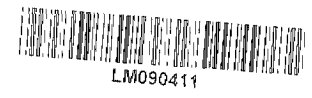


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Delays In Establishing A Uniform Quality Grading System For Motor Vehicle Tires

National Highway Traffic
Safety Administration
Department of Transportation

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

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MARCH 28, 1975



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

B-135374

The Honorable Gaylord Nelson
United States Senate

Dear Senator Nelson:

In accordance with your May 29, 1974, request we are furnishing you with our report on the long delay by the Department of Transportation's National Highway Traffic Safety Administration in establishing a quality grading system for motor vehicle tires.

As you requested, we did not obtain written comments from the Department of Transportation on this report. We did, however, discuss the matter in this report with representatives of the agency and their views were considered.

We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours.

A handwritten signature in cursive script that reads "Thomas P. Abate".

Comptroller General
of the United States

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CHAPTER 1

INTRODUCTION

In 1973, over 200 million new passenger car tires were distributed in the United States. An estimated 1,500 different lines of tires are available in a variety of materials and construction to the consumer. Information on how one tire performs in relation to all others has not been available to the consumer in his selection and purchase. The Department of Transportation is responsible for establishing a uniform system which would make this information available to him.

During hearings and discussions on the need for motor vehicle and tire safety standards, the Congress in 1966 recognized that there was great consumer confusion as to the quality of tires offered for sale to the public and the meaning of the variety of trade terminology used in marketing new passenger car tires. This confusion led to including a provision in the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1381), approved September 9, 1966, that a system be established to assist the consumer in making an informed choice in purchasing new tires. Section 203 of title II requires that:

"* * * within two years after the enactment of this title, the Secretary shall * * * prescribe by order, and publish in the Federal Register a uniform quality grading system for motor vehicle tires."

The Department's National Highway Traffic Safety Administration had issued and later withdrawn two proposals for a tire grading system. A third proposal, made in June 1974, was pending as of January 1975.

The Safety Administration's Motor Vehicle Programs office is responsible for issuing regulations covering tire and motor vehicle safety as well as tire quality grading. Such regulations are required to be supported with a sound engineering and technical basis. Most of the tire safety and quality grading research has been sponsored or performed by the Safety Administration's office of Research and Development. The cost of all tire research totaled about \$8 million through fiscal year 1974.

At the request of Senator Gaylord Nelson, we have gathered information on the delays involved in establishing a uniform quality grading system for motor vehicle tires.

CHAPTER 2

INABILITY TO ESTABLISH A

UNIFORM TIRE GRADING SYSTEM

Although the National Traffic and Motor Vehicle Safety Act of 1966 called for a uniform quality grading system for tires by 1968, the Safety Administration (including its predecessor organizations), as of January 1975, has yet to implement a tire grading system. The extended delay in meeting the requirements of the act is attributable to technical difficulties in developing acceptable tire testing procedures and the Safety Administration's inability to provide effective leadership and to resolve internal disagreements.

TECHNICAL PROBLEMS

A uniform tire grading system is to inform the consumer about the comparative performance of tires which will help him in purchasing motor vehicle tires. Initially, the task of the Safety Administration was to identify relevant tire characteristics which would be meaningful to the consumer and to develop ways to evaluate and grade these characteristics. At the time the Safety Act was enacted in 1966, there were no standard methods or classification concepts for quality grading of motor vehicle tires.

The initial tire characteristics identified and considered for quality grading by the Safety Administration were tire strength, endurance, high-speed performance, tread wear, and traction. Of these properties tread wear and traction were considered the most important. Grading for strength, endurance, and high-speed performance did not pose any major technical problems. Laboratory tests for these properties already existed and were used for determining compliance with Federal tire safety standards established in 1967. Quality grading of these properties was found possible by extending the duration of the existing tests to measure levels of performance beyond the minimum safety level.

Tread wear and traction were not covered in the tire safety standards, and no standard laboratory or other tests existed at that time to grade for these properties. Early research and testing by the Safety Administration identified a number of problems in attempting to uniformly measure tire performance in these areas. Many variables affect the accuracy and repeatability of tread wear and traction tests, including speed, condition and type of road surface, weather conditions, and vehicle and driver influence. Uniform methods had to be devised to counter the effects of external

factors to insure that repeatable and uniform comparisons could be made among the hundreds of types of passenger tires on the market.

The Safety Administration published a proposed rule on uniform tire quality grading in the Federal Register in September 1971. Most industry and consumer groups strongly opposed the proposed grading system as too technical, involving too many grading combinations, and lacking the two most essential tire properties--tread wear and traction. As a result, the proposed rule was withdrawn on April 21, 1972.

The Safety Administration published another proposed tire grading rule in March 1973, stating that it would become effective on September 1, 1974. At that time the Administration faced a civil action in the U.S. District Court, brought by a private citizen to require the Administration's compliance with the Safety Act. On July 31, 1973, the court ordered the Safety Administration to issue a final quality grading system by January 5, 1974, effective no later than September 1, 1974. The proposed rule of March 1973 required using a control tire which had not been developed. The final rule was issued on January 4, 1974.

Tire and vehicle companies and associations subsequently argued that the tread wear and traction tests could not be performed without the control tire. They also argued that, under the rule, test results at one facility could not be correlated with those obtained at another facility. These same arguments had been raised earlier by the Safety Administration's research staff.

In the absence of a control tire, and by agreement of the parties to the civil action, the District Court issued a consent order on May 1, 1974, requiring the issuance of a revised tire quality grading proposal by June 15, 1974, with a proposed effective date of May 1, 1975. This requirement (amended in January 1975) was met and the effective date is expected to be met. The Safety Administration thereupon revoked, on May 9, 1974, the rule it had issued in January 1974.

MANAGEMENT PROBLEMS

The failure of the Safety Administration to establish, within a reasonable time, a uniform quality grading system for tires is attributable largely to its inability to resolve technical and policy disagreements among the various organizational groups involved in the program and to provide strong and effective program direction. The agency did not develop a systematic plan nor settle on a coordinated approach to establishing a grading rule. The various partic-

ipating groups pursued their own ideas and concepts, disagreed with those of others, and generally made little progress toward the ultimate objective of a tire grading system.

The program became bogged down because of (1) disputes and debates on which direction to take, (2) lack of effective direction from top management, (3) major differences of opinion not promptly arbitrated and resolved, and (4) firm decisions not made and implemented. Although a number of different organizational groups have been involved in the tire grading program, the major disagreements and coordination problems primarily involved the motor vehicle programs staff, who have rulemaking responsibility, and the research and development staff, who have responsibility for providing a sound technical basis for a grading rule.

From 1968 to 1974, management of the Administration vacillated over a succession of grading studies, proposals, and critiques from various sources inside and outside the Administration.

The initial approach for a grading system was recommended to the Safety Administration in October 1968 by the Bureau of Standards, which performed tire grading research under an interagency agreement. The Bureau's research staff stated that, before its report, it repeatedly tried to arrange meetings with the Administration's programs staff to explain the technical basis for its proposal. The Bureau's efforts were unsuccessful and the programs staff disagreed with its recommendations.

Successive studies and plans were then submitted by a steering committee reporting to the head of the Administration, the Administration's National Highway Safety Institute, the programs staff, the Bureau of Standards, the Department's Transportation Systems Center, and the Administration's planning and programming office. All were subject to criticism from one or another source within the Administration, but the sharpest lines of disagreement were between the program staff and the research group. In March 1970 the deputy head of the agency stated that, in view of these unresolved differences, he was considering reprogramming tire research funds to other programs. Later the same year, the head of the agency stated that its resources would be directed to higher priorities than the tire grading system.

The revoked grading proposals published in 1971 and 1973 were spearheaded by the programs staff. There was considerable technical disagreement on them within the Safety Administration, as well as from the tire industry and consumer groups.

Not until 1974 were the efforts of research and programs personnel sufficiently coordinated to produce a tire grading system with unified internal support.

The current rule to become effective in May 1975 specifies grading for tread wear, traction, and high-speed performance. The test approaches proposed do not represent new concepts or technical breakthroughs. The Safety Administration's research office has contended that methods for grading tread wear and establishing a minimum safety level for traction were adequately developed for use several years ago. However, some refinements have been made, particularly in traction testing.

We previously reported on the need for closer coordination generally between the research staff and the programs staff, in developing motor vehicle safety standards. (Report to the Committee on Commerce, United States Senate, "Improvements Needed in Planning and Using Motor Vehicle Safety Research," September 16, 1974, B-164497(3).) The Department of Transportation told us in July 1974 of measures underway in the Safety Administration to develop close coordination. Considerable progress appears to have been made.

GOVERNMENT-INDUSTRY COMMUNICATION AND COOPERATION

The interchange of tire grading ideas and information between the tire industry and the Safety Administration occurred primarily in response to public notices on proposed grading rules which in turn offered ideas and data on different approaches to a total grading system or to the grading of specific tire properties. The tire industry generally offered to cooperate in establishing a grading system. One notable exception was the industry's minimal and basically negative response to the Safety Administration's first request for tire grading information in 1968.

Exchanges of tire grading information between the Administration and tire companies, other than responses to formal notices, were the exception rather than the rule. Officials of the Safety Administration told us that their rulemaking position did not permit sharing the responsibility with industry for developing solutions to the technical problems. In the opinion of these officials, their principal dependence on industry should be for sound technical data. In the view of those currently involved in tire grading research and rulemaking, the industry did not provide much useful technical data.

Section 203 of the National Traffic and Motor Vehicle Safety Act of 1966 also requires the Department of Transpor-

tation (delegated to the Traffic Safety Administration) to cooperate with industry and the Federal Trade Commission in eliminating "deceptive and confusing tire nomenclature and marketing practices." Little has been done about this. Officials of both Government agencies told us that they would begin coordination when the tire quality system becomes effective.

CHAPTER 3

CHRONOLOGY OF MAJOR EVENTS RELATING TO

DEPARTMENT OF TRANSPORTATION EFFORTS TO DEVELOP

A UNIFORM TIRE QUALITY GRADING SYSTEM

SEPTEMBER 1966 TO JANUARY 1975

September 1966

The National Traffic and Motor Vehicle Safety Act of 1966 was approved on September 9, 1966. Section 203 required the Secretary of Commerce to prescribe and publish a uniform quality grading system for motor vehicle tires within 2 years. The system was to take effect within 1 year after publication unless otherwise specified by the Secretary.

October 1966

The Department of Transportation Act, approved October 15, 1966 (49 U.S.C. 1651-1659), required the Secretary of Transportation to carry out the provisions of the National Traffic and Motor Vehicle Safety Act of 1966 through a National Traffic Safety Bureau to be established in the newly created Department of Transportation.

March 1967

The Secretary of Transportation and the Acting Secretary of Commerce entered into a formal agreement to have the National Bureau of Standards carry out programs of research, testing, and development related to the objectives of the Safety Act of 1966. Part of the Bureau's tire research efforts were directed to developing a technical basis for establishing a tire quality grading system.

December 1967

The Bureau of Standards proposed for consideration and discussion a method for implementing a tire grading system. The method envisioned establishing a set of categories describing the intended use of tires, selecting tire properties and test methods that would measure relative quality within a given category, and basing the grading system on data to be collected, on existing tires. Tire properties offered for initial consideration were traction; tread wear; high-speed capability; load endurance; impact resistance; carcass life; ability to perform under abuse conditions; maximum allowable vibration; and resistance to cuts, chipping, and cut growth.

January 1968

A Bureau of Standards representative held a series of meetings with individual tire companies to get their reactions to its proposed system for grading tires. The Bureau considered the companies' responses to be instructive and useful. Conceptually, the companies generally considered the proposed system reasonable but there were many divergent opinions and views on specifics.

February 1968

A Bureau of Standards representative met with technical representatives of tire companies and the Rubber Manufacturers Association to exchange views on how best to standardize test methods for the data collection phase of its program for establishing a uniform tire quality grading system. Testing procedures were proposed by the Bureau for five tire properties selected as the basis for differentiating tire quality--these were high-speed capability, endurance, impact resistance, traction, and wear. The discussions resulted in the Bureau tentatively adopting specific testing procedures for measuring these properties. Because of a shortage of testing capacity available to it, the Bureau requested tire companies to use their own facilities to run the endurance test on their respective tires and to furnish the results to the Bureau.

May 1968

The Federal Highway Administration (Department of Transportation) published in the Federal Register an advance notice of proposed rulemaking for the uniform quality grading of tires. This was the Department's first formal notification to the public on this subject. The notice requested interested parties to furnish comments and information that would assist in arriving at a reasonable and practicable grading system. The notice specifically requested material containing supporting statements and data on (1) laboratory and vehicle road testing, (2) measuring procedures and techniques used to evaluate tire performance characteristics, and (3) comments relating to lead time and costs associated with a meaningful tire grading system covering at least the following tire characteristics: traction, tread wear, carcass durability, high-speed, overload, resistance to abuse, unbalance, force variations, and degradation by elements.

JULY 1968

The 23 submissions received in response to the Department's May 1968 advance notice generally did not contain the type of test data the Department considered necessary for arriving

at a reasonable grading system. Only four domestic tire companies submitted individual comments. The Rubber Manufacturers Association submitted a letter on behalf of domestic manufacturers of new passenger car tires in which it stated the belief that a vast amount of information not readily available to purchasers at the time the 1966 act was passed was subsequently being supplied to customers through permanent molding on tires, fact tags, wall posters, and handouts, and that this had met the true intent of the law.

OCTOBER 1968

The Bureau of Standards submitted a report to the Department's Safety Bureau recommending that a tire grading system be implemented on the basis of the technical data developed in its study and summarized in the report. The Bureau's research staff stated that, before its initial report and recommendations for a tire grading system in October 1968, it made repeated attempts to arrange conferences with the Safety Bureau's programs staff to explain the technical basis for its forthcoming recommendations. Although the research staff considered such conferences essential for a technical understanding of its recommendations, all efforts to set up the technical meetings were unsuccessful.

The Bureau's plan was to (1) grade tires on endurance, wheel-speed capability, strength, and tread wear; (2) set a minimum performance requirement for tire traction as a part of a Federal safety standard; and (3) categorize tires according to intended usage. The plan also stated that tests for tread wear should be conducted on specified test routes to insure equivalent results from test to test, and it proposed several alternatives for consideration.

The Safety Bureau's programs staff stated that the test methods proposed by the Bureau for measuring tread wear and traction involved too many uncontrolled variables to permit repeatable testing and uniform results. There is no indication in the record of any coordination between the Safety Bureau and the Bureau of Standards to resolve such basic disagreements during the Bureau's research. The Bureau's research staff was subsequently instructed to proceed with further research and testing. No official decision was made on specifying test routes for tread wear grading.

Officials engaged in the Bureau's early tire grading work told us that the October 1968 proposal for a grading system could have been implemented as early as 1970. Although the proposed test methods for tread wear and traction were not absolutely definitive, such methods could have provided an interim standard, subject to later refinement and modifica-

tion. The Safety Bureau's programs staff, however, insisted on developing relatively new testing concepts requiring extensive research and testing.

JANUARY 1969

In a letter to tire and automobile companies, the Safety Bureau said that although very little constructive information was provided in response to the May 1968 advance notice of proposed rulemaking, it was the Bureau's understanding that much objective data and many valuable suggestions were compiled within the industry on the subject of tire quality grading. The Bureau asked that the companies submit the data and suggestions on an individual company basis.

Responses were mixed--some companies provided little detailed or new information; some furnished detailed comments and data. The replies included some test data, but many manufacturers addressed testing methods and procedures that could be used in quality grading and the problems they envisioned.

The Safety Bureau considered Uniroyal's response to be particularly significant. Uniroyal's proposal envisioned that tires would fall into five different use categories depending on their grading in tread wear, traction, strength and high speed. A standard control tire would be used in testing for tread wear and traction. The quality level of a tire under test would be established on the basis of its statistically major differences from a control tire under simultaneous test. Uniroyal offered to make its technical personnel available for further discussion of its proposal. Most large manufacturers offered support of their technical staffs to assist the Government with the technical problems of quality grading. However, the Safety Bureau did not take up these offers. The record shows little additional contact with the tire industry until the Safety Bureau issued its first tire grading proposal notice in September 1971. (According to officials currently involved in tire grading research and rulemaking, the Safety Administration could not have maintained its independent position as a regulatory agency by working any closer with the tire industry at that time.)

APRIL 1969

From the outset of its tire grading responsibility, the Safety Bureau's recognition of the importance of tread wear and traction in a grading system was indicated by the following comments of the acting director at hearings held by the Senate Committee on Commerce in April 1969.

"Progress is being made, but we are a long ways away from the standard."

"However, we are convinced that we cannot or should not ever issue a quality grading standard that does not include traction."

"Our evidence and information that we have received from the tire industry, as well as our own in-house analysis on the Bureau of Standards research, suggest that were we to issue a tire quality grading standard without or one that does not include traction, we might be causing more damage from a safety standpoint than good * * * We feel that it would be a step in the wrong direction to issue a tire quality grading standard of any sort that did take into account traction."

In hearings held the same year by the Subcommittee on Transportation, of the House Committee on Appropriations, the acting director testified:

"The problem is that we have no way of measuring traction or tread wear and the tire industry tells us very definitely, and our engineers and the Bureau of Standards agree, we do not dare issue a quality grading system for tires which is based upon tread wear if we do not have the property of traction also included."

MAY 1969

The National Highway Safety Bureau held an internal meeting to review the tire grading program and to arrive at an approach for solving problems that were delaying issuance of a tire grading system. Minutes of the meeting noted that in October 1968 the Bureau of Standards had submitted recommendations for establishing a complete grading system but that the Safety Bureau felt that the information available was not adequate for that purpose. It was decided that separate proposals should be offered on grading individual tire properties (high-speed, strength, force variation, endurance, tread wear, and traction) as soon as information becomes sufficient for such action. Tests and procedures for high-speed, strength, and force variation were considered sufficient for grading purposes. An endurance test was expected to be completed within 3 months. Differentiating tread wear and traction characteristics was considered the most difficult obstacle in establishing a total quality grading system, and a committee was to be formed to develop specifications for standard tires, equipment, road surfaces, and test procedures as an approach to grading tread wear and traction.

JULY 1969

A Uniform Tire Quality Grading System Steering Committee, answerable directly to the Director of the National Highway Safety Bureau, was established and given responsibility for all operations required to develop and issue a tire grading system. These were to include planning, programing, and direction of technical effort. The approach was to issue proposed rules incrementally as discussed at the May 1969 meeting. The Committee was authorized to obtain assistance from the Bureau of Standards and other sources as needed.

The Committee recommended that, during and preceding the development of the standard road, vehicle, tire, and test procedures that would provide the ultimate method of grading tread wear and traction, the Bureau of Standards should continue its proposed tread wear testing efforts to provide an earlier payoff in terms of an interim tread wear grading standard. The Committee recommended also that a minimum traction standard be established. Although the total effort was expected to take about 2 years, including long-term research, the Committee's initial recommendations were not accepted by the Safety Bureau and it ceased to function. The Safety Bureau did not go forward with separate grading proposals as had been planned.

JULY 1969

Shortly after the Committee made its recommendations, the Acting Director of the Safety Bureau directed the National Highway Safety Institute (a Safety Bureau component) to prepare a work plan showing in detail the Bureau's approach to solving the problems associated with defining a tire grading system.

The plan that was prepared (dated July 31, 1969) elaborated upon the approach discussed at the Safety Bureau's May 1969 in-house meeting, and presented charts showing a time-phased scheme of key program events and management actions needed to establish a tire grading system. Completion was estimated to be 4 years away (September 1973).

SEPTEMBER 1969

The B.F. Goodrich Company presented to the Safety Bureau details regarding a newly developed trailer for testing tire tread wear and traction.

OCTOBER 1969

The Motor Vehicle Safety Performance Service (a Safety Bureau component) prepared its own plan presenting recommendations

for developing a tire grading system for tread wear and traction which were different from the standardized road, vehicle, tire, and test approach in the Safety Institute's plan. The major premises of the plan were that (1) a sound engineering data base had been established for testing high-speed performance, strength, and force variation; (2) a meaningful, sound engineering data base would soon be established for testing endurance, (3) a study should be conducted of the practicability of using a two-wheeled trailer developed by Goodrich for testing tread wear and traction; and (4) the Bureau of Standards should complete its planned tread wear and traction testing program and the test results should be correlated with data obtained from the trailer tests to verify feasibility of the trailer method of testing. The plan included a time-phased development schedule that envisioned issuance of a final grading system in about 2-1/2 years (May 1972).

JANUARY 1970

At the request of the Acting Director of the Safety Bureau, the Safety Institute prepared a critique of the October 1969 plan developed by the Motor Vehicle Safety Performance Service. The critique said there was much commonality between the Institute's July 1969 plan and the Service's October 1969 plan but that there were major differences in approaches to testing tread wear. The Institute's plan advocated using a standard self-powered, four-wheel vehicle running on a controlled series of road surfaces, while the Service's plan proposed to run a two-wheel towed trailer over segments of the Nation's highways. The task force preparing the critique felt that the trailer approach would not produce the results needed to support a grading standard on tread wear. The Safety Bureau did not decide on either approach.

MARCH 1970

In a memorandum to the Acting Director of the Motor Vehicle Safety Performance Service, the Acting Director of the Institute said that involving both groups in the development of test plans for tire grading had created doubt as to where the overall test program responsibility belongs. He also said that, as a result, much valuable time was being lost and he suggested an early get-together to decide the test approach, recommend assignments of responsibilities, and get the program moving again.

MARCH 1970

In a memo dated March 12, 1970, the Deputy Director of the Safety Bureau announced that he was considering possible reprogramming of tire research funds to other programs

because of the inability to resolve disagreements between the programs group and the research group.

MARCH 1970

The National Highway Safety Bureau was transferred out of the Federal Highway Administration and made a separate operating administration within the Department of Transportation by order of the Secretary.

APRIL 1970

The Office of Operating Systems, a component of the Motor Vehicle Safety Performance Service, prepared comments taking exception to statements in the Safety Institute's January 1970 critique of the Service's plan. The comments pointed out that the critique had failed to recognize that the traction test procedure in the plan was unique and untried.

JUNE 1970

The National Bureau of Standards presented its second proposal for a uniform tire quality grading system to the Safety Bureau. The proposal was similar to that offered by the Bureau of Standards in October 1968 but presented more detailed information on testing methods. Wheel-speed capability, impact resistance, and endurance tests were to be extensions of Federal tire safety standard test procedures; tread wear tests were to be conducted on one designated tread wear course consisting of several pavements and requiring a variety of speeds and maneuvers; and a minimum performance standard for traction was to be added to the tire safety standard.

The Deputy Director of the Safety Bureau said that the Bureau of Standard's proposal was better than the maze the public was then in regarding tires, that it looked o.k. as a start, and that it had possibilities for later refinements. The Director of the Safety Bureau agreed and instructed the head of his research and development group to move on the proposal.

JUNE 1970

The Safety Bureau's Motor Vehicle Programs office criticized the Bureau of Standards proposal and advised the Director of the Safety Bureau of its problems with the proposal. The programs group stated that the tread wear and traction test results were "unlikely to be sufficiently repeatable to support rulemaking" and that, if traction test results were adequate to establish a minimum standard, they should be sufficient for establishing grading levels. The Director agreed to

await further word from the head of the programs staff, and nothing was done on the Bureau's proposal.

OCTOBER 1970

A tire testing task force, formed in August 1970, of the Department's Transportation Systems Center prepared a special report on the status of implementation of a tire quality grading system. The report focused on tread wear and traction testing and recommended that a minimum standard of performance be developed for tread wear as part of the tire safety standard and that selected public roadways be used for running the tests. For traction grade testing, the report recommended using a type of road aggregate which would be easily specified and could be constructed and monitored at nominal cost.

The report added another dimension to the wide differences in opinion on quality grading that already existed. The Center's recommendations did not reflect any of the opinions within the agency on quality grading.

OCTOBER 1970

In discussions with Bureau of Standards officials, the Director of the Safety Bureau indicated that establishing a uniform tire quality grading system was just not as important as other priorities and that the Safety Bureau's efforts and resources would be redirected accordingly. When the Director of the Bureau of Standards pointed out that his Bureau's tire grading research program and proposed implementation were close to completion, the Safety Bureau Director indicated that he personally agreed with the Bureau of Standard's plan but that his staff raised objections. The Safety Bureau Director also noted that industry was not favorably disposed toward tire grading and that there did not seem to be much congressional interest in this matter.

NOVEMBER 1970

Critical comments on the special report of the Transportation Systems Center's task force were prepared within the Motor Vehicle Programs group. The comments noted that the task force had "bought" the system concept proposed by the Bureau of Standards but that the described approach to tread wear and traction were out-of-phase--traction being a definite safety related property and belonging in the Federal safety standard while tread wear belonged in a quality grading system. (The task force report had recommended the reverse.)

DECEMBER 1970

The Safety Bureau's planning and programming office reviewed the status of the grading program and reported:

"The * * * [Safety Administration] posture on UQGS [a uniform quality grading system] is probably worse at this time than is that of any other program. In summary, we have been working on this program with NBS [National Bureau of Standards] for the past several years. NBS has developed a proposed method which has neither been accepted or rejected officially. * * * TSC [Transportation Systems Center] has conducted a study for us and made recommendations which have neither been accepted or rejected officially."

"In short, we are at a virtual standstill in this program, with no plans to break the impasse."

"* * * It becomes very obvious to anybody investigating this area, even superficially, that we have major problems."

In an effort to get the program moving, comments were requested from major Bureau groups on the conclusions resulting from the study. The study, prepared by a member of the Bureau's system analysis group concluded that the Safety Bureau was nearly ready to proceed with a rudimentary but useful grading system similar to the Bureau of Standards' proposal. The study recommended that three properties (high-speed, endurance, and tread wear) be graded and that traction be added to the safety standard as a minimum requirement. High-speed and endurance would be graded using procedures adapted from the safety standard and tread wear evaluated through manufacturer-conducted-and-certified road tests using designated reference tires against which production tire performance would be compared. Also, except for mud and snow tires, tires would not be categorized according to their intended service or use as proposed in the Bureau of Standards plan.

DECEMBER 1970

The National Highway Safety Bureau was renamed the National Highway Traffic Safety Administration.

FEBRUARY 1971

After considering the comments requested in December 1970 from the Motor Vehicle Programs group, the Research and Development group, and his own staff, on a course of action for establishing a tire grading system, the head of the

planning and programing group recommended to the Acting Administrator that the Safety Administration proceed immediately with an initial grading rule on high-speed, endurance, strength, and uniformity, and undertake a well supported development program to establish a "second generation" rule that would include both tread wear and traction as well as new developments or refinements in grading procedures for all properties.

The Deputy Administrator instructed the head of the planning and programing group to proceed with the above recommended plan for an initial ("first generation") grading rule.

MARCH 1971

At a meeting of Safety Administration officials to map out schedules and target dates for the first generation rule, the Motor Vehicle Programs group offered its latest version of an initial grading system--this system was described as being closely similar to the one recommended by the planning and programing group in February 1971.

MARCH 1971

The Motor Vehicle Programs group prepared an executive policy paper on a proposed rulemaking notice for an initial grading system covering tire strength, temperature resistance, endurance performance, and smoothness.

MAY 1971

The Acting Chief Scientist of the Safety Administration characterized the proposed rulemaking notice as representing a "no standard" standard, and suggested a modified approach that would include tread wear and smoothness gradings and a minimum traction requirement incorporated into the tire safety standard.

JULY 1971

The Bureau of Standard's Office of Vehicle Systems Research and its personnel were transferred from the Department of Commerce to the Department of Transportation and made a part of the National Highway Traffic Safety Administration. The group was renamed the Safety Systems Laboratory.

SEPTEMBER 1971

The Safety Administration published in the Federal Register a notice of proposed rulemaking on uniform tire quality grading. The proposed rule covered high-speed performance, endurance, road hazard resistance, and uniformity and balance.

The notice said that tread wear and traction grading would be added to the grading system in the future. Tires were to be graded for strength, endurance, high-speed performance, and uniformity and balance by measuring a tire's performance in laboratory tests then used throughout the tire industry. The tests proposed for high-speed performance, endurance, and strength would be extensions of tests specified in safety standards for tires, the technical basis for which had been demonstrated by research done in the Safety Administration. Grading levels would be the degree of a tire's performance above the minimum safety standard. The uniformity and balance grading tests were adopted from existing tire and auto industry practices, using existing test equipment.

Although grading the four tire qualities was technically feasible, industry and consumer groups generally opposed the system. The notice triggered a large response from representatives of tire and automobile industries, other business firms, consumer groups, and from various individuals. Some of the responders favored the proposed regulation or said it was a step in the right direction. Most of the comments from industry and consumer groups opposed the proposed grading system on the grounds that it was too technical, involved too many grading combinations, and omitted two essential tire properties--tread wear and traction.

NOVEMBER 1971

The Safety Administration held a public meeting to hear the views of interested parties on the proposed grading system and to exchange technical data. The main thrust of the discussions at the meeting was that the proposal was unacceptable. Comments were critical of the selection of tire characteristics to be graded and the omission of tread wear and traction. The transcript of this meeting was made a part of the docket on the September 1971 notice of proposed rulemaking.

DECEMBER 1971

The Special Assistant to the President for Consumer Affairs wrote to the chief executive officers of the major domestic tire companies asking for their personal views on the necessary components of an effective tire grading system and their estimate of the time required to speedily implement such a system.

The Special Assistant described the responses as being candid, cooperative, and helpful and offered to review them with the Secretary of Transportation's staff. She was especially encouraged by the approach suggested by Uniroyal which advocated the grading of three tire properties--high-

speed capability, tread wear, and traction. A more detailed discussion of Uniroyal's approach was submitted in response to the Safety Administration's September 1971 published notice.

MARCH 1972

The Motor Vehicle Programs group briefed representatives of various groups of the Safety Administration on a revised proposal for a grading system covering tread wear, traction, and high-speed capability. Its tread wear and traction grading test methods were based on suggestions in the responses of the tire industry representatives to the agency's proposed rule of September 1971. These two tire qualities were to be graded in comparison to an industry-wide standard control tire to be developed and made available for testing simultaneously with the candidate tires. (Over the period of about a year ending in February 1973, the programs staff's proposal and several modified versions of it were distributed for comment within the Safety Administration. Serious disagreements were expressed by research, standards enforcement, and engineering systems personnel, primarily because there was no data base for the testing methods proposed for tread wear and traction grading.)

APRIL 1972

As a result of largely unfavorable comments responding to its September 1971 proposal and the public meeting held in November 1971, the Safety Administration published in the Federal Register notice of its decision to issue a modified notice of proposed rulemaking on which interested parties would have an opportunity to comment.

The effect of this decision was the withdrawal of the September 1971 proposal. The decision was made public before the actual issuance of the modified proposal in order that any interested parties who may have planned action based on the September 1971 proposal would have knowledge of the Safety Administration's intention.

APRIL 1972

At the request of the Firestone Tire and Rubber Company, Safety Administration officials met with company representatives to discuss the company's response to the notice of proposed rulemaking, including its idea that a grading system should establish categories of intended tire use and give grading consideration to strength, high-speed capability, and tread wear, and that a minimum requirement for traction be added to the tire safety standard. A control tire would be used for testing tread wear and traction.

MAY 1972

Safety Administration officials met with representatives of the B.F. Goodrich Tire Company to discuss the company's proposal that a tire grading system should consist of grading for tread wear and that a minimum requirement for traction be added to the tire safety standard. A control tire was to be used in testing for these properties.

JUNE 1972

The Safety Administration's operating systems group distributed for internal comment a draft proposal for a new notice of rulemaking for a tire grading system.

The proposal covered grading tread wear, traction, and high-speed, and use of a control tire to grade tread wear and traction. This was similar to the system proposed by Uniroyal in its response to the Safety Administration's September 1971 published notice.

Comments on the proposed new rule were submitted by various Safety Administration groups. The comments raised various issues about technical aspects of the proposed system, including the points that the design and performance specifications of the control tire were not defined, that the feasibility of the proposed tests had not been demonstrated, and that traction should be included as a minimum requirement in the tire safety standard.

JANUARY 1973

A civil action was initiated in the U.S. District Court for the District of Columbia against the Secretary of Transportation and the Administrator, National Highway Traffic Safety Administration, seeking compliance with title II section 203 of the National Traffic and Motor Vehicle Safety Act of 1966. This action was brought by a private citizen interested in obtaining the agency's compliance with the Safety Act.

MARCH 1973

The Safety Administration published its second proposal for a uniform tire grading system despite the critical comments of its technical personnel. The proposed system would require performance gradings for tread wear, traction, and high-speed performance. The proposed grading methods and procedures included use of a control tire for certain tests and were based on some of the suggestions made by tire companies in early 1972.

The Safety Administration explained that strength, endurance, and uniformity and balance were omitted, because the comments to its first proposal showed that consumers are interested primarily in information about tread wear, traction and high-speed performance.

As in the previous proposal, high-speed performance was to be graded by an extension of existing laboratory tests.

The Administration proposed to grade tread wear and traction by comparing tire performance to a control tire. The control tire concept was recommended by the tire industry after the first grading proposal. Results of the very limited research and testing conducted by the Safety Administration on its tread wear and traction proposal are described below.

Tread wear

The proposed grading test for tread wear specified comparing production tires with a control tire on a 16,000 mile road test over any route chosen by a manufacturer, as long as 65 to 90 percent of the tread was worn from the control tire at that distance. Control tires were to be the constant factor in the tread wear tests, to insure comparable results regardless of where the tests were conducted.

In January 1973, the Safety Administration initiated two tests, one in Texas and the other in Ohio, to analyze the comparability of ratings obtained, at different locations, for the same make tires of bias, bias-belted and radial construction. The test results indicated that the tread wear ratings for the bias-belted and radial tires were not comparable. Safety Administration officials told us that control tires from different production batches used in the tests wore at different rates and produced ratings that were not comparable.

Despite these inconclusive results, the Safety Administration did not perform any additional tests to determine whether comparable ratings could be obtained at different locations.

Traction

The proposal for grading traction involved a specially designed and instrumented two-wheel trailer that had been used for several years to study traction performance. A tire's traction ability was to be graded in comparison to a control tire's performance under the same test conditions. The method was based on contract research performed for the Safety Administration by a major tire manufacturer in 1972.

The research project evaluated the feasibility of a two-wheel trailer to grade traction. The contractor issued his final report in February 1973, concluding that further traction studies should be conducted under revised test conditions and refinements to the trailer test method, to evolve a standardized procedure that would establish the upper and lower limits of attainable new tire traction. Although the Safety Administration planned a follow-on contract, none was initiated.

The Motor Vehicle Programs staff accepted the contract research as adequate demonstration of the feasibility of traction grading and the suitability of the test method and equipment. In contrast, the Safety Administration's Research and Development office concluded that the research study did not provide sufficient data to test the practicability of grading traction.

The Administration's research staff and several tire manufacturers also criticized that section of the proposal, which stated that traction would be graded on two surfaces having skid qualities specified by the Safety Administration without specifying the types of surface pavements. Objections of the research staff flowed from the results of its traction research. The principal conclusion was that:

"These experiments have indicated that tire grading or classification in terms of tractive performance cannot presently be achieved because of changes in rank ordering on different surfaces and the magnitude of the differences between similar tires. Minimum levels of traction must exist above the tractive levels of tires that are known to be unsafe."

In late 1973, the Safety Administration began validation testing of the comparability of traction ratings in different geographic locations on surfaces with the same skid specification but not necessarily the same pavement. The contractor reported that the test results showed that traction values did change with geographic location and with the surface used.

Most tire companies responded that there was not enough time to grade tires for traction by the proposed September 1, 1974, effective date, especially since no source for control tires had yet been developed. The Rubber Manufacturers Association, representing 13 domestic tire companies, recommended deleting traction from uniform quality grading and its inclusion as a minimum requirement in the tire safety standard. Most responders questioned some aspects of the grading test for high speed but agreed that this part of the proposed system could be implemented by September 1, 1974.

JULY 1973

The U.S. District Court for the District of Columbia entered an order July 31, 1973, requiring the Safety Administration to issue a quality grading system in final form by January 5, 1974, with an effective date no later than September 1, 1974. Safety Administration attempts to appeal the court order were unsuccessful.

AUGUST 1973

The Safety Administration sent letters to 17 domestic tire manufacturers to determine their interest in supplying control tires to be used in tire grading tests. The March 1973 proposal depended heavily on the availability of a suitable control tire for grading tread wear and traction. A control tire source was not available at the time the proposal was issued. Of 17 domestic manufacturers solicited, only four indicated an interest in producing control tires.

In subsequent meetings between the Safety Administration and the four companies to discuss the production of control tires, various questions were asked by the companies to assist them in making their final decision.

SEPTEMBER--DECEMBER 1973

Various correspondence within the Safety Administration shows technical disagreements between the Motor Vehicle Programs group and the Research and Development group relating to tire grading tests for tread wear and traction. Research personnel continued to point out that no data had been developed to demonstrate the feasibility of the rule, that the required control tire had not been developed and therefore could not be tested, and that a standard test course for grading tires should be specified for comparability between test results.

NOVEMBER 1973

The Safety Administration published in the Federal Register a notice of a proposed rule to establish minimum requirements for traction in the tire safety standard. This was the first notice proposing a minimum safety standard for traction.

JANUARY 1974

The Safety Administration published in the Federal Register, on January 4, its final rule on a uniform tire quality grading system. The system, based on the March 1973 proposal, included tire grading on tread wear, traction, and high-speed

performance. As in the proposal, tread wear and traction grades were to be based on comparative results using a specified control tire. Laboratory tests would determine high-speed grades. The rule was to take effect on September 1, 1974, as ordered by the District Court.

FEBRUARY 1974

Several petitions for reconsideration of the grading rule were submitted by tire and vehicle companies and associations. Disagreements were voiced regarding some of the grading procedures or methods described in the published rule and it was argued that the tread wear and traction tests could not be implemented without the control tire which was not even under contract yet. It was also argued that test results at one facility could not be correlated with sufficient precision with those obtained at another facility.

FEBRUARY 1974

The Safety Administration sent a request for contract proposals to 17 tire manufacturers to secure a control tire. Two companies submitted proposals which included, as conditions, the same factors that were the stated reasons for a third company not submitting a proposal. The proposals insisted that the Safety Administration buy all of the control tires from the contractor and supply them to the industry, and indemnify the contractor against all liability resulting from using the control tire. Because of these and other conditions in the proposals, the Safety Administration rejected them as being not responsive. Representatives of the two manufacturers told us that the contract request was closed without either of them being given a chance to negotiate with the Safety Administration.

Representatives of one manufacturer who did not respond told us that they met with the Safety Administration on at least two occasions in late 1973 to discuss problems in the production, certification and distribution of the tires before the agency issued its request for control tire proposals. They said that none of the problems they raised was addressed in the request, and that this precluded them from submitting a proposal.

MARCH TO APRIL 1974

A meeting was held with the new Administrator to discuss the status of the tire quality regulation and the impact of the standing Court order to issue the final rule by January 1974 and have it effective in September 1974. At this meeting the Administrator asked for a status report and backup plans of action.

In response to the request for backup plans, both the research group and the programs group prepared contingency plans. With input from both groups a coordinated new proposed plan was submitted to, and approved by the Administrator.

MAY 1974

Because of the unavailability of a control tire and as a result of discussion and agreement between the parties to the civil action proceeding, the U.S. District Court for the District of Columbia issued a consent order requiring the issuance of a revised tire quality proposal by June 15, 1974, with a proposed May 1, 1975, effective date.

MAY 1974

The Safety Administration published in the Federal Register a notice revoking the tire grading regulation published in January 1974. The stated reason for revoking the rule was the failure of the Safety Administration to procure a control tire.

JUNE 1974

A new notice of a proposed rule on tire grading was published in the Federal Register by the Safety Administration. Under the proposed rule, the same three tire properties would be graded as under the previously published rule (January 1974) but without the specially designed control tire and open road tests of the revoked rule. Specially designed test facilities for grading tread wear and traction would be provided by the Safety Administration in the vicinity of San Angelo, Texas. In measuring tread wear, standard production tires would be used as course monitoring tires to estimate changes in course severity and enable appropriate adjustments to be made in test results. Traction would be measured on specially designed and constructed surfaces using a two-wheel test trailer. Changes in the test surfaces would be monitored using special tires developed by the American Society for Testing and Materials. High-speed capability would be determined through laboratory wheel tests. The proposed rule would be effective May 1, 1975.

Tread wear

Tread wear grading would be based on a tire's projected mileage (the distance traveled before it is worn down to its tread wear indicators) as tested on the government test course of approximately 6,400 miles. Six predetermined mileage categories were proposed:

Grade symbol

Mileage category

X	less than 15,000 miles
15	15,000 miles or more
25	25,000 miles or more
35	35,000 miles or more
45	45,000 miles or more
60	60,000 miles or more

Standard production tires, one group each of the three general types, will be used to calibrate the test course and serve as the basis for correction factors to adjust for changes in course severity with time and for variations in the driving patterns of the test convoys. The proposal also specified uniform procedures for tread wear measurement, convoy driving patterns, projected mileage calculation, and other aspects of the test and the grading method.

The proposed approach to tread wear evaluation had been identified and recommended several years ago. In April 1970, the Safety Administration's Safety Research Laboratory concluded that "* * * tire evaluation by the companies and compliance testing will best be carried out on a specific course." The laboratory also indicated that, because tires tested on the same course at different times give different wear rates, a standard tire (of some type) might be used to adjust for variations in the conditions of the course.

Traction

The traction test is similar to that of the March 1973 proposal and January 1974 final rule in that traction will be measured in a locked wheel braking test employing a specially designed, two-wheel trailer. A major objection to the previous test was that there was no assurance that results obtained at different sites (the previous rulemaking did not specify surfaces) would be comparable. To insure comparable results, the Safety Administration proposed that traction testing be conducted on specially designed and constructed surfaces.

Grades are to be based on a tire's performance as compared to three benchmark traction coefficients for two wet road surfaces, both concrete and asphalt. A grade of "0" will mean the tire did not necessarily meet the lower benchmark on either surface or that no representation was being made as to its traction performance. One asterisk would mean that a tire exceeds the lower benchmark on both surfaces. Two asterisks will signify that a tire exceeds the middle benchmark on both. Three will mean it exceeds the highest on both surfaces.

A tire passing the benchmark on only one surface will be assigned the lower grade. For example, a tire that passes the middle benchmark on one surface and the highest benchmark on the other surface will be given a two asterisk grade (the middle benchmark grade). As mentioned previously, tires developed by the American Society for Testing and Materials will be used to serve as the basis for adjustment factors to correct for changes in the test surfaces.

High-speed

The high-speed test procedure is the same as in past proposals. These procedures are an extension of the Federal safety standard laboratory testing method. In the current grading proposal, however, all references to attainable speeds have been deleted. The purpose of the test is to determine each tire's capacity to dissipate excess heat that builds up in it when driven at sustained high speeds. The better a tire is equipped to run at lower temperatures the less likelihood there will be that the tire will fail due to heat buildup. In the current grading proposal, grade C represents the current minimum standard and grades A (the highest) and B represent levels above that minimum.

JULY 1974

The Safety Administration held two public briefings on the tread wear and traction grading test facility located at and around Goodfellow Air Force Base, San Angelo, Texas.

Based on subsequent testing at the facility, the Safety Administration's research people concluded that the course would satisfactorily serve its purpose.

OCTOBER 1974

The Safety Administration requested data from tire manufacturers supporting their adverse comments on the workability of the tread wear test procedures proposed in the June 1974 notice of proposed rulemaking. According to a Safety Administration official, the data received showed many inconsistencies and, in some cases appeared to refute rather than support the manufacturers' contentions.

JANUARY 1975

The Safety Administration published certain proposed changes to the tread wear grading structure and testing procedures described in the quality grading system proposal of June 1974. The major change is that treadwear grade levels will not be pre-established; instead, tires will be rated on their projected mileage based on the results obtained on the government test course, rounded to the nearest 1,000 miles.

CHAPTER 4

SCOPE OF REVIEW

We made our review at the National Highway Traffic Safety Administration's headquarters in Washington, D.C., and at its Safety Research Laboratory in Riverdale, Maryland. We reviewed the legislative background of the uniform tire quality grading provision in the 1966 Safety Act, and examined submissions to the public docket on the various tire grading rules that have been proposed. We also examined selected reports, papers, records, and files on tire grading maintained at both locations.

We discussed tire grading matters with various Safety Administration officials; however, many of the individuals involved in these activities during the earlier years are no longer with the agency and were not interviewed. We also discussed various aspects of tire grading with Mr. Carl Nash who brought a private citizen's suit against the Secretary and the Administrator for noncompliance with the tire grading provision of the 1966 Safety Act, and with representatives of the following industry, consumer, and tire testing organizations.

B.F. Goodrich Tire Company
Center for Auto Safety
Compliance Testing Incorporated
Federal Trade Commission
Firestone Tire and Rubber Company
The General Tire and Rubber Company
Goodyear Tire and Rubber Company
Mohawk Rubber Company
Uniroyal Tire Company

COMPTROLLER GENERAL'S REPORT
TO THE HONORABLE GAYLORD NELSON
UNITED STATES SENATE

DELAYS IN ESTABLISHING A UNIFORM
QUALITY GRADING SYSTEM FOR
MOTOR VEHICLE TIRES
National Highway Traffic
Safety Administration
Department of Transportation

D I G E S T

WHY THE REVIEW WAS MADE

GAO was asked to review reasons for the long delay of the National Highway Traffic Safety Administration in carrying out provisions of a 1966 act for a uniform quality grading system for motor vehicle tires.

FINDINGS AND CONCLUSIONS

Although the National Traffic and Motor Vehicle Safety Act of 1966 called for a grading system for tires by 1968, the Safety Administration (including its predecessor organizations), as of January 1975, has yet to implement a tire grading system. (See p. 2.)

The extended delay in meeting the act's requirements can be attributed to technical difficulties in developing acceptable tire testing procedures and the Safety Administration's inability to provide effective leadership and resolve internal disagreements. (See p. 2.)

The latest version of a quality grading system was proposed on June 14, 1974. With modifications issued in January 1975, the current proposal will become effective May 1, 1975. (See pp. 25 and 27.)

Technical problems

The motor vehicle tire is probably the most complex component of an automobile. In any size, there are not only quality differences but differences in functional emphasis, such as traction, high-speed capability, or long tread life.

When the Safety Act was enacted in 1966, there were no standard methods for grading the quality of motor vehicle tires. Government researchers had to select from many tire characteristics those properties most helpful to the purchaser's choice, consider the feasibility of testing a range of quality for each property, and develop tests that could be applied uniformly throughout the tire industry. (See p. 2.)

Laboratory tests had been developed for minimum safety standards on tires dealing with strength (resistance to puncturing), high speed (resistance to heat), and endurance (load bearing capacity). Tire industry and Government researchers agreed that these tests for minimum standards could be extended to measure the same properties over a range of values. (See p. 2.)

Tire technicians also generally agreed that information about tread life, stopping, and skid characteristics (traction) was essential to consumers in a grading system. Laboratory tests could not duplicate the many variables of actual road operation that affect these properties, and no acceptable uniform road tests existed. (See pp. 2 and 3.)

In October 1968 Government researchers recommended that the most practical approach would be to

- extend laboratory tests to grade endurance, speed capability, and impact resistance,
- grade tread wear by road tests over standard routes to be determined, and
- set a minimum safety standard for tire traction, rather than grade that property. (See p. 9.)

From that time the Safety Administration vacillated primarily over technical disagreements about whether, and how, to measure grades of tread wear and traction. Research personnel generally agreed that a standard grading test for tread wear could be developed, with careful control of the uniformity of conditions. There was, and is, less agreement that a satisfactory uniform test is possible for grading the traction capability of tires. (See pp. 4, 21, 22, 41.)

The proposal, to become effective in May 1975, requires quality grading of tires for high speed, tread wear, and traction. With the exception of grading traction, the

grading techniques are not much different from earlier proposals. (See pp. 5, 25 to 27.)

Management problems

A major cause of delay in prescribing a uniform quality grading system was the inability of the Safety Administration to resolve internal technical and policy disagreements and to provide leadership. (See p. 3.)

Serious disagreements, without effective decision-making, persisted between the Administration's vehicle programs staff, responsible for rulemaking, and its research staff, responsible for technical bases of rules. (See p. 4.)

In 1967 and 1968, the National Bureau of Standards worked closely with industry in surveying tire properties and grading test methods but was unable to draw the Administration's programs staff into its technical considerations. The tire grading approach recommended by the Bureau in October 1968 was rejected by the programs staff. (See pp. 7 to 9.)

During 1969 and 1970, the Safety Administration received grading proposals and studies from a steering committee, its National Highway Safety Institute, the programs staff, its planning office, the Department's Transportation System Center, and the Bureau of Standards. (See p. 4.)

Rather than deciding on any of these conflicting approaches, the Administrator announced in October 1970 that the Administration would concentrate on higher priority safety programs. (See pp. 4 and 15.)

In September 1971, the Safety Administration finally issued a proposed tire grading rule, based in part on the National Bureau of Standard's earlier research. It was withdrawn 7 months later, when heavily criticized by consumer groups and industry as both too complex and lacking grades for tread wear and traction. (See p. 3.)

In March 1973 the Administration published a second proposed rule suggested by its programs staff, despite reservations of its research personnel. The Administration then came under an order of the U.S. District Court in July 1973 to issue a final quality grading rule by January 5, 1974. (See pp. 4, 20, 23, 25.)

Because the Administration did not resolve obvious technical problems, the rule, published on January 4, 1974, was revoked, and the District Court issued a consent order directing the Administration to propose a revised grading system by June 15, 1974. (See p. 25.)

GAO previously reported on the need for closer coordination generally between the research staff and the programs staff, in developing motor vehicle safety standards. (Report to the Committee on Commerce, U.S. Senate, "Improvements Needed in Planning and Using Motor Vehicle Safety Research," September 16, 1974, B-164497(3)).

In July 1974 the Department of Transportation informed GAO of measures underway in the Safety

Administration to overcome that problem. Considerable progress appears to have been made.

Government-industry communication and cooperation

The industry generally opposed the tire grading rules proposed by the Administration in 1971 and 1973. These proposed rules were also considered unsound by the Administration's research personnel and by consumer groups. (See pp. 17, 22, 23, 24.)

The tire industry generally offered to cooperate with the Safety Administration's research efforts to solve technical problems of tire grading. The most notable exception was failure of the industry to provide test and cost information requested by the Administration in 1968 and 1969. (See p. 5, 8, 10.)

Most major manufacturers offered support of their technical staffs, suggestions for testing programs, and other assistance. Safety Administration officials said that due to their rulemaking position, they could not properly take full advantage of the offers of technical cooperation. (See p. 5.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

As requested by Senator Nelson, GAO did not obtain written comments from the Department of Transportation and tire companies on this report. GAO did, however, discuss matters in this report with officials of these organizations and considered their views.