehicle Safety Standard No. 109, New Pneumatic Tires--Passenger Cars. There are indications that there is a duplication of dollars represented in the tire testing amounts for FY 1970 and FY 1971, and that the figures also include dollars expended upon "tire phase testing." Tire phase testing is used for retest of tires, special tire tests, etc. The phase testing contracts were signed in FY 1971, but the actual testing extended from calendar year 1971 through calendar year 1972.

"--arrange for expanded and systematic use of manufacturers' certification data as a means of supplementing and refining the Safety Administration's compliance testing efforts;"

This has been done, to the degree possible, recognizing the manpower needs to administer the test program itself, and potential payoff in terms of total program realization that would accrue from a general review of certification data. It must be recognized that to serve any useful purpose such reviews are extremely time-consuming of engineering skills at a high professional level. An operating balance must be maintained between manpower allotted to administer the test program and manpower allotted to a pretest review of certification data. Any increase in pretest activity, without a commensurate increase in manpower, would ultimately lead to an associated decrease in test activity.

APPENDIX I

Since the program inception, some 129 requests for certification data as part of our pretest activities (fishing expeditions) have been initiated. Of these, 65 have been issued since January 1, 1972, illustrative of our increasing use of this approach. However, the prime benefit of such reviews has been to gain familiarity with testing techniques currently being used by industry (the Act does not require a manufacturer to test nor is he told how to test if he desires to do so). It would be naive of us to expect a manufacturer to submit certification data that showed him to be in noncompliance, therefore, it is safe to assume that any data submitted to us has been thoroughly screened before being forwarded to the Administration, in order to avoid such an involuntary disclosure of noncompliance.

It would be fair to say that most cases of noncompliance discovered by the Administration have been due to a breakdown in the manufacturer's internal processing and quality controls which are used to assure continuing compliance rather than design error. The case quoted on page 27 of your draft report ". . . In some cases, such as the [1] case (see p. 17), request for the data might show that the certification was not adequately supported . . ." is particularly illustrative of this point. The original certification data submitted [1] during the investigation satisfactorily substantiated the design principle; however, it was clearly established, as a result of our investigation, that a breakdown in manufacturing controls, in one of the plants producing the [1] model in question, was responsible for the non-compliance situation.

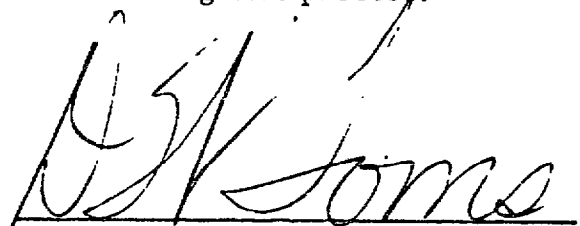
"--provide for more effective and timely action to obtain correction of unsafe vehicle and equipment conditions that have been identified."

Great efforts have been made to reduce the investigative-corrective action cycle. This, of necessity, has involved the setting of many operational precedents. The initial standards, by Congressional mandate, were required to incorporate existing standards, among other considerations. This proviso, then, meant the adoption of industry standards and their associated test and demonstration procedures. The standards adopted, primarily those of the Society of Automotive Engineers and the Rubber Manufacturers Association, were never intended by their authors to be used for compliance type testing and thus, very rarely, if ever, provided a simple clear cut "go" or "no go" compliance evaluation. The manufacturers were always ready to exploit

¹ GAO note: The deleted comments refer to matters included in the draft report but omitted from the final report.

this situation to the full and, for that matter, still do by scattering "red herrings" across the investigative path and thus, in many cases, greatly delaying the final decision. It should be recognized then that the Administration, alone, does not necessarily exercise full control of the timing in resolution of the investigative cycle. A manufacturer, under the statute, is entitled to due process and this can mean, and very often does, lengthy and protracted negotiations.

However, even in the face of these difficulties, improvements have been made and indications during our current testing program point to an average of approximately 5 months for closing out an investigation. In-house management actions that have materially assisted in improving the situation include: the computerizing of these activities currently being investigated, and routine notification of manufacturers regarding test failures normally within 24 hours to permit early action on their part before entering into the more formal investigative process.

A handwritten signature in cursive script, appearing to read "D. W. Toms", written over a horizontal line.

Douglas W. Toms
Administrator
National Highway Traffic Safety
Administration

APPENDIX II

FEDERAL MOTOR VEHICLE SAFETY STANDARDS

BEST DOCUMENT AVAILABLE

<u>Number</u>	<u>Area</u>	<u>Effective date</u>	<u>Purpose</u>
116	Hydraulic brake fluids	6-3-63	Specifies minimum physical characteristics of hydraulic brake fluids used in motor vehicles. Labeling requirements for brake fluid containers became effective March 1, 1972.
209	Seatbelt assemblies	3-1-67	Specifies requirements for manufacturing seatbelt assemblies.
101	Control location, identification, and illumination	1-1-68	Requires that essential controls be within reach of the driver restrained by lap belt and upper torso restraint and that certain of these controls be identified when mounted on instrument panel.
102	Transmission shift lever sequence, starter interlock, and transmission braking effect	1-1-68	Requires that transmission shift lever sequences have the neutral position placed between forward and reverse drive positions.
103	Windshield defrosting and defogging systems	1-1-68	Requires that all vehicles manufactured for sale in the continental United States be equipped with windshield defrosters and defogging systems and (effective Jan. 1, 1969) meet certain performance requirements.
104	Windshield wiping and washing systems	1-1-68	Specifies windshield area to be wiped and requires washers and high-performance, two-speed wipers on all passenger cars. Wipers must be able to sweep windshield at least 45 times a minute.
105	Hydraulic brake systems	1-1-68	Each passenger car must have a footbrake capable of stopping under specified conditions, a parking brake capable of holding on a 30-percent grade, a warning light that indicates failure of hydraulic brakes, and a system to provide residual braking in case the service brake fails.
106	Hydraulic brake hoses	1-1-68	Vehicles must be equipped with hoses meeting requirements specified by this standard.
107	Reflecting surfaces	1-1-68	Windshield wiper arms, inside windshield moldings, horn rings, and the frames and brackets of inside rearview mirrors must have dull surfaces.
108	Lamps, reflective devices, and associated equipment	1-1-68	Specifies requirements for signaling equipment.
109	New pneumatic tires	1-1-68	Specifies tire dimensions and laboratory test requirements for bead unseating resistance; specifies strength, endurance, and high-speed performance; defines tire load rating; and specifies labeling requirements.
110	Tire selection and rims	4-1-68	Specifies requirements for original equipment tire and rim selection on new cars to prevent tire overloading.
111	Rearview mirrors	1-1-68	Specifies requirements for rearview mirrors.
201	Occupant protection in interior impact	1-1-68	Specifies requirements to afford impact protection for occupants.
203	Impact protection for the driver from the steering control system	1-1-68	Provides for steering systems that yield forward, cushioning the impact of the driver's chest and absorbing impact energy in front-end crashes.
204	Steering control rearward displacement	1-1-68	Limits the rearward displacement of steering control into passenger compartment.

<u>Number</u>	<u>Area</u>	<u>Effective date</u>	<u>Purpose</u>
205	Glazing materials	1-1-68	Specifies requirements for all glazing materials used in windshields, windows, and interior partitions of motor vehicles.
206	Doorlocks and door retention components	1-1-68	Specifies load requirements for door latches and door hinge systems.
207	Anchorage of seats	1-1-68	Establishes requirements for seats, their attachment assemblies, and their installation.
210	Seatbelt assembly anchorages	1-1-68	Specifies requirements for seatbelt assembly anchorages.
211	Wheel nuts, wheel discs, and hubcaps	1-1-68	Requires that "spinner" hubcaps and other winged projections be deleted from wheel nuts, wheel discs, and hubcaps.
301	Fuel tanks, fuel tank filler pipes, and fuel tank connections	1-1-68	Specifies requirements for the integrity and security of fuel tanks, fuel tank filler pipes, and fuel tank connections, to minimize fire hazard as a result of collision.
112	Headlamp concealment devices	1-1-69	Specifies that any fully opened headlamp concealment device shall remain fully opened whether either or both of the following problems occur: (1) any loss of power to or within the device or (2) any malfunction of wiring or electrical supply for controlling the concealment device.
113	Hood latch systems	1-1-69	Specifies requirements for a hood latch system for each hood.
115	Vehicle identification number	1-1-69	Specifies requirements for an identification number for all passenger cars to facilitate recognition of unauthorized vehicle use.
202	Head restraints	1-1-69	Specifies requirements for head restraints.
114	Theft protection	1-1-70	Each passenger car must have a key-locking system.
212	Windshield mounting	1-1-70	Requires each windshield mounting to retain either (1) not less than 75 percent of the windshield periphery or (2) not less than 50 percent of that portion of windshield periphery on each side of the vehicle's longitudinal centerline, if an unrestrained 95th percentile adult male manikin is seated in each outboard front seating positions.
118	Power-operated window systems	2-1-71	Requires that power-operated window systems be inoperative when ignition is in an off position or when key is removed.
213	Child seating systems	4-1-71	Specifies requirements for child seating systems for seating and restraining a child being transported in a motor vehicle.
^a 117	Retreaded pneumatic tires	1-1-72	Requires retreaded tires to meet performance requirements similar to those for new passenger car tires and prohibits practices in manufacture of retreads which might weaken completed tire. Labeling requirements also.

APPENDIX II

<u>Number</u>	<u>Area</u>	<u>Effective date</u>	<u>Purpose</u>
^b 208	Occupant crash protection	^c 1-1-72	Specifies requirements for both active and passive occupant crash protection systems for passenger cars, multipurpose passenger vehicles, trucks and driver's seats in buses.
215	Exterior protection	9-1-72	Requires passenger cars to withstand barrier impacts of 5 miles per hour front and 2-1/2 miles per hour rear without damage to lighting, fuel, exhaust, cooling, and latching systems. An amendment effective September 1, 1973, was issued to upgrade the barrier impact speed to 5 miles per hour front and 5 miles per hour rear and to correct the mismatch between passenger car bumpers by requiring impacts by a weighted pendulum at 5 miles per hour front and rear.
302	Flammability of interior materials	9-1-72	Specifies burn resistance requirements for materials used in occupant compartments of motor vehicles.
214	Side door strength	1-1-73	Specifies requirements for side doors of passenger cars to minimize the safety hazard caused by intrusion into the passenger compartment in a side impact accident.
216	Roof crush resistance	8-15-73	Sets minimum strength requirements for passenger car roofs.
122	Motorcycle brake systems	1-1-74	Each two- or three-wheeled motorcycle is required to have either a split hydraulic service brake system or two independently actuated service brake systems.
124	Accelerator control system	9-1-73	Specifies requirements for return of vehicle's throttle to idle position when driver removes actuating force from accelerator control or in event of breakage or disconnection in accelerator control system.
125	Warning devices	1-1-74	Establishes shape, size, and performance requirements for reusable day and night warning devices that can be erected on or near the roadway to warn approaching motorists. It applies only to devices that do not have self-contained energy sources.
121	Air brake systems	9-1-74	Establishes performance and equipment requirements on vehicles equipped with airbrake systems.
123	Motorcycle controls and displays	9-1-74	Specifies requirements for the location, operation, identification, and illumination of motorcycle controls and displays and for stands and footrests.
126	Truck-camper loading	1-1-73	Specifies labeling requirements for campers.
217	Bus window retention and release	9-1-73	Establishes minimum requirements for bus window retention and release to reduce the likelihood of passenger ejection in accidents and to speed exit in emergencies.

^aPart of this standard was suspended in December 1972.

^bThe standard currently does not provide for seatbelts or passive restraint systems for bus occupants, other than the driver, even though the need for some type of restraint system to reduce occupant injuries in motor vehicles has been recognized by the Safety Administration since January 1, 1968, as explained in footnote c.

^cA prior version of standard 208, effective January 1, 1968, required lap and upper torso restraint belts in each front outboard seat if the windshield header was in the head impact area and required lap restraint belts in every other seating position.

PRINCIPAL OFFICIALS OF THE
DEPARTMENT OF TRANSPORTATION
RESPONSIBLE FOR THE ACTIVITIES
DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
SECRETARY OF TRANSPORTATION:		
Claude S. Brinegar	Feb. 1973	Present
John A. Volpe	Jan. 1969	Feb. 1973
Alan S. Boyd	Apr. 1967	Jan. 1969

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (note a)

ADMINISTRATOR (note b):		
Douglas W. Toms	Jan. 1970	Present
Robert Brenner (acting)	Feb. 1969	Jan. 1970
William Haddon	Apr. 1967	Feb. 1969

^aThe predecessor agency, National Highway Safety Bureau, was part of the Federal Highway Administration before March 1970.

^bTitle changed from "Director" to "Administrator" July 1971.