

Y4  
.C 73/7  
96-88

Y4  
C 73/7  
96-88

# NATIONAL TRANSPORTATION SAFETY BOARD AUTHORIZATION

GOVERNMENT

DOCUMENTS

Storage

JUN 2 1980

FARRELL LIBRARY  
KANSAS STATE UNIVERSITY

## HEARING

BEFORE THE

### COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

NINETY-SIXTH CONGRESS

SECOND SESSION

ON

**S. 2459**

TO PROVIDE AUTHORIZATION FOR PROGRAMS OF THE NATIONAL TRANSPORTATION SAFETY BOARD FOR FISCAL YEARS 1981 AND 1982, AND FOR OTHER PURPOSES

MARCH 27, 1980

Serial No. 96-88

Printed for the use of the  
Committee on Commerce, Science, and Transportation

KSU LIBRARIES



A 11900 969757 ✓



U.S. GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1980

77  
7/27/80  
88-88

DOCUMENTS

JUN 8 1980

FARRER L. LIBRARY  
KANSAS STATE UNIVERSITY

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

HOWARD W. CANNON, Nevada, *Chairman*

WARREN G. MAGNUSON, Washington  
RUSSELL B. LONG, Louisiana  
ERNEST F. HOLLINGS, South Carolina  
DANIEL K. INOUE, Hawaii  
ADLAI E. STEVENSON, Illinois  
WENDELL H. FORD, Kentucky  
DONALD W. RIEGLE, Jr., Michigan  
J. JAMES EXON, Nebraska  
HOWELL HEFLIN, Alabama

BOB PACKWOOD, Oregon  
BARRY GOLDWATER, Arizona  
HARRISON H. SCHMITT, New Mexico  
JOHN C. DANFORTH, Missouri  
NANCY LANDON KASSEBAUM, Kansas  
LARRY PRESSLER, South Dakota  
JOHN W. WARNER, Virginia

AUBREY L. SARVIS, *Staff Director and Chief Counsel*  
CHARLES BARCLAY, *Staff Counsel*

WILLIAM M. DIEFENDERFER, *Minority Staff Director*  
MARY McAULIFFE, *Minority Professional Staff Member*

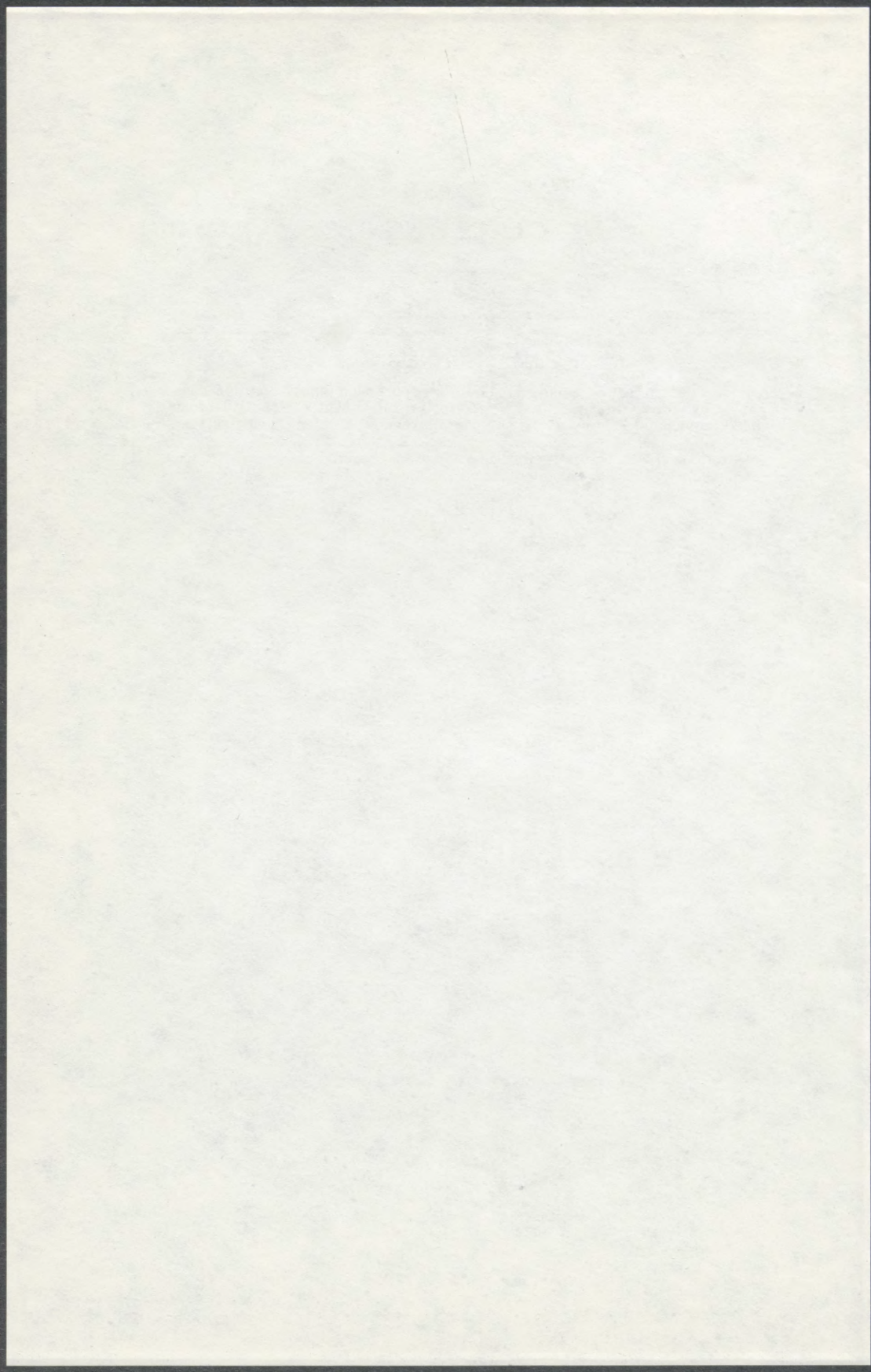
# CONTENTS

---

Opening statement by the Chairman .....	1
Text of S. 2459 .....	2

## LIST OF WITNESSES

King, Hon. James B., Chairman, National Transportation Safety Board; accompanied by James Shepard, Managing Director; Lloyd Miller, Deputy Managing Director; and Frank Taylor, Director, Bureau of Accident Investigation .	5
Prepared statement .....	14
Questions of Senator Cannon and the answers thereto.....	18
Questions of Senator Kassebaum and the answers thereto .....	22



# NATIONAL TRANSPORTATION SAFETY BOARD AUTHORIZATION

THURSDAY, MARCH 27, 1980

U.S. SENATE,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, D.C.*

The committee met at 9:30 a.m., in room 235, Russell Senate Office Building, Hon. Howard W. Cannon (chairman of the committee) presiding.

## OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. The hearing will come to order.

This morning's hearing is on the multiyear authorization for the National Transportation Safety Board. I have introduced, by request, S. 2459, the administration proposal for a 2-year, open authorization for appropriations. The bill also includes recommended changes to the Federal Aviation Act and the Independent Safety Board Act.

I personally have some questions about the advisability of a 2-year, open authorization for the Board. A longer term authorization with specific budget levels and guidance as to how we believe the NTSB should utilize its resources, may well be a more desirable legislative approach.

[The bill follows:]

96TH CONGRESS  
2D SESSION

# S. 2459

To provide authorization for programs of the National Transportation Safety Board for fiscal years 1981 and 1982, and for other purposes.

---

## IN THE SENATE OF THE UNITED STATES

MARCH 20 (legislative day, JANUARY 3), 1980

Mr. CANNON (by request) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

---

## A BILL

To provide authorization for programs of the National Transportation Safety Board for fiscal years 1981 and 1982, and for other purposes.

1        *Be it enacted by the Senate and House of Representa-*  
2        *tives of the United States of America in Congress assembled,*  
3        That this Act may be cited as the "Independent Safety  
4        Board Act Amendments of 1980".

5        SEC. 2. Section 304(a)(6) of the Independent Safety  
6        Board Act of 1974 is amended to read: "establish by regula-  
7        tion requirements binding on persons reporting accidents (and

1 aviation incidents) subject to the Board's investigatory juris-  
2 diction under this subsection;”.

3       SEC. 3. Section 304(a) of the Independent Safety Board  
4 Act of 1974 is amended by renumbering paragraphs (2)  
5 through (9) as (3) through (10) and by inserting immediately  
6 following paragraph (1), the following paragraph:

7       “(2) Any investigation conducted by the Board under  
8 paragraph (1), except subparagraph E, shall have priority  
9 over all other investigations conducted by Federal regulatory  
10 agencies: *Provided*, That the Board shall make provision for  
11 the appropriate participation of such agencies in its investiga-  
12 tion: *And provided further*, That such agencies shall not par-  
13 ticipate in the Board's determination of cause, probable cause  
14 or causes of such accidents.”.

15       SEC. 4. Section 304(b)(2) of the Independent Safety  
16 Board Act of 1974 is hereby amended as follows:

17       “(2) Any employee of the Board, upon presenting ap-  
18 propriate credentials and a written notice of inspection au-  
19 thority, is authorized to enter any property wherein a trans-  
20 portation accident has occurred or wreckage from any such  
21 accident is located and do all things therein necessary for a  
22 proper investigation (including taking custody for examina-  
23 tion or testing of any vehicle, rolling stock, track, or pipeline  
24 facility or any part thereof which is determined to be requi-  
25 site for the purpose of the investigation). The employee may

1 inspect, at reasonable times, records, files, papers, processes,  
2 controls, and facilities relevant to the investigation of such  
3 accident. Each inspection (examination or test) shall be com-  
4 menced and completed with reasonable promptness and the  
5 results of such inspection made available.”.

6       SEC. 5. Section 309 of the Independent Safety Board  
7 Act of 1974 (49 U.S.C. 1907) is amended by adding at the  
8 end thereof the following sentence: “There are authorized to  
9 be appropriated for the purpose of this Act such sums as may  
10 be necessary for the fiscal years ending September 30, 1981,  
11 and September 30, 1982, and such sums shall remain availa-  
12 ble until expended.”.

The CHAIRMAN The witness this morning is Mr. James King, Chairman of the NTSB, and before we start I want to ask your opinion about the Presidential primary. In your schizophrenic past, you have worked for both Senator Kennedy and President Carter. Who's going to get the NTSB Chairman's opposition for the Democratic nomination for President in 1980? And you need not answer that.

Mr. KING. I was really putting all my focus on the Red Sox' future, Mr. Chairman.

The CHAIRMAN. I am involved in a hearing with the Armed Forces Committee this morning and I have asked Senator Kassebaum to take over for me when I have to leave. Do you have an opening statement?

Senator KASSEBAUM. No.

The CHAIRMAN. You may proceed.

**STATEMENT OF HON. JAMES B. KING, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD; ACCOMPANIED BY JAMES SHEPARD, MANAGING DIRECTOR; LLOYD MILLER, DEPUTY MANAGING DIRECTOR; AND FRANK TAYLOR, DIRECTOR, BUREAU OF ACCIDENT INVESTIGATION**

Mr. KING. Thank you, Mr. Chairman.

I am very pleased to be here today to discuss our authorization request for the National Transportation Safety Board for fiscal years 1981 and 1982. With me at the table are Mr. James Shepard, our Managing Director, Mr. Lloyd Miller, our Deputy Managing Director, and Mr. Frank Taylor, Director, Bureau of Accident Investigation.

This morning I would like to take a few minutes first to outline the Board's significant activities and accomplishments over the last 2 years; second, to summarize our upcoming resource needs; and third, to briefly summarize three technical changes we are seeking to the Independent Safety Board Act.

Over the last 2 years, operating within a framework of finite resources, I believe the Board has accomplished its mission in each of these areas.

**ACCIDENT INVESTIGATION**

The Board's investigative ability is the foundation upon which all its other products rest. In large part due to the support of this committee and its chairman, the Board has been able to develop an expertise in the area of accident investigation, particularly in the aviation mode, which has earned it widespread respect not only here in the United States, but internationally as well.

The Board devotes a significant portion of its resources to its accident investigation function. In the last 2 years, the Board conducted 121 major accident investigations and 3,062 field investigations, participated in 77 foreign investigations, and reviewed 7,322 accident investigations conducted by other Government agencies. The Board's accident investigations during this period ranged from the most comprehensive investigation in the Board's history—the crash of the American Airlines DC-10 at Chicago's O'Hare International—to the sinking of the U.S. Coast Guard cutter *Cuyahoga* in

the Chesapeake Bay. Over the last year public attention has focused on Board investigations of potentially catastrophic leaks in the Alaska pipeline, the derailment of 27 tank cars carrying 2,279 tons of hazardous materials at Crestview, Fla., and on a series of commuter airline accidents which led the Board to hold a public hearing on commuter airline safety in January of this year. It is the basic information gathered by the Board in investigations such as these which form the core of our oversight program and our efforts toward accident prevention.

#### SPECIAL STUDIES AND INVESTIGATIONS

Over the last 2 years, the Board has undertaken an increased number of special studies and special investigations as part of my commitment to you, Madam Chairman, for more oversight activities by the Board.

We have sought to increase the number of special studies in all the transportation modes and have issued reports dealing with such various topics as the safety of multipurpose vans and the progress of safety modifications of railroad tank cars carrying hazardous materials. One special study by the Board which might be of interest to the committee, "Single-Engine, Fixed Wing General Aviation Accidents, 1972-1976," was a statistical analysis of factors associated with over 17,212 general aviation accidents. The study concluded that the pilot was found to be a cause or factor in 86 percent of the total accidents and in 90 percent of the fatal accidents. Airframe deficiencies were found to be the cause in less than 1 percent of all accidents and less than 2 percent of the fatal accidents. As a result of this study, the Board has asked the Federal Aviation Administration to significantly expand the exposure data it collects on general aviation pilots to include such information as age, type of license, medical waivers, and both total flying time and time in type.

#### EVALUATIONS OF OTHER GOVERNMENT AGENCIES

The Board has also sought to expand its oversight in the area of safety effectiveness evaluations of other Federal transportation agencies. Two years ago, the Board had never conducted a safety effectiveness evaluation. Since that time, we have conducted seven evaluations.

Because the Board has been particularly interested in utilizing its resources to do more oversight in the surface transportation modes, I would like to focus on our effort in relation to the National Highway Traffic Safety Administration (NHTSA).

The Board's evaluations of the efficacy of the NHTSA have included an evaluation of the progress made by NHTSA in implementing the national accident sampling system, a review of the NHTSA's passive restraint evaluation program and three volumes of a four-volume evaluation of the NHTSA rulemaking process based on case histories involving the safety standard on air brakes and on passive restraints.

## SAFETY RECOMMENDATIONS

The safety recommendations issued by the Board are a vital part of the Board's mandate to prevent the recurrence of transportation accidents. During the last 2 years, the Board has issued 828 recommendations, 197 in the area of aviation, 146 directed to rail, 201 to marine, 121 to pipeline, and 126 to highway. The Board is pleased to say that it has an acceptance rate of 80 percent for its safety recommendations over the last 13 years. In addition, the average number of days from the issuance of a safety recommendation by the Board to its being marked "closed-acceptable action" has been reduced from an average of 535 days in 1977 to 236 days at the present.

Madam Chairman, when I last appeared before this committee, I stated that one of my goals as Chairman would be an improvement of our agency's recommendation followup program. In the last 2 years, the Board has made some significant changes in its followup program including the institution of a formal safety objectives program which allows us to focus on recommendations which have not been acted on in an acceptable or a timely manner. I feel that we have made headway in this regard, although followup remains an area where I intend to seek additional improvement.

It is always difficult to identify an acceptable measure for effectiveness. Nevertheless, I strongly feel that the Board is an agency which, despite its small size, has been extremely effective in producing safety improvements in our transportation system. My complete statement cites a number of these examples and I don't feel I need to go into them right at this moment, Madam Chairman, unless you would like to question me on that.

## FISCAL YEAR 1981-82 AUTHORIZATION REQUEST

Let me now turn to the Board's specific authorization request. Legislation pending before this committee would provide an authorization level of \$18,900,000 for fiscal year 1981 and \$20,800,000 for fiscal year 1982. The amount for fiscal year 1981 represents approximately a 8.7 percent increase in our authorization level over our approved figure for fiscal year 1980.

In my statement to you 2 years ago, Madam Chairman, I indicated that as Chairman of the Board I intended to increase the operational efficiency of the Board to better carry out our responsibilities. I believe that I have been successful in this endeavor to make better use of the taxpayers' dollar. Using the performance standards established by the Bureau of Labor Statistics in 1968, the Board's overall productivity almost doubled between 1977 and 1979. The result has been an increase in productivity to the highest level in the Board's history. This productivity increase is even more significant in light of the fact that during this period the Board faced investigations of two of the most tragic and technically complex air disasters in U.S. history. I am particularly proud of this productivity increase given the fact the Board's staffing during this period has only increased by two positions.

While the Board's staffing level has remained constant, transportation use, as measured by any statistic in any transportation mode, has increased significantly, creating corresponding increases

in accidents and injuries and in congressional and public demands for answers to transportation safety problems. In order for the Safety Board to maintain its effectiveness and to support these increased demands, the Board's authorization must provide for some increases in excess of inflationary growth.

The first program increase we propose would allow the Board to keep pace with the rapid changes occurring in transportation technology. At the present time the Federal Aviation Administration is in the process of upgrading aviation technology through: (1) The development of major new systems to improve air traffic control; (2) the improvement of collision avoidance technology; (3) the operational demonstration of microwave landing systems; (4) the modernization of communications systems; and (5) the development of an improved weather radar and data system. The aviation industry is also rapidly upgrading its aviation technology in such areas as avionics systems and computerized maintenance records.

In order for the Board to maintain state-of-the-art competency in both laboratory hardware and the personnel necessary for analysis, we will need an increase of \$114,000 in fiscal year 1981 and an estimated \$200,000 in fiscal year 1982. This increase would allow the Board to fill 6 technical assistance positions in fiscal year 1981 and 15 positions in fiscal year 1982.

The Board's second program increase is for additional resources to expand our highway program. Since 1979, the Board has unsuccessfully sought to expand its capabilities in both accident investigation and oversight in the highway mode. The Board requested funding for 29 positions in highway at the direction of the House Public Works and Transportation Committee in fiscal years 1979, 1980, and 1981. While we have not been able to obtain funding for these positions to date, we have increased our resolve to address the highway safety problems which cost this nation 50,000 lives a year.

The Board is asking for a \$550,000 increase in fiscal year 1981 in order to expand its highway safety program. In addition, to being able to increase the number of special studies in the highway mode, we hope to expand our accident investigation coverage to include all highway accidents with five or more fatalities, all highway accidents involving hazardous materials, and schoolbus accidents involving three or more fatalities.

#### TECHNICAL AMENDMENTS

In addition to our two program increases, the Board is seeking three minor technical changes in our authorizing statute, the Independent Safety Board Act of 1974 (Public Law 93-633).

The first change sought by the Board is a clarification of section 304(A)(6) of Public Law 93-633 to reflect existing Board regulations governing aviation incident reports. Part 830 of the Board's regulations require an aircraft operator to report upon request aviation incidents in five categories specified in the regulations. The Board's authority to require these reports and to investigate such incidents derives from section 304(A)(6), although the statute is not specific in this regard. Historically, the requirement of filing incident reports with the Board upon request has been an accepted practice.

However, upon occasion, some operators have been reluctant to cooperate due to the lack of exactness in the authorizing statute.

Incident reports provide an early warning of problem areas which, if corrected, can avoid the ultimate tragedy of a catastrophic accident. The Board has always regarded selected investigation of such incidents as a vital part of its mandate from the Congress.

The second amendment to section 304(A) would reduce the potential for duplicative investigations of accidents by officially recognizing in the statute the traditional and de facto relationship between the Board and other Federal agencies during the investigation of an accident. This amendment would make it clear that the Board has the primary responsibility for accident investigation for the rail, highway, and pipeline modes in the same capacity that it has for aviation under the Federal Aviation Act of 1958. By following the same procedures used in aviation accident investigation—the party system—other Federal agencies would be assured of adequate information to carry out their responsibilities while at the same time avoiding unnecessary duplication.

The third perfecting amendment to the statute would specify the Board's authority to acquire physical evidence for examination and testing as part of its investigation of accidents in the surface modes. The Board seeks to amend the statute to include the same language the Board has used for aviation investigations under the Federal Aviation Act of 1958. The Board has been exercising its authority to examine physical evidence in the surface modes under its broader statutory powers or has relied upon state and local impoundment authority. Some States and local law enforcement agencies have the authority to impound evidence and have been willing to do so for the benefit of the Board's investigators. However, not all jurisdictions have such authority and the Board has found itself in at least one instance of having to go to court to obtain physical evidence.

Madam Chairman, I am grateful and the National Transportation Safety Board is grateful for your help and support over the years. This concludes my prepared remarks and I would be happy to respond to any questions you might have.

Senator KASSEBAUM. Thank you very much, Mr. King.

Given the decline of productivity throughout the country, I certainly think the NTSB is to be commended for the efforts that you have put into reviving productivity at an efficient level.

There are some questions that Senator Cannon would like asked and some others that have been submitted, for the record. Certainly your full remarks will be a part of the record.

Do you think increasing safety violation fines from \$1,000 to \$25,000 as recommended by Administrator of the FAA Bond will encourage greater adherence to safety regulations?

Mr. KING. I don't think we have taken a formal position on that. We have supported increased surveillance. We believe that having proper tools that the agency feels it requires—and I think in the case of FAA they indicated that the fines have been so low that it's cheaper for many operators to merely pay the fine rather than do what is safe. One of the things I think, if the FAA can do it, is to basically identify bad apples in the business. If they identify the

bad apples, if I can use an old phrase, if they don't shape up that will at least give them the authority to ship them out.

Mr. BARCLAY. Mr. King, one of the concerns we have had just on face value with the FAA proposal is, first, a grant which is over \$1 million by using \$1,000 per operation of the aircraft. That's a substantial fine. And, second, the FAA has the ability if they find an operator who's constantly violating the law because it's to their economic benefit to do that—they can withdraw their certificate. Why isn't that a better avenue to pursue for enforcement?

Mr. KING. We are not regulators and we don't look at the regulatory scheme per se from a strategic point of view. From my point of view, I think the key is the perception of the operator. For example, Antilles air boats is an example where there were \$100,000 of outstanding fines in that particular case after negotiating these fines with the FAA, Antilles was left with a minimal fine of \$10,000. Let's say we had the other fine in. We would be talking about \$2.5 million because they had that number of violations to cover. I don't know what would have changed in that case. It's a question of how enforcement is used. In general, if an agency feels it needs additional leverage to deal with the industry we will yield to the agency. It's a question whether in fact they use what they have and how well have they used it. We have taken the FAA at its word. They said they felt they needed it and we felt if that's what they needed to do a better job we would support the increased fines for that reason.

Senator KASSEBAUM. But you're really not questioning the amount of money that's necessary so much as how it's used?

Mr. KING. Right. What we're saying is if the agency said, gee, for \$1,000 we aren't able to leverage it; we can get a particular corporation's attention by having an additional tool; then we are in support of whatever tools the FAA feels they need to do an effective job.

Senator KASSEBAUM. I'd like to ask you if you feel, Mr. King, that the FAA can promote both civil aviation and insure safety? As you know, this is a dual responsibility that has been mandated by Congress which has been questioned. Can the FAA handle both efficiently and effectively at the same time.

Mr. KING. I would like to think the FAA can do both. I intend to carefully review the GAO report dealing with FAA management of safety but my feelings lead me to believe that at face value the present structure could enhance safety if it's used properly.

Senator KASSEBAUM. This is a question that has been of concern particularly to Senator Cannon. It regards the recent reports about a slowdown in the NTSB's adoption of safety recommendations and accident reports. You have indicated that the Board's productivity level has reached an all-time high. I'm interested in your record so far for fiscal year 1980 and what do you project for the rest of the year?

Mr. KING. Well, when compared to fiscal year 1979, our rating figures do show a decline in productivity. If we compare the 1979 results to the projected 1980 results based on our experience to date, we expect increases in all major Board activities. Our major accident investigations are projected to fall 45 percent; safety rec-

ommendations 14 percent; special studies, 12 percent; and special investigations dropped by 72 percent.

Senator KASSEBAUM. What accounts for this drop?

Mr. KING. Well, when we looked at the drop in productivity, I thought it might be simply that there weren't as many accidents coming through the pipeline, but I checked and the pipeline is full. For example, our projected work schedule shows we are expecting about 47 major accident reports will be ready for Board consideration between now and the end of the fiscal year. Checking further, we discovered the biggest difference from last year is that far more time is being spent by the Board—this is the five-member Presidential Board—to get approval on the cases. More cases are being recalendared for full Board meetings. The number of purely editorial and stylistic changes at the Board members' request have increased approximately 700 percent from last year and about 90 percent of those revisions are coming from one of our members.

Senator KASSEBAUM. Do you regard these as substantive changes or is it something that is unnecessarily holding up effective action?

Mr. KING. I do not think the changes are, in general, substantial. This creates two problems. One is that staff members are spending more time on extra redrafting for the Board members at the expense of working on other reports. We are beginning to see slippage on the completion of accident reports because staff members defer investigations and technical analysis to revise previously completed reports for Board members.

Second, some of the Board members have indicated to me that they believe the workload is too heavy. In fact we have a special Board meeting scheduled for next week to discuss the Board workload. So I'm concerned that the future—if we get any more delays that we will have problems. They have a number of them that have been stylistic and editorial revisions of the previous reports.

Now, Madam Chairman, I mentioned the question of stylistic and editorial revisions at the Board meetings. I believe some of the members believe the amount of resources devoted to the report is solely within the province of their independent action as members. At our meeting next week we are hoping to clarify this matter internally. The professional staff will continue to move the product forward and the question really rests with the members of the Board as to whether we will be able to effectively address the problem.

Senator KASSEBAUM. You mentioned the workload and I believe in your testimony you said that you were prepared to add six members to fill vacancies; is that right?

Mr. KING. No; this would be six technical positions.

Senator KASSEBAUM. I didn't mean six members of the Board. I meant six staff positions.

Mr. KING. Yes.

Senator KASSEBAUM. How many vacancies do you have at the GS-14 and above level?

Mr. KING. The exact number is 10.

Let me say that we have a substantial level of people in the upper areas in the Federal job schedule, Madam Chairman.

Senator KASSEBAUM. I was wondering how the President's freeze on employment will affect the filling of these vacancies.

Mr. KING. In February we had almost a full complement of personnel on board. We had several people retire—several senior people retired on February 29. I would say as an agency we are in reasonably stable shape. We haven't had a cause for alarm. We have reviewed it from a management point of view. We believe we can continue to function.

One of the things we have been able to do, Madam Chairman, is to move and mechanize the kind of perfunctory work that is essential in the agency. We quite frankly squeezed a lot of our overhead to have this productivity without affecting our positions. We hope to see an early end of the freeze because the positions we have requested are critical in order to deal with a whole new generation of aircraft and equipment.

Senator KASSEBAUM. So do you feel you have a sufficient number of the scientific and technical advisers at this time?

Mr. KING. Yes; we have an adequate number on board to the best of our knowledge, but the areas we have identified are short-fall areas and they are critical shortfalls.

Senator KASSEBAUM. I was told that in the accident investigation, 2 out of 20 positions are presently vacant at 15 or above.

Mr. KING. There are two.

Senator KASSEBAUM. I have some curiosity about this question just because I don't know whether it shows an increase or whether you have become more involved in this area, but besides the 121 major accidents investigated domestically, there are also 77 foreign investigations. Why such a high percentage of foreign investigations?

Mr. KING. We have treaty obligations under ICAO if the accident involves an American product. As you are very much aware the second highest export item in the United States is our aviation technology, both aircraft and support types of material. Many countries make aviation purchases and if there is an accident they look to the NTSB through our treaty obligations to be of help and assistance. We let them determine our level of interest, but our laboratory support is used virtually worldwide.

Senator KASSEBAUM. Regarding the study on general aviation accidents, has the FAA responded to your recommendations to expand the data it collects on general aviation pilots?

Mr. SHEPARD. Yes. We have had a general indication of interest in solving that problem and several discussions. The technical response that came back was addressed by a panel that Mr. Taylor headed between FAA and us just recently and I will defer to him on the technical side.

Mr. TAYLOR. One of the problems the FAA has in collecting this additional data is how it fits into their overall data collection program. They are approximately about I think it's 15 to 18 months behind us in our joint task force on incorporating their data system with ours. In talking to the FAA in our quarterly review, which we do where safety recommendations are concerned, there is some reluctance in this particular area in technical exposure data with the other things they have to do at the present time.

Senator KASSEBAUM. From your analysis so far, would—

Mr. SHEPARD. Could I add to that, Senator?

Senator KASSEBAUM. Yes.

Mr. SHEPARD. The FAA is working with us in revising the general aviation data system or upgrading it and it's a little bit longer term than the immediate response to this recommendation. In that context, their response has been positive. In the short-term context that Mr. Taylor was addressing, it's been difficult.

Senator KASSEBAUM. Do you feel that perhaps it's resulting in burdensome requirements for competent pilots and maybe this would outweigh the benefits of it, or do you feel so far it's proving to be successful?

Mr. TAYLOR. I think the problem the FAA has with this is the manpower to collect the data. They do collect a certain amount of material, such as the age of the pilot and the experience level and the certificate he holds. The thing we're looking for in this area is experience from pilots who get themselves in trouble and get out of it. There are a lot of accidents that occur where a private pilot or a commercial pilot without an instrument rating gets involved in instrument weather and by hook or crook he gets out of it, and we would like to know what techniques he uses where he can get out of it, what kind of training he had received in his piloting career. This data is difficult to get a handle on because you have to rely on the pilot to kind of volunteer that he violated the regulation and got away with it.

Mr. KING. Got away with it in the sense that he survived. Our problem is that all we ever see are crashed aircraft and quite often it involves fatalities. The incident report permits us to have an opportunity to look at a situation where the pilot failed for whatever reason, which means the system failed, and then walk it back and say why did we have this number of incidents; how can we change the requirements and what kind of action can we get to improve safety. Over the past 15 years, accident causes have reflected mechanical failure. Now we are finding the human element is the overwhelming cause of a number of the accidents. That will be the real search for us and it's going to be very, very difficult. We will be coming back to this committee for help. Sometimes we will step on our own tails and we will have to tell you that.

Senator KASSEBAUM. Mr. Chairman, why does the NTSB allocate only 11 percent of its current resources to the highway mode when it accounts for 95 percent of all transportation fatalities?

Mr. KING. Let us look at aviation as the obvious contrast. Jurisdiction over aviation is totally Federal. If you took both the FAA investigators who work with us and the NTSB accident investigation people and put them all together, you're talking about 150 people approximately. They do the entire aviation world. I'm using approximate numbers there. That is the whole world of aviation.

When you talk about the investigations of highway we are speaking of multiple jurisdictions with as few as 400,000 investigations up to as high as half a million. We are talking about State and local officials who actually do investigations, county police, sheriff departments, his deputies, the State highway patrols—all of these do accident investigations for the highway mode.

In the highway mode we are talking about 20 million accidents—between 16 and 20 million accidents. An agency of our small size has limitations on what it can do in this regard. We can take a

look at selected accidents and see whether we can leverage policy changes that have effects on a broader scale. We are trying to work with other agencies to access data and to assure that our reporting systems are constant. We think we can access NHTSA's accident data and do trending and analysis out of that. Data collection continues to be a problem for highway. Every pilot in the United States who ever held a ticket can be traced by going to Oklahoma City. For every aviation manufacturer you can hit the computer button and it will come up with its entire maintenance record. Try and do that with any automobile in the United States. It's next to impossible.

Senator KASSEBAUM. Whom do you work with most effectively on making those recommendations?

Mr. KING. We work with the State and local folks. We also work with our colleagues at the Federal Highway Administration as far as the highway mode is concerned.

Senator KASSEBAUM. And do you feel you have been able to make an input there?

Mr. KING. I'd like to say yes. I think we have had an impact. We are relatively new in the highway field. Last year was the first year we really had full personnel. We are working in it. I would dare say the evaluations that we are working on right now will have a substantial impact.

Senator KASSEBAUM. I'd like to jump back just for a minute to an area we were discussing earlier. There have been some delays due, perhaps, to more stylistic than substantive changes in redrafting safety recommendations. I think that the committee certainly expects clear and understandable reports and recommendations from the NTSB, but Chairman Cannon has asked me to emphasize that we intend to hold you and the other individual Board members responsible if members start letting their pride of authorship interfere with the need for expeditious handling of accident reports and safety recommendations. This is something that certainly Chairman Cannon feels very strongly about and would hope that through everybody's recognition of the problem there can be some productive changes made.

Mr. KING. Understood.

Senator KASSEBAUM. I would like to just submit the rest of the questions to you for replies unless Chip Barclay or Mary McAuliffe on the staff here have any further questions. You're wearing two hats today; is that right?

Mr. KING. Yes. I'd like the staff who are with me to be excused if that's all right.

Senator KASSEBAUM. Thank you very much. I appreciate your assistance.

[The statement follows:]

STATEMENT OF JAMES B. KING, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Mr. Chairman, I am very pleased to be here today to discuss our authorization request for the National Transportation Safety Board for fiscal years 1981 and 1982. With me at the table are Mr. James Shepard, our Managing Director, Mr. Lloyd Miller, our Deputy Managing Director, and Mr. Frank Taylor, Director, Bureau of Accident Investigation.

This morning I would like to take a few minutes first, to outline the Board's significant activities and accomplishments over the last two years; second, to summarize our upcoming resource needs; and third, to briefly summarize three technical changes we are seeking to the Independent Safety Board Act.

Mr. Chairman, as you know, our Nation's transportation system is a highly complex one. In terms of size alone, the transportation network is enormous. Americans own more than 100 million cars that travel over some 3.8 million miles of road annually. Scheduled trunk air carriers transported some 300 million persons in 1979 and commuter airlines carried another 12 million. The U.S. rail system is the largest in the world with more than 300,000 miles of track and served some 19,800,000 passengers in scheduled rail service during the last year. The American Merchant Fleet numbers over 500 ships to meet our nation's needs, and pleasure boats now number over 14 million. Finally, 250,000 hazardous materials shipments per day equaling over 4 billion tons are estimated to move through the transportation network in the United States and this total is expected to double in the next decade.

In creating an independent transportation safety board, the Congress recognized that a system of this size and complexity will occasionally fail, and that accidents will occur. The Congress declared it our mandate to vigorously investigate such accidents and to make safety recommendations which are designed to prevent a recurrence of such tragedies.

Specifically, the Independent Safety Board Act of 1974 directed the Board to:

- (1) Investigate and determine the probable cause of accidents in the five transportation modes: aviation, rail, highway, marine and pipeline;
- (2) Conduct special studies and investigations on matters that pertain to transportation safety;
- (3) Review and evaluate the operation and performance of other agencies involved in transportation as to their effectiveness in achieving transportation safety; and
- (4) Formulate specific safety improvement recommendations designed to prevent the recurrence of accidents in the future.

Over the last two years, operating within a framework of finite resources, I believe the Board has accomplished its mission in each of these areas.

#### ACCIDENT INVESTIGATION

The Board's investigative ability is the foundation upon which all its other products rest. In large part due to the support of this Committee and its Chairman, the Board has been able to develop an expertise in the area of accident investigation, particularly in the aviation mode, which has earned it widespread respect not only here in the United States, but internationally as well.

The Board devotes a significant portion of its resources to its accident investigation function. In the last two years, the Board conducted 121 major accident investigations and 3,062 field investigations, participated in 77 foreign investigations, and reviewed 7,322 accident investigations conducted by other government agencies. The Board's accident investigations during this period ranged from the most comprehensive investigation in the Board's history—the crash of the American Airlines DC-10 at Chicago's O'Hare International—to the sinking of the U.S. Coast Guard cutter *Cuyahoga* in the Chesapeake Bay. Over the last year public attention has focused on board investigations of potentially catastrophic leaks in the Alaska pipeline, the derailment of 27 tank cars carrying 2,279 tons of hazardous materials at Crestview, Florida, and on a series of commuter airline accidents which led the Board to hold a public hearing on commuter airline safety in January of this year. It is the basic information gathered by the Board in investigations such as these which form the core of our oversight program and our efforts toward accident prevention.

#### SPECIAL STUDIES AND INVESTIGATIONS

Over the last two years, the Board has undertaken an increased number of special studies and special investigations as part of my commitment to you Mr. Chairman, for more oversight activities by the Board.

We have sought to increase the number of special studies in all the transportation modes and have issued reports dealing with such various topics as the safety of multipurpose vans and the progress of safety modifications of railroad tank cars carrying hazardous materials. One special study by the Board which might be of interest to the Committee, "Single-Engine, Fixed Wing General Aviation Accidents, 1972-1976" was a statistical analysis of factors associated with over 17,212 general aviation accidents. The study concluded that the pilot was found to be a cause or factor in 86 percent of the total accidents and in 90 percent of the fatal accidents.

Airframe deficiencies were found to be the cause in less than 1 percent of all accidents and less than 2 percent of the fatal accidents. As a result of this study, the Board has asked the Federal Aviation Administration to significantly expand the exposure data it collects on general aviation pilots to include such information as age, type of license, medical waivers, and both total flying time and time in type.

#### EVALUATIONS OF OTHER GOVERNMENT AGENCIES

The Board has also sought to expand its oversight in the area of safety effectiveness evaluations of other Federal transportation agencies. Two years ago, the Board had never conducted a safety effectiveness evaluation. Since that time, we have conducted 7 evaluations.

Because the Board has been particularly interested in utilizing its resources to do more oversight in the surface transportation modes, I would like to focus on our effort in relation to the National Highway Traffic Safety Administration (NHTSA).

The Board's evaluations of the efficacy of the NHTSA have included an evaluation of the progress made by NHTSA in implementing the national accident sampling system a review of the NHTSA's passive restraint evaluation program and three volumes of a four volume evaluation of the NHTSA rulemaking process based on case histories involving the safety standard on air brakes (F.M.V.S.S. 121) and on passive restraints (F.M.V.S.S. 208).

#### SAFETY RECOMMENDATIONS

The safety recommendations issued by the Board are a vital part of the Board's mandate to prevent the recurrence of transportation accidents. During the last two years, the Board has issued 828 recommendations, 197 in the area of aviation, 146 directed to rail, 201 to marine, 121 to pipeline, and 126 to highway. The Board is pleased to say that it has an acceptance rate of 80 percent for its safety recommendations over the last 13 years. In addition, the average number of days from the issuance of a safety recommendation by the Board to its being marked "closed—acceptable action" has been reduced from an average of 535 days in 1977 to 236 days at the present.

Mr. Chairman, when I last appeared before this Committee, I stated that one of my goals as Chairman would be an improvement of our agency's recommendation follow-up program. In the last two years, the Board has made some significant changes in its follow-up program including the institution of a formal safety objectives program which allows us to focus on recommendations which have not been acted on in an acceptable or a timely manner. I feel that we have made headway in this regard, although follow-up remains an area where I intend to seek additional improvement.

It is always difficult to identify an acceptable measure for effectiveness. Nevertheless, I strongly feel that the Board is an agency which, despite its small size, has been extremely effective in producing safety improvements in our transportation system. Let me give you some examples of why I feel this way:

(1) As a result of the 1978 public hearing held by the Board on safety equipment retrofits for jumbo railroad tank cars, self couplers were installed on over 90 percent of DOT 112A/114A tank cars by December 25, 1978 and over 70 percent of headshields were estimated to be installed by December 1979. This is twice as fast as had been originally scheduled.

(2) As a result of the Board's recommendations dealing with the need for satellite airports to relieve congested major hubs, the FAA is placing increased emphasis on the development of reliever airports.

(3) In response to the Board's continued emphasis on the need to improve the safety of pipelines transporting highly volatile liquids, the Materials Transportation Bureau has assigned top priority to this area.

(4) As a result of safety board recommendations, the Coast Guard is developing new safety standards to improve ship steering reliability.

(5) The Board initiated action which resulted on DOT including input from local public officials and fire services in the development of the hazardous materials emergency response support system. Participation by State and local public officials, who are frequently the first to arrive on accident scenes, makes for a more viable system.

(6) Eight months ago, the Board focused its attention on the problem of Commuter Airline Safety. While the Board's concern with commuter safety was first greeted with a certain skepticism by some government agencies, today the Board is pleased to note: (1) The FAA has announced a vigorous enforcement program for commuters designed to weed out the "bad apples" from this vital form of transportation; and (2)

the CAB is seeking ways to strengthen the safety component involved in replacement services under the Deregulation Act.

#### FISCAL YEAR 1981-82 AUTHORIZATION REQUEST

Let me now turn to the Board's specific authorization request. Legislation pending before this committee would provide an authorization level of \$18,900,000 for fiscal year 1981 and \$20,800,000 for fiscal year 1982. The amount for fiscal year 1981 represents approximately a 8.7 percent increase in our authorization level over our approved figure for fiscal year 1980.

In my statement to you two years ago Mr. Chairman, I indicated that as chairman of the Board I intended to increase the operational efficiency of the Board to better carry out our responsibilities. I believe that I have been successful in this endeavor to make better use of the taxpayer's dollar. Using the performance standards established by the Bureau of Labor Statistics in 1968, the Board's overall productivity almost doubled between 1977 and 1979. The result has been in increase in productivity to the highest level in the Board's history. This productivity increase is even more significant in light of the fact that during this period the Board faced investigations of two of the most tragic and technically complex air disasters in U.S. history. I am particularly proud of this productivity increase given the fact the Board's staffing during this period has only increased by two positions.

While the Board's staffing level has remained constant, transportation use, as measured by any statistic in any transportation mode, has increased significantly, creating corresponding increases in accidents and injuries and in congressional and public demands for answers to transportation safety problems. In order for the safety board to maintain its effectiveness and to support these increased demands, the Board's authorization must provide for some increases in excess of inflationary growth.

The first program increase we propose would allow the Board to keep pace with the rapid changes occurring in transportation technology. At the present time the Federal Aviation Administration is in the process of upgrading aviation technology through: (1) The development of major new systems to improve air traffic control; (2) the improvement of collision avoidance technology; (3) the operational demonstration of microwave landing systems; (4) the modernization of communications systems; and (5) the development of an improved weather radar and data system. The aviation industry is also rapidly upgrading its aviation technology in such areas as avionics systems and computerized maintenance records.

In order for the Board to maintain state-of-the-art competency in both laboratory hardware and the personnel necessary for analysis, we will need an increase of \$114,000 in fiscal year 1981 and an estimated \$200,000 in fiscal year 1982. This increase would allow the Board to fill 6 technical assistance positions in fiscal year 1981 and 15 positions in fiscal year 1982.

The Board's second program increase is for additional resources to expand our highway program. Since 1979, the Board has unsuccessfully sought to expand its capabilities in both accident investigation and oversight in the highway mode. The Board requested funding for 29 positions in highway at the direction of the House Public Works and Transportation Committee in fiscal 1979, 1980, and 1981. While we have not been able to obtain funding for these positions to date, we have increased our resolve to address the highway safety problems which cost this nation 50,000 lives a year.

The Board is asking for a \$550,000 increase in fiscal year 1981 in order to expand its Highway Safety Program. In addition, to being able to increase the number of special studies in the highway mode, we hope to expand our accident investigation coverage to include all highway accidents with five or more fatalities, all highway accidents involving hazardous materials, and schoolbus accidents involving three or more fatalities.

#### TECHNICAL AMENDMENTS

In addition to our two program increases, the Board is seeking three minor technical changes in our authorizing statute, the Independent Safety Board Act of 1974 (Public Law 93-633).

The first change sought by the Board is a clarification of Section 304(a)(6) of Public Law 93-633 to reflect existing Board regulations governing aviation incident reports, Part 830 of the Board's regulations require an aircraft operator to report upon request, aviation incidents in five categories specified in the regulations. The Board's authority to require these reports and to investigate such incidents derives from Section 304(a)(6) although the statute is not specific in this regard. Historically, the requirement of filing incident reports with the Board upon request has been

an accepted practice. However, upon occasion, some operators have been reluctant to cooperate due to the lack of specificity in the authorizing statute.

Incident reports provide an early warning of problem areas which, if corrected, can avoid the ultimate tragedy of a catastrophic accident. The Board has always regarded selected investigation of such incidents as a vital part of its mandate from the Congress.

The second amendment to Section 304(a) would reduce the potential for duplicative investigations of accidents by officially recognizing in the statute, the traditional and de facto relationship between the Board and other Federal agencies during the investigation of an accident. Our amendment would make it clear that the Board has the primary responsibility for accident investigation for the rail, highway, and pipeline modes in the same capacity that it has for aviation under the Federal Aviation Act of 1958. By following the same procedures used in aviation accident investigation—the “party system”—other Federal agencies would be assured of adequate information to carry out their responsibilities while at the same time avoiding unnecessary duplication.

The third perfecting amendment to the statute would specify the Board's authority to acquire physical evidence for examination and testing as part of its investigation of accidents in the surface modes. The Board seeks to amend the statute to include the same language the Board has used for aviation investigations under the Federal Aviation Act of 1958. The Board has been exercising its authority to examine physical evidence in the surface modes under its broader statutory powers or has relied upon State and local impoundment authority. Some States and local law enforcement agencies have the authority to impound evidence and have been willing to do so for the benefit of the Board's investigators. However, not all jurisdictions have such authority and the Board has found itself in at least one instance of having to go to court to obtain physical evidence (in this case a piece of plastic pipe).

Mr. Chairman, I am grateful and the National Transportation Safety Board is grateful for your help and support over the years. This concludes my prepared remarks, and I would be happy to respond to any questions you might have.

[The following information was subsequently received for the record:]

#### QUESTIONS OF CHAIRMAN CANNON AND THE ANSWERS THERETO

*Question 1.* Because of the reports we have received from people attending your meetings, the Committee requested and obtained from the Board a transcript of your last meeting, March 20, 1980. Fully twenty pages (255-275), with only a few exceptions, are taken up with word changes—whether to use the word “obscure” or “mask”; whether to underline phrases; whether to use the word “visibility” or “conspicuity”. If this is an isolated instance, that's one thing; but is this representative of most Board discussions?

Answer. I would not say that such a discussion is typical of the Board. However, over the last eight months I have observed that the Board is spending an excessive amount of time in the Board room on what I consider to be merely stylistic improvements to our work products.

*Question 2.* For how long a period of time have safety recommendations been held up because of Board members' stylistic changes?

Answer. Without a page by page analysis of Board Members' changes to safety recommendations submitted by staff, it is difficult to specify precisely the period of time lost in issuing recommendations solely because of stylistic changes. However, of the total of 28 recommendations which were submitted to the Board and adopted as separate notation items thus far in 1980, changes were made by the Board or a single Board member in 26. Of the total of 122 pages of material contained in the 28 safety recommendations, changes were made on 94 pages. Since only 7 of the 26 recommendations changed involved changes by more than one member (accounting for changes on 27 pages), it is reasonable to assume that individual preference rather than substantive problems accounted for most of the remainder. The average delay in the 22 changed recommendations was 12 calendar days.

*Question 3.* The commuter airline industry has criticized the NTSB's and FAA'S handling of their commuter safety investigations, specifically that all the publicity has gone to document the few “bad apples”, leaving the public with a generally negative view of the whole industry's dedication to safety. How would you respond to that criticism?

Answer. On behalf of the Board, I have stated on several occasions that most commuter operators are competent, safety conscious managers. I have been concerned that there has not been sufficient effort on the part of the government regulators or big industry itself to rid the commuter industry of these "bad apples." I would hope the recent media attention would instill a greater desire on the part of industry management to work together, through peer pressure, to eliminate the few operators which allow such focus to take place.

*Question 4.* When can we expect the Board to begin investigating highway accidents with more than five fatalities?

Answer. The Board has been investigating all accidents, of which we are notified, of five or more fatalities since the beginning of calendar year 1978.

	1978		1979	
	Number of accidents	Number of fatalities	Number of accidents	Number of fatalities
	0	10 (0)	1	10 (10)
	0	9 (0)	1	9 (9)
	1	8 (8)	3	8 (24)
	6	7 (42)	2	7 (14)
	4	6 (24)	10	6 (60)
	25	5 (125)	21	5 (105)
Totals.....	36	(199)	38	(222)

*Question 5.* GAO has stated that the Board could obtain additional resources immediately by putting a greater reliance on DOT to perform highway investigations on behalf of the Board. The GAO points out that you do utilize FAA and the Coast Guard to investigate selective accidents on your behalf. What is your comment on this recommendation?

Answer. The Safety Board has only 27 authorized professional positions for highway accident investigations. We believe it is essential that we actually conduct a minimum number of investigations of major catastrophic highway accidents ourselves and that we have a minimum capability to collect data on special safety problems about which we are concerned in sufficient number to demonstrate the existence and nature of a problem and suggest possible solutions. We believe the currently authorized highway accident investigation positions represent the minimum number to enable us to carry out these functions. This number of personnel, for example, enabled us in 1979 to issue 8 major accident investigation reports, complete 92 accident investigations relating to special safety problems and issue 47 safety recommendations. Current DOT highway accident investigation resources are fully utilized by the DOT agencies to which they are assigned for the DOT program purposes of regulatory compliance and enforcement (Bureau of Motor Carrier Safety) and data collection for standards setting purposes (National Highway Traffic Safety Administration). In fact, the number of accident investigations which BMCS has been conducting has been declining steadily, and the various NHTSA accident data collection projects are almost exclusively contract operations (which the Board would have to fund if we were to use them to any significant degree) and will eventually be superseded by the National Accident Sampling System (NASS). At such time as NASS is fully operational, the Board does hope that it will be able to obtain much data that is supportive of our programs through that system. It is important to note, however, that NASS is primarily a data collection system in which pre-specified data will be collected by technicians. None of the DOT accident investigation resources, including NASS, now conduct or will conduct the kind of multi-disciplinary accident reconstruction investigations that the Board does for its major accident reports.

*Question 6.* Why hasn't the Board requested additional field personnel for the highway mode?

Answer. The Board has been requesting 29 additional personnel for the highway program since fiscal year 1979. The majority of these additional personnel are programmed for the field to complement the present highway field staff which became fully operational in fiscal year 1978. This expanded highway program was approved in the Board's fiscal year 1979-80 authorization request; however, although it has been requested in the fiscal year 1979, fiscal year 1980 and fiscal year 1981

OMB budget requests, neither OMB nor the appropriation committees have provided any resources to implement the program. Based on our accomplishments with the current highway program, we believe considerable benefits could be realized if additional resources were provided to the Board. Accordingly, we will be requesting the additional 29 positions in the fiscal year 1982 budget.

*Question 7.* Human factors are increasingly important considerations in accidents of all modes, and hazardous material transportation concerns have increased tremendously in the past few years. Why hasn't the Board requested additional personnel in these areas, and could you use them productively if you got them?

Answer. The Board did request additional personnel to investigate human factors problems in the fiscal year 1977 budget, but no additional personnel were provided. In order to expand its human factors program, the Board reallocated resources to the program in its October 1, 1977 reorganization. The Board's current human factors program focuses primarily on the problems arising from major transportation accidents, especially in aviation.

In order to expand its human factors program, the Board's accident data system must be revised to collect much more data on human factors. Additional personnel were requested in the fiscal year 1981 Budget to upgrade the Board's accident data system. Once the new system is operational, it is likely that additional personnel will be required to collect and analyze the accident data. Since about 86 percent of aviation accidents are caused by human factor problems, additional personnel could be used very effectively.

With respect to hazardous materials, the Board did request and receive additional positions for this area after the Independent Safety Board Act was passed. The Board has also reallocated positions internally from overhead areas into the hazardous materials program. It should also be noted that the Board's hazardous materials program is supplemented by personnel from the aviation and surface modes during accident investigations. Additional personnel could be effectively used to provide increased support to accidents, evaluate other agencies' hazardous materials efforts, and to provide better recommendation followup.

*Question 8.* What would your view be of an authorization bill for a three-year period, which adopted the approximate budget levels you have requested for fiscal year 1981 and fiscal year 1982, and which included an increase for fiscal year 1983 to expand the Board's resources in the areas we've been discussing (perhaps adding some 50 additional positions)? Would those added resources be efficiently utilized and enhance our ability to improve transportation safety in a measurable way?

Answer. The Board would welcome a three-year authorization. A three-year authorization would allow the Board to improve its planning capability since we would know the programs and resource levels approved further in the future. It would also increase the amount of staff time available for direct mission work since the staff would be required to develop, review, and defend the Board's programs every three years rather than every two years.

Additional positions (over and above the 29 positions for the expanded highway program) could very definitely be used to improve transportation safety. The first priority for use of additional positions would be the human factors program. When the Board's new data system is operational, it will be capable of collecting large amounts of data on both the crash survivability of accidents and the human related causes of accidents. An effective program in this area will depend on accurate gathering of facts and correct interpretation of data which will require highly skilled personnel not now available on the Board's staff. Implementation of this program in all modes will require about 24 additional positions.

The Board also needs additional positions to implement programs mandated by the act for which few or no positions have ever been provided. This includes the Board's oversight responsibilities which require the evaluation of the transportation safety consciousness of other government agencies and the evaluation of the safeguards concerning the transportation of hazardous materials. These two program areas will require about 12 additional positions.

The other additional positions provided in fiscal year 1983 would be used to implement a field highway program in all of the Board's field offices and for support staff for these programs.

*Question 9.* On pages 22 and 23 of your testimony, you noted that some aircraft operators have been reluctant to file incident reports with the Board. Can you cite a few specific examples?

Answer. Below are examples of incidents where aircraft company officials were reluctant to provide the Board with needed information:

An American Airlines Boeing 708 lost the left inboard flap on descent to land at O'Hare Airport. The aircraft landed with some apparent fuselage damage. The

occurrence was originally classified as an incident and an incident investigation was commenced. When American Airlines was requested to produce the Cockpit Voice Recorder, they refused, citing the fact that the occurrence was classified as an incident and they did not have to comply. Our Chicago office then reclassified the occurrence as an accident and again requested the CVR. They again refused and took their complaint to the Chairman. Our investigator finally received the CVR one week later after the dispute was resolved.

An American Airlines Boeing 707 aborted a takeoff due to an engine fire warning. Our investigator took possession of the cockpit voice recorder because we were curious as to why there was a 3 minute delay from the time that the aircraft cleared the runway until the evacuation order was given. Later the FDR was released as not being germane for investigative purposes, but the CVR was retained over the objections of American Airlines officials. The flightcrew was not responsive to questions by our investigator. This matter again had to be resolved by the Director of the Bureau of Accident Investigation.

A United Airlines Boeing 737 experienced the loss of its A and B hydraulic systems inflight at 29,000. The captain declared an emergency and landed at Dulles International Airport. The flight deck crew was interviewed after the incident but the first officer withheld pertinent information. United Airlines operations personnel were requested to turn over the CVR and FDR for our further investigation. At that point the first officer became indignant, objected to the use of the recorders for "incident" investigations, and contacted ALPA for support. The matter was finally settled in the Board's favor the next day after consultation between officials.

An American Airlines Boeing 708 aborted a takeoff and blew most of its tires during the process. Minor damage was incurred to the wheels, brakes, fuselage, and wings. When reported to the New York Field Office, the occurrence was declared an incident. The FDR and CVR were removed from the aircraft and sent to our Washington lab for readout. American Airlines officials objected to this since they took the position that the incident did not fall within the incident classification as defined in the Board's regulation under Part 830. In this instance, the Board did not readout the recorders, but returned them to American Airlines Safety Department for readout.

A Republic Airlines Convair 580 ran off the runway during a landing, incurring minor damage. Our Kansas City office was informed and attempted to contact the crew to determine why it happened. Our investigator received a call from the ALPA coordinator saying that he did not want the crew to make any statement over the telephone. He stated that if our investigator was willing to travel to company headquarters in Minneapolis, he could interview the crew. The investigator then requested the CVR and FDR but was refused. He was informed by a company vice president that because of union agreements, they would not furnish the Board with the recorders since the aircraft was not involved in an accident, or one of the five incidents defined by our regulation, they were not required to do so.

*Question 10.* Have the other agencies you coordinate with on accident investigations supported your requested amendment to section 304(a)?

*Answer.* It is our understanding that the OMB has the responsibility for coordinating proposed changes to legislation. When the Board submitted its fiscal years 1981-82 authorization request to the OMB and Congress on June 14, 1979, OMB did staff our request with the budget examiners of each of the effected agencies. The Department of Transportation has indicated concern about the effects of these amendments on their ability to carry out their regulatory and enforcement activities. However, since the amendment to Section 304(a) merely reaffirms existing interagency agreements on accident investigation, we do not believe any problems would result over enactment.

This amendment will also eliminate the potential duplication problem between DOT agencies and the Board which was identified in the House Appropriation Committee study of the Federal Government's highway safety programs.

*Question 11.* Can you again give the Committee specific examples of cases in which evidence needed by the Board has been prematurely moved from the accident site?

*Answer.* There have been a number of instances in which the owner(s), insurance companies, or state agencies have taken custody or severely delayed examination of accident evidence before the Safety Board has completed its investigation. In some cases, the local investigating law enforcement agency had the authority to impound vehicles until the investigation was completed—others did not have such authority. And some had the authority but were reluctant to use it on behalf of the Safety Board.

There are occasions where there could be a conflict between a law enforcement agency wanting a defective piece of equipment held as evidence to support a criminal charge and the Safety Board wanting to test that equipment or component in a laboratory. The chain of possession requirements in criminal cases is often crucial and sensitive. In such cases, the Board has always yielded to the law enforcement agency's needs. In fact, it is often the case where both the agency and the Board's needs are met through independent laboratory testing under the supervision of the Board.

Examples in which evidence has been prematurely moved from the accident site or otherwise made inaccessible to the Board are as follows:

1. Ypsilanti Boys Club Bus accident in Tifton, Georgia, April 11, 1978. Insurance company moved the bus before Safety Board investigators could examine, document, and test the brake and steering systems.
2. Truck Trailer/Van accident in Scipio, Utah, August 26, 1978. Both owner and insurance company wanted the vehicles removed before the FMVSS 121 air brakes could be examined. Utah Highway Patrol impounded the vehicles for the additional 24 hours needed to complete the testing.
3. Bus accident, Brigham City, Utah, June 6, 1979. Tacograph removed from bus by owner. Information lost.
4. Highway accident, Lawrence, Kansas, November 5, 1978. Court prevented examination of tow hitch.
5. Highway accident, St. Louis, Missouri, September 25, 1977. Vehicle moved 300 miles from accident site prior to arrival of investigative team.
6. Truck accident, Marinez, California, May 1976. California Highway Patrol took custody of V belt component and prevented board testing.
7. Highway accident, Marion, North Carolina, May 12, 1977. Insurance company took possession of evidence and prevented Board's investigation.
8. Pipeline explosion and fire, Pearland, Texas, October 24, 1978. Texas Railroad Commission had the pipe impounded and held up metallurgical testing of the pipe for 16 months after the accident.
9. Pipeline explosion and fire, Lawrence, Kansas, December 15, 1977. Company refused to allow Board investigators to test the plastic pipe involved for specifications and to test the coupling for "pullout" and tensile loadings.
10. Pipeline accident, North Richland Hills, Texas, January 19, 1979. Texas Railroad Commission took custody of pipe and the examination report is still not available.
11. Railroad accident, Harrisonville, Missouri, February 2, 1980. Broken rail removed prior to investigator arrival.

#### QUESTIONS OF SENATOR KASSEBAUM AND THE ANSWERS THERETO

*Question 1.* On page 5 of this year's Annual Report there are three graphs on productivity. What methodology is used to compute output? Has this methodology changed any in the last 5 years? How is quality of the Board's products integrated into this measure of productivity, for example, would the Board's accident report on Chicago DC-10 crash receive any more weight than say a special study of limited scope?

*Answer.* Each fiscal year the Safety Board submits to the Department of Labor (DOL) the number of major work products completed (output) that is, major accident investigations, field accident investigations, etc., and the number of man-hours (input) devoted to those products. The DOL uses this data to develop a productivity index for each fiscal year. The methodology employed is roughly comparable to that used in developing the consumer price index for the national economy.

The major work products reported has changed; Special Investigations, Rulemaking, and Public Inquiries were added in fiscal year 1977, however, basically, the methodology for computing the productivity indices has not changed during the past 5 years.

The quality of the Board's products is not integrated into the DOL's measure of the Board's productivity. However, since DOL's weights established for each measured output are based on the mix of past manhour expenditures, an accident like the Chicago DC-10 crash would receive more weight than other products of limited scope and input.

*Question 2.* I note that the annual report which NTSB has released was not printed by the Government Printing Office. Could you tell me what the reason for this is, and where more copies might be obtained?

Answer. The Board's annual report was submitted to the GPO for publication. However, the GPO determined that the annual report could be completed faster if it was sent to a private contractor. The rider which normally appears at the beginning of the annual report and indicates that the document is for sale through the GPO was left off by mistake.

Additional copies of the Board's annual report may be obtained from the Safety Board.

*Question 3.* I assume that printing outside the government was done to reduce costs. Could you please provide me with the cost comparison data which you used in evaluating this decision?

Answer. Since the annual report was submitted to the GPO for publication, and then to a private contractor, no cost comparison information is available to the Board. The total cost for printing 3,000 copies of the annual report was \$16,957 or \$3.39 per copy.

*Question 4.* In refining the Board's organization, how have you changed the Office of the Chairman and the Office of the Managing Director? How have these changes affected productivity?

Answer. In refining the Board's organization, no changes have been made in the Office of the Chairman and the Office of the Managing Director. A word processing center has recently been established in the Office of the Managing Director to speed the processing of major accident reports and special studies and relieve the support staffs of the line bureaus of costly and time consuming retyping of revisions to drafts of these reports, but this action was separate from the organization realignment which resulted in the disestablishment of the Bureau of Plans and Programs and the transfer of its essential functions to other bureaus and to a new Office of Evaluations and Safety Objectives.

*Question 5.* The Board recently conducted an En Banc Hearing on Aviation Commuter Safety. How many staff hours were spent in preparation for that hearing? How did that effort affect productivity?

Answer. During the period October 1, 1979, to January 31, 1980, National Transportation Safety Board staff spent about 3,900 manhours on the En Banc Public Hearing. This total included an extensive review of accident reports, statistics, safety recommendations, regulatory actions and responses, an on-site field survey of 45 commuter airlines, staff visits to 2 FAA Regions and an indepth review of the Civil Aeronautics Board role in the commuter industry.

The manpower expended on the commuter project had an affect on the Safety Board's productivity. Six aircraft accident reports were delayed from 1 to 5 weeks and some internal work was delayed for equal periods. However, the project had a minimal affect on the Safety Board's field office productivity, and had no affect on the safety recommendations program.

The information the Board gained from the project, coupled with the renewed safety consciousness which developed in the commuter industry and within the FAA as a result of the project, made the considerable expenditure of manhours worthwhile.

*Question 6.* How many reports proposed by the Board's staff have actually never been published because of disapproval by the Board Members?

Answer. A review of our records for the last five years revealed that only four reports submitted to the Board have not been published and only one of those four was specifically disapproved. In 1975 a staff-proposed special study dealing with safety problems resulting from an "energy dilemma" was disapproved by the Board because of its poor quality. In 1977, a staff-proposed special study dealing with methods of upgrading highway safety standards was subsequently withdrawn by staff based on Board criticism. In 1978 a staff-proposed special study reviewing pedestrian fatalities on the Nation's railroads was converted into a safety recommendation based on the Board's decision that it did not contain enough material to justify publishing as a special study; the essence of the material, however, was included in the safety recommendation issued. Finally, in 1979 a special study dealing with shoulder harnesses and general aviation safety was tabled by the Board pending further review of the status of progress in this area by FAA.

*Question 7.* Do you as Chairman or the Managing Director ever reject proposals from staff before they are ever received by the full Board?

Answer. I have never rejected documents prepared by the staff for formal Board approval before they were received by the full Board. As a matter of fact, I see such documents for the first time when they are distributed to me and the Board Members simultaneously. The Managing Director does review documents submitted for Board approval before they are sent to the Board and occasionally instructs that improvements be made in them. He has never rejected such documents, however,

and it is clearly understood that the technical staff has the prerogative to submit to the Board end-products which contain their best technical substantive judgment of the issues involved, whether it be accident reports, safety recommendations, special studies or other formal publications. Proposals from staff relating solely to administrative matters are reviewed and sometimes rejected by the Managing Director or me in my capacity as chief executive officer of the agency. These proposals, however, do not require Board approval.

*Question 8.* How often are Board meetings normally held?

Answer. Board meetings are usually held every other Tuesday, and are open to the public. An announcement of Board meetings is published in the Federal Register.

*Question 9.* How many professionals left your agency last year? How many have left during 1980? Have you identified any significant reasons behind these departures?

Answer. In fiscal year 1979 the Safety Board lost 35 professional employees. Of that amount 14 were retirees and terminations and 21 were transfers to other government agencies and to private industry. For fiscal year 1980 to date the numbers have been eight and five respectively. Because of the Board's small size and relative wide area of responsibility in transportation, there are many one or two of a kind positions in the Board, for example, there is one helicopter specialist, one powerplants specialist, and one aircraft structures specialist. Since the Board's staff must daily deal with the highest levels of trained technical experts in the industry and other government agencies, they must have a high degree of experience and authority. For these reasons, many government agencies and private groups have the wherewithal to offer substantially greater salaries to these experts. This accounts for the majority of the transfers. Retirements occur for much of the same reasons in that the level of expertise required invariably raises the average time within grade for most employees.

*Question 10.* How many major marine casualty cases are currently pending within the Board? What is the average time from date of the casualty until publication of the record? What steps have you taken to reduce this time?

Answer. There were 95 major marine casualty cases pending within the Board as of March 31, 1980. During calendar year 1979, the Board adopted 16 marine accident reports and the average time between the accident date and report adoption date was 14.6 months. This represented a significant improvement over calendar year 1978 when the Board adopted 10 marine accident reports which had an average completion time of 19 months from date of the accident. The Safety Board does not have control over a significant portion of this completion time which is spent waiting for the Coast Guard to compile the investigation record and forward it to the Safety Board. At present, 74 out of the 95 pending cases are in the investigation phase with the Coast Guard compiling the investigation record.

Even though the productivity of the Board's marine accident division has increased to the highest level it has ever achieved, additional steps are being taken for further improvement in productivity. The Board has developed a shorter "Summary Report" format for those accidents which do not merit the effort which is required to write a major accident report. Also, the Board has reallocated one position to the Marine Accident Division to further increase its output. As a result of these efforts seventeen (17) Summary Reports have already been adopted by the Board and of those 95 pending cases, eleven (11) are nearing completion as Summary Reports at this time. The remaining cases for which the Board has the investigative records are scheduled for completion this fiscal year.

*Question 11.* Regarding the unique relationship the Board has with the Coast Guard in investigating marine accidents, do you feel that the Coast Guard should continue to have lead authority in conducting these accidents?

Answer. As you know, the Independent Safety Board Act provided that major marine casualties should be investigated in accordance with regulations to be jointly prescribed by the Safety Board and the Coast Guard. At the time these joint regulations were approved, the Board indicated in a preamble to the regulations some concerns which it still had with respect to the arrangement worked out and its intention to reevaluate the relationship with the Coast Guard after it had some experience with the operations under the joint regulations. The Board has completed that evaluation and has determined that it will discuss with the Coast Guard some modifications of the joint regulations looking toward the Board conducting those investigations of major marine casualties in which misfeasance or nonfeasance by the Federal government is alleged, and also those investigations involving a public and nonpublic vessel involving a fatality or \$100,000 in property damage. We are hopeful that this gradual assumption by the Safety Board of lead authority in conducting these accidents will be acceptable to the Coast Guard.

*Question 12.* Why do you select highway accidents in which 5 or more people have been killed? Are these types of accidents representative of the highway safety problem?

Answer. The number of 5 or more fatalities was selected as a criteria for highway accident notification for several reasons. First, the total population of 5 or more fatality accidents, estimated at about 50 per year, is a number that the Board can investigate with its limited resources. Second, the use of the five fatality criteria provides a relatively simple, clear-cut request for notification by the State law enforcement agencies. We would like to point out that the 5 or more fatality is only one of the criteria used in selecting highway accidents. We are interested in the technological and safety factors involved in accidents regardless of the number of fatalities where there are survivors who can contribute data as to what happened. Investigating critical safety issues which are casual to fatal accidents provides the justified remedial recommendations.

*Question 13.* What significant accomplishments can be attributed to the highway field staff of the Board?

Answer. The highway field staff of the Board consists of a total of 9 authorized positions located in 4 different field offices. During the last year, these 9 staff members:

Investigated 92 catastrophic highway accidents for the purpose of determining their probable cause;

Conducted 18 selective highway accident investigations to gather data to support a Board special study on the safety of multipurpose vans;

Conducted 40 selective highway accident investigations to gather data to support a safety effectiveness evaluation by the Board of the operation of the National Driver Register;

Were responsible for the proposal of 17 formal safety recommendations approved by the Board;

Produced 22 other "on the spot" safety accomplishments in the course of their accident investigation work (such as instigation of a new Utah wet weather highway accident reduction program); and

Assisted NTSB headquarters personnel in the conduct of—

8 major highway accident investigations;

3 safety effectiveness evaluations relating to the NHTSA National Accident Sampling System, NHTSA's rulemaking process on Federal Motor Vehicle Safety Standard (FMVSS) 208 (passive restraints), and NHTSA's FMVSS 121 (truck braking); and

1 special study ("Fatal Highway Accidents on Wet Pavement—the Magnitude, Location and Characteristics").

*Question 14.* How does a Safety Board mid-level investigation compare to a NHTSA investigation under the National Accident Sampling System? For example, compare the type of quantity of data collected per typical investigation.

Answer. The National Accident Sampling System is designed to collect statistically significant information on preselected factors in highway accidents. Some 20,000 accidents will be investigated each year, collecting about 300 data elements. The information will be used to determine trends and support research studies. The resultant information will not be used to make specific recommendations for improvements nor will it look to the institutional causes of problems that might emerge from the data.

The Safety Board has recently redirected its highway field effort to support specific project efforts designed for programs in safety objectives, evaluations and special studies. Each of these oversight programs have a unique set of data needs that requires a new data form design for each project. The mid-level investigation form previously used will be integrated as appropriate into each oversight collection activity.

The program oversight activities can result in both specific recommendations for improvement, as well as institutionally-oriented changes. The Safety Board's program is unique and unduplicated.

*Question 15.* What is the relationship of the Board with the National Highway Traffic Safety Administration?

Answer. The Safety Board has a good working relationship with the NHTSA. The Safety Board makes continued use of NHTSA's data bank, accident statistical records and computer capabilities. Since May 1975, the Board and NHTSA have had an interagency agreement concerning the investigation of highway accidents to assure the prompt notification of the occurrence of accidents, prevent the duplication of accident investigation efforts, and share all data collected by each other.

The Safety Board has in the past two years performed evaluations of NHTSA rulemaking practices and procedures and has received satisfactory cooperation from the NHTSA staff. NHTSA has over the past several years replied promptly to Board safety recommendations and devoted considerable thought and attention to their responses. Compliance with the vast majority of recommendations has been timely.

*Question 16.* You stated that the Board has an acceptance rate on its recommendations for safety of 80 percent. How was that figure determined?

Answer. The Board determines the acceptability figure by comparing the number of recommendations we have as being acceptably implemented to the number of recommendations issued by the Board minus those recommendations that are still under review. A recipient of our recommendation may accept the Board's recommendation in full or may institute acceptable alternative action. The Board would find either response satisfactory and would count that recommendation as acceptable action.

*Question 17.* Do you believe that enough is being done to encourage and develop dynamic aircraft seat testing? What do you believe could be done that is not yet being done?

Answer. The Board, since 1970, has urged the FAA to develop methods to enhance the capability of aircraft seats to withstand crash forces which more realistically approximate those encountered in an actual crash environment. The Board's basic rationale has been that many accidents are entirely survivable except that the minimum inertia forces required by 14 CFR 23.561 and 14 CFR 25.561 (emergency landing conditions) are exceeded. This causes the seats to fail, which effectively denies occupants the protection of the restraint systems.

It has been FAA's contention that service history and accident records have not established a recurring trend to indicate that a hazardous situation exists under the existing emergency landing condition requirements. However, considerable research by medically oriented investigators and by crash safety specialists has shown that significant savings in lives and injuries can accrue by increasing the minimum load factors for seats and by requiring realistic testing criteria for the entire seat/restraint system.

Dynamic versus static tests research of seats, accomplished by the FAA over the last 10 years, has shown that static test requirements do not relate to the dynamics involved in an accident. If seats were to be designed to withstand 9g under proper dynamic impact conditions, such seats could be tested statistically to withstand about 15 to 16g without failure. These values approach those recommended for seat strength requirements by the Safety Board in the past.

Since 1971, the FAA has had a study program underway which includes the determination of a crash environment, crash design concepts, development of mathematical models, and crash parameter verification through component and full-scale testing. FAA also has developed a three-dimensional computer program which simulates the response of the occupant/seat/restraint system to a crash environment. Despite all these programs, however, FAA maintains it has insufficient data to develop a standard.

The Board has learned informally that a Notice of Proposed Rule Making (NPRM) was developed by FAA that proposed to amend Technical Standard Order (TSO) C39a—Aircraft Seats and Berths—to include options for the dynamic testing of seats. It is our understanding that this draft NPRM is being held up for an indefinite time, however.

It is the Safety Board's belief that, despite the lengthy and seemingly repetitive research undertaken by FAA, there is a reluctance to come to grips with the problem of crash survivability in general and with the need for updated standards for the occupant/seat/restraint system in particular.

The Safety Board believes that sufficient data are available to presently require, as a minimum standard, that aircraft seats be tested to withstand a dynamic impulse load without failure of 9g.

[Whereupon, at 10:10 a.m., the hearing was adjourned.]

