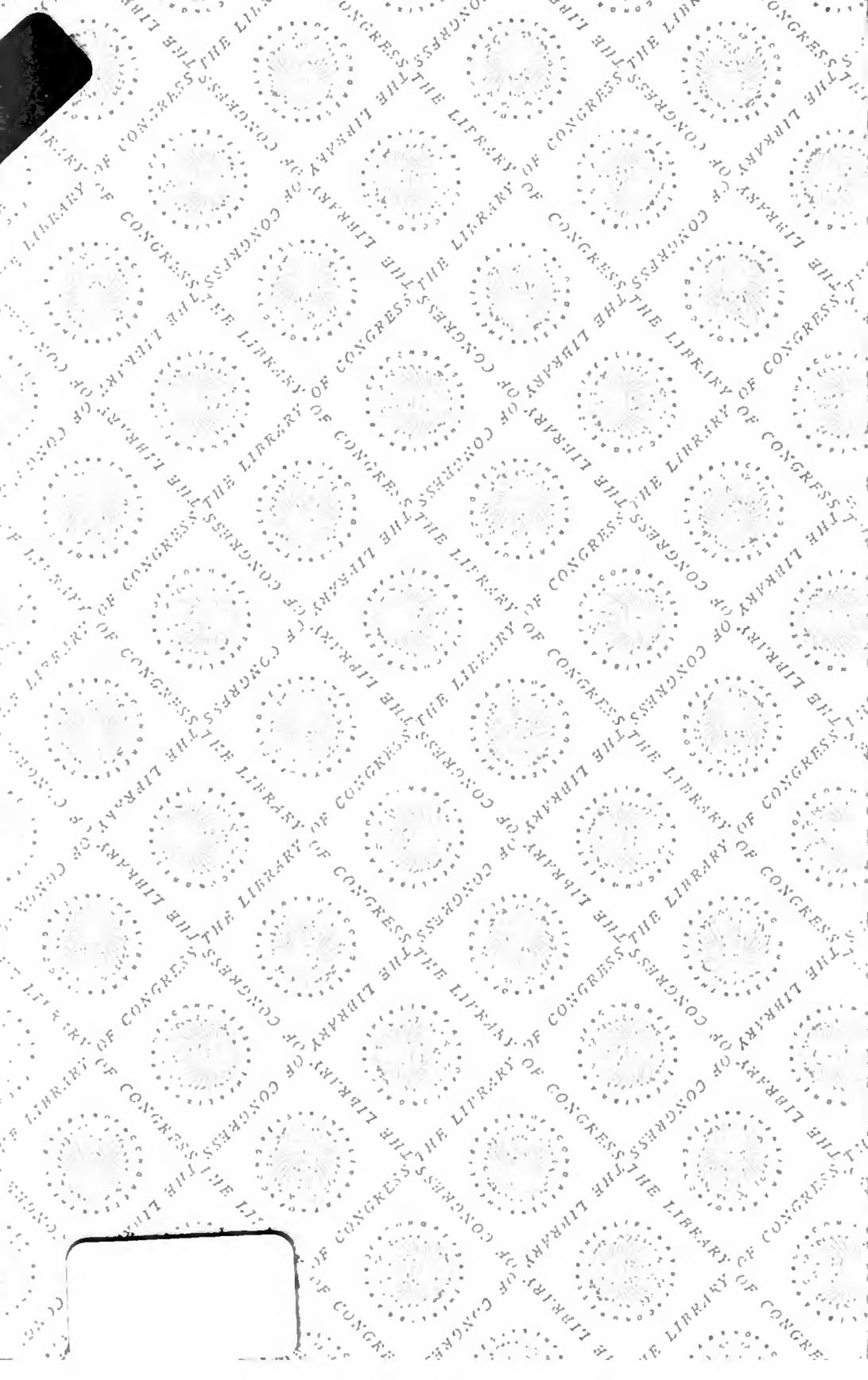
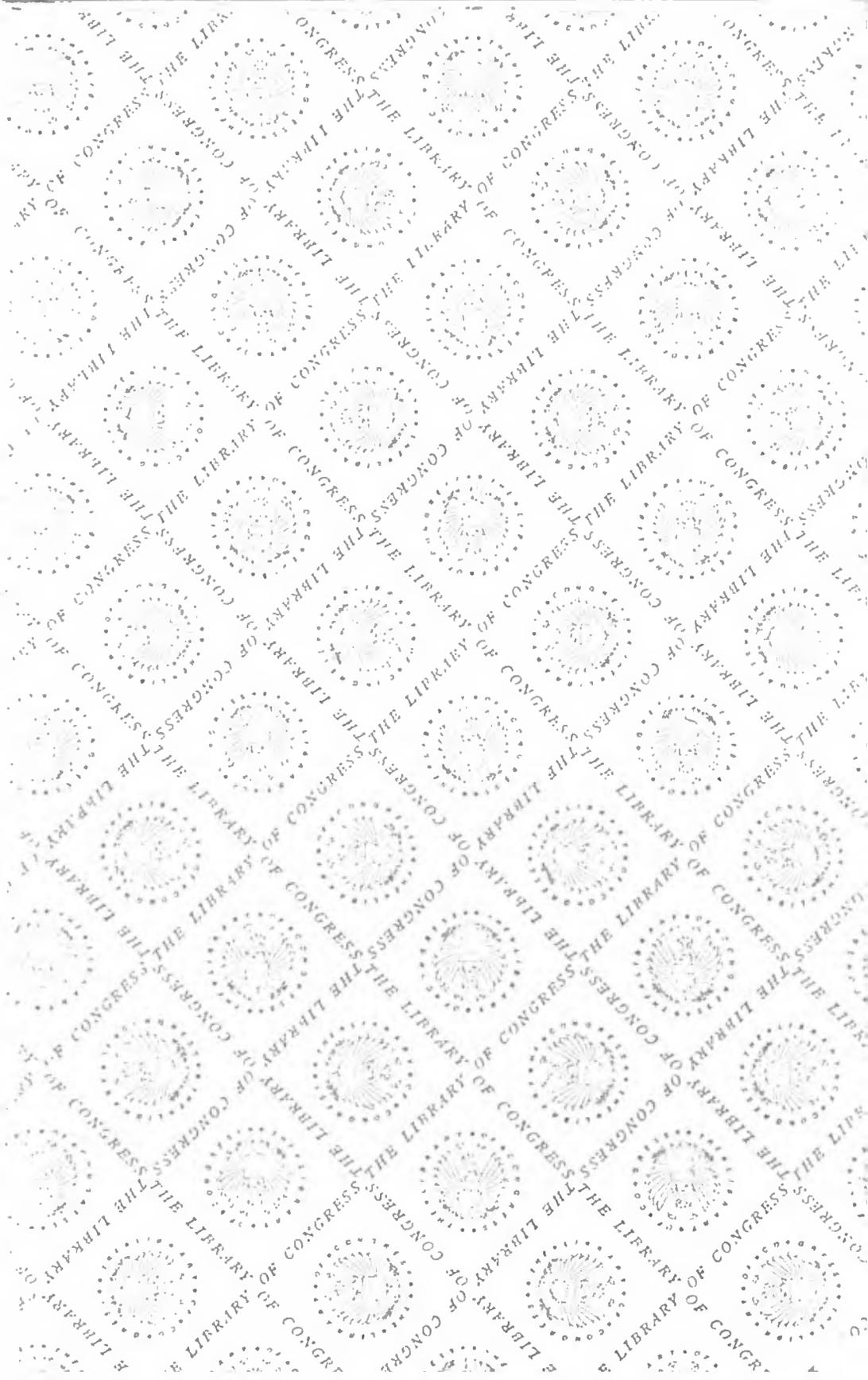


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*United States. Congress. House. Committee on Interstate and  
Foreign Commerce Subcommittee on Transportation and  
Commerce.*

# RAIL SAFETY: DERAILMENTS IN THE NORTHEAST CORRIDOR

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HEARINGS

4 - OCT - 6

COPY ..... 1977

BEFORE THE

SUBCOMMITTEE ON

TRANSPORTATION AND COMMERCE

OF THE

COMMITTEE ON

INTERSTATE AND FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

FIRST SESSION

ON

**H.R. 8361, H.R. 7022, H.R. 2908, H.R. 6095,  
H.R. 6957, and H.R. 8017**

BILLS TO AMEND THE FEDERAL RAILROAD SAFETY ACT OF 1970 TO CLARIFY AND STRENGTHEN THE ROLE OF THE STATES IN PROMOTING SAFETY ON THE NATION'S RAILROADS; REQUIRING RAILROAD LOCOMOTIVES AND CABOSES TO BE EQUIPPED WITH BULLETPROOF MATERIAL; REQUIRING LIGHT-REFLECTING MARKINGS ON RAILROAD LOCOMOTIVES AND CARS; REQUIRING THE LOCOMOTIVE OF ALL TRAINS TO BE EQUIPPED WITH STROBE LIGHTS, AND FOR OTHER PURPOSES

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JULY 18 AND 19, 1977

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**Serial No. 95-28**

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Printed for the use of the  
Committee on Interstate and Foreign Commerce

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**Association of American Railroads:**

Graziano, Robert M., Director, Bureau of Explosives.  
 Martin, James E., Vice President, Operations and Maintenance Department.  
 Risendal, John A., Director, Safety and Special Services.

**Consolidated Rail Corporation (ConRail):**

Hasselmann, R. B., Senior Vice President, Operations.  
 Jordan, Edward G., Chairman and Chief Executive Officer.  
 Sweeney, John L., Vice President, Government Affairs.

**Federal Railroad Administration: Transportation Department,**

Bennett, Donald W., Associate Administrator for Safety.  
 Black, William F., Chief, Hazardous Materials Division.  
 English, Ed, Track Engineer.

Mowatt-Larssen, Rolf, Director, Office of Standards and Procedures.

Sawyer, Kenneth T., Director, Northeast Corridor Project.

Sullivan, Hon. John M., Administrator.

Wright, Robert H., Deputy Associate Administrator for Safety.

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Rodgers, Paul, General Counsel.

Schneider, Charles, Associate General Counsel.

**National Railroad Passenger Corporation (Amtrak):**

Archdeacon, Herbert, Assistant Chief Engineer of Maintenance, Northeast Corridor.

Bertrand, Charles E., Vice President and General Manager, Northeast Corridor.

Sponseller, William, Manager, Engineering and Construction, Northeast Corridor.

**National Transportation Safety Board:**

Benner, Ludwig, Jr., Chief, Hazardous Materials Division, Bureau of Technology.

Garner, Elmer, Chief, Railroad Accident Branch, Bureau of Accident Investigation.

Styles, Thomas DeW., Chief, Central Investigation Division, Bureau of Accident Investigation.

Taylor, Frank T., Director, Bureau of Accident Investigation.

Todd, Webster B., Jr., Chairman.

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De Simone, Daniel, Acting Director.

Dickinson, Lee, Project Director, Railroad Safety Assessment.

Maxwell, Robert, Acting Program Manager, Transportation Assessment Group.

Turnbull, Lucia, Research Assistant.

**Pennsylvania Public Utility Commission:**

Conners, James, Director, Intergovernmental Affairs.

Johnson, Michael, Commissioner.

**Railway Labor Executives' Association, William G. Mahoney.**



# RAIL SAFETY: DERAILMENTS IN THE NORTHEAST CORRIDOR

MONDAY, JULY 18, 1977

U.S. HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE,  
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,  
*Washington, D.C.*

The subcommittee met, pursuant to notice, at 10 a.m., in Room 2218, Rayburn House Office Building, Hon. Fred B. Rooney (chairman of the subcommittee) presiding.

Mr. ROONEY. The meeting will come to order.

Today, we are commencing hearings on the subject of railroad safety. Particular attention will be placed on derailments in the Northeast Corridor. Also, specific attention will be given to the derailment of a ConRail train at Metuchen, New Jersey, on June 22 of this year. This accident is yet another example of what I consider to be the seriousness of the current deterioration of rail safety.

During this session of Congress, a number of bills have been introduced pertaining to rail safety, such as H.R. 2908, which would promote rail safety by requiring light reflecting markings on railroad locomotives and cars; H.R. 6095, H.R. 6957, and H.R. 7022, which would direct the Secretary of Transportation to issue regulations requiring railroad locomotives and cabooses be equipped with bullet-proof material; H.R. 8017, which would require the installation of strobe-lights on engines, and H.R. 8361, which I introduced last Friday to clarify and strengthen the role of the States in promoting safety on our Nation's railroads. Although consideration of these bills is not the primary purpose of these hearings, I am sure they will get some attention.

On February 24, 1976, at the outset of the hearings on the Federal Railroad Safety Authorization Act of 1976, I made the following statement, which I think should be repeated at this time. At that time, I said: "I feel very strongly that railroad safety must remain a continuing concern of all parties involved. The Congress has indicated its intention to assure that rail safety programs are adequately funded. The administration must assure us that there will be adequate implementation and enforcement of safety regulations. The rail industry itself must be convinced that railroad safety is cost-effective. We need everybody working together to reach the goal of improved railroad safety."

Now, almost 18 months after I made this statement, I am shocked to find that practically no progress has been made toward working together to reach the goal of improved rail safety. Considering what some organizations have done—or more accurately, have failed to do—I sometimes feel that only this committee is working toward the goal of reaching improved railroad safety.

Two years ago, in recognition of what this committee believed to be improper priorities, we insisted that 50 percent of the authorized funds for the operations of the Federal Railroad Safety Act of 1970 be used for safety inspection and enforcement activities, including the utilization of up to 500 safety inspectors and 45 signal and train control inspectors. The Federal Railroad Administration choose to ignore this mandate. As a consequence, last year the committee again placed these same restrictions in the Federal Railroad Safety Authorization Act of 1976. To my chagrin, I am now informed that FRA is still not fully staffed with safety inspectors.

Similarly, last year the committee mandated that the Office of Technology Assessment submit a report to the Congress by January 1978 containing the results of a study of railroad safety laws to evaluate their effectiveness, together with recommendations for legislative and other actions considered appropriate. I am now informed that with less than 6 months before this report is to be submitted to the Congress, the OTA has only recently started to conduct this study.

I would like to state as emphatically as possible that I will not tolerate the flaunting of the will of Congress by either the FRA or the Office of Technology Assessment. In my opinion, it is inconceivable that anyone's priorities could be higher than that of safety. On the other hand, I would like to make it clear that I am not a

before we look for corrective actions.

The Federal Railroad Safety Act of 1970 was an attempt by Congress to promote safety in railroad operations by granting broad regulatory powers in a comprehensive scheme of Federal regulation, coupled with Federal and State enforcement activities in order to halt the increase in rail accidents which had doubled over the

previous decade. Obviously, the Act has not been successful, since between 1970 and 1977, the accident rate has continued to increase despite the Federal Safety Act.

I am informed that in 1976, there were 10,423 railroad accidents. This represents a 30-percent increase over 1975. Granted, many of these may not have been particularly serious, but, nevertheless, this represents almost 30 accidents a day, or more than one accident every hour of every day of the year. More significantly, there were 108 fatalities from railroad accidents in 1976, which is also a 30 percent increase over the previous year. These statistics are certainly a shocking indictment of the rail safety enforcement program. In the reports on railroad safety authorizations, in the last 2 years, this committee has stated that these statistics are telling the story that the FRA is not doing its job adequately. Those statements were made when the number of accidents reported was about 7,500 in 1974 and 1975. I am now appalled to be informed that the accident rate has increased by leaps and bounds to 10,400 in 1976. Moreover, I understand that accidents like Metuchen are becoming so commonplace that the statistics are not the meaningful yardstick that they should be.

During these hearings, therefore, we will attempt to determine why railroad safety is not improving and to take appropriate corrective action.

The gentleman who is responsible for bringing this to my attention is a member of this distinguished committee, and I am pleased to recognize Congressman Florio at this time.

Mr. FLORIO. Thank you, Mr. Chairman. I am looking forward to hearing from the very impressive list of witnesses we have this morning, and I have a brief statement I would like to place before this committee for the record.

It is clear that the Federal Government is spending a substantial amount of money for the improvement of tracks and railroads, and yet we continue to experience the derailments resulting in increased damage costs and increased numbers of accidents, as outlined by the chairman.

The Metuchen accident, which was referred to by the chairman, involved 17 freight cars of the ConRail line and was derailed on tracks maintained by Amtrak. Fortunately, there were no injuries, but 30,000 commuters and long-distance rail travelers were disrupted. Tracks were uprooted, and there were thousands of dollars in damage to rolling stock.

That is the story on the surface. We have also ascertained there were hazardous substances being transported in the cars. There were no clear marks on the cars for the train's manifest that could be identified by the vast majority of people involved. State or local officials had no way of knowing what the danger was potentially, should a leak or explosion develop.

It is clear that there is a legislative or perhaps administrative void that must be dealt with. We need to address the question of notification to local officials of what it is that is carried through trains in their areas so the proper precautions can be made for evacuation in event of accidents. We need, also, to address the question of contingency plans so we know ahead of time what action

must be taken to safeguard the public in event of derailments involving hazardous substances.

Beyond that, the Transportation Department should expedite development of regulations as required by the Hazardous Materials Transportation Act of 1976, which calls for the establishment of criteria for handling hazardous materials.

That law establishes a comprehensive framework for safety regulations that has not been implemented to date. The Materials Transport Bureau in the Department of Transportation and the Federal Railroad Administration are responsible for writing regulations providing for the safe transport of hazardous materials. Last November, MTB issued proposed ratemaking which would require identification of uninsulated liquified petroleum gas transport cars. As of this point, no final action has been taken.

Meanwhile, there are more LPG carriers on the lines today, and people are being exposed to potential dangers. Yet nothing is happening.

Our committee should attempt to move the admission in the area of regulations to attempt to ensure that the regulations will be published. We need to fill the various voids that have demonstrated themselves so vividly in this Metuchen accident. As mentioned by the chairman, we are very lucky. It happens to have happened in my own State. This could have been a potential catastrophe, but, as was indicated, it was not at the high commuter line time. It was at a time when there weren't many people in the streets of Metuchen, and yet the fact is that under a different scenario, with a different set of circumstances, if there had been a puncture in the chlorine tanks, as there had been in one other car that did not carry hazardous substances, we could have had a potentially disastrous, catastrophic accident.

I think it is the intent of this committee to learn as much as it can on this subject in order to attempt to correct even the remote possibility of something of this sort happening.

I look forward to hearing from the witnesses, Mr. Chairman. Thank you.

Mr. ROONEY. Thank you.

The Chair recognizes the distinguished gentleman from the State of Illinois, Mr. Madigan.

Mr. MADIGAN. Thank you, Mr. Chairman. You are to be congratulated on your initiative in bringing this important matter to the subcommittee's attention. The density of traffic in the Northeast Corridor is so great that we cannot risk any railroad derailments. It is only a miracle that prevented a catastrophe from the derailment in New Jersey which occurred several weeks ago. ConRail cars were strewn across all four tracks on the line between Washington and New York. Metroliners traveling at 100 miles per hour or better travel those tracks every 30 minutes. If one had collided with the derailed chemical cars, we would now be considering a massive tragedy.

The ultimate catastrophe did not happen, Mr. Chairman, but we should take this opportunity to increase our efforts in attaining a truly effective rail safety law.

In 1970, Congress enacted the Rail Safety Act, which was to be an improvement over the past hodgepodge of rail safety acts. To date, the 1970 Act has failed to achieve its goal.

Last year, in authorization under that act, we offered an amendment which directed the Office of Technology Assessments to prepare for this committee a comprehensive study of the current rail safety laws. Within the next few months that report will be ready for the Congress to consider. I am hopeful that the report will contain information which will permit us to intelligently review all of the rail safety legislation now on the books and come up with a truly meaningful piece of legislation which will reduce the number of railroad accidents we have.

I am anxious to learn more about this accident so we may learn from this experience in order to be more successful in preventing accidents in the future.

Thank you, Mr. Chairman.

Mr. ROONEY. Thank you, Mr. Madigan.

Without objection, the text of H.R. 8361, H.R. 7022, H.R. 2908, H.R. 6095, H.R. 6957, H.R. 8017, and agency reports thereon, will be printed at this point in the record.

[The text of the bills and agency reports referred to follow:]

95TH CONGRESS  
1ST SESSION

# H. R. 8361

---

## IN THE HOUSE OF REPRESENTATIVES

JULY 15, 1977

Mr. ROONEY (by request) introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

---

## A BILL

To amend the Federal Railroad Safety Act of 1970 to clarify and strengthen the role of the States in promoting safety on the Nation's railroads.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       That section 202 of the Federal Railroad Safety Act of 1970  
4       (45 U.S.C. 431) is amended by adding at the end thereof  
5       the following new subsection:

6       “(h) (1) The Secretary shall establish a Railroad Safety  
7       Advisory Committee to advise, consult with, and make rec-  
8       ommendations to the Secretary with respect to rail safety  
9       (hereinafter in this subsection referred to as the ‘Commit-  
10       tee’). The Committee shall consist of the Administrator of

1 the Federal Railroad Administration, who shall serve as  
2 Chairman, and eight other members appointed by the Secre-  
3 tary as follows:

4 " (A) two individuals from the public at large;

5 " (B) two individuals from railroad management;

6 " (C) two individuals from railroad safety organiza-  
7 tions; and

8 " (D) two individuals who are members of State  
9 commissions engaged in railroad safety regulation, who  
10 shall be selected after consultation with the national  
11 organization of the State commissions referred to in  
12 section 205 (f) of the Interstate Commerce Act.

13 Members of the Committee shall be appointed for a term of  
14 not to exceed three years.

15 " (2) Members of the Committee, other than those  
16 regularly employed by the Federal Government, may be  
17 compensated for their service in accordance with the provi-  
18 sions of section 9 (o) of the Department of Transportation  
19 Act (49 U.S.C. 1657 (o)). Appointed members of the  
20 Committee shall not, by reason of their service on the Com-  
21 mittee, be considered employees or officials of the United  
22 States for any purpose. All proceedings of the Committee  
23 shall be subject to applicable provisions of the Federal  
24 Advisory Committee Act (Public Law 92-463; 86 Stat.  
25 770).

1       “(3) The Secretary shall, prior to publishing any rule,  
2 regulation, order, or standard under this section, submit  
3 a copy thereof to the Committee and afford the Committee  
4 a reasonable opportunity (not to exceed 90 days unless  
5 extended by the Secretary) to submit a report on the neces-  
6 sity, technical feasibility, reasonableness, and practicability  
7 of such rule, regulation, order, or standard. Each report of  
8 the Committee concerning a rule, regulation, order, or  
9 standard shall be included in the record of any proceeding  
10 which is held with respect thereto. The Secretary shall not  
11 be bound by the conclusions of a majority of the Committee  
12 with respect to any such rule, regulation, order, or standard,  
13 but in the event that he rejects such conclusions he shall  
14 publish the reasons for such rejection.”.

15       SEC. 2. Section 206 of the Federal Railroad Safety  
16 Act of 1970 (45 U.S.C. 435) is amended by adding at the  
17 end thereof the following new subsection:

18       “(g) Notwithstanding any other provision of this title  
19 or any other law, a State agency may also participate, in  
20 the manner set forth in this section, in carrying out investi-  
21 gative and surveillance activities in connection with railroad  
22 safety laws and regulations in effect on the date of enact-  
23 ment of this title or enacted or adopted after such date.”.

24       SEC. 3. (a) The last sentence of section 206 (a) of the  
Federal Railroad Safety Act of 1970 (45 U.S.C. 435 (a))

1 is amended to read as follows: "The Secretary shall retain  
2 the exclusive authority to assess and compromise penalties  
3 (except as otherwise provided by section 207 of this title)  
4 for the violation of rules, regulations, orders, and standards  
5 prescribed by the Secretary under section 202 (a) of this  
6 title and to recommend appropriate action as provided by  
7 section 209 of this title."

8 (b) Section 207 of the Federal Railroad Safety Act of  
9 1970 (45 U.S.C. 436) is amended to read as follows:

10 **"SEC. 207. ENFORCING COMPLIANCE WITH FEDERAL**  
11 **RAILROAD SAFETY RULES, REGULATIONS,**  
12 **ORDERS, AND STANDARDS.**

13 "(a) In any case in which the Secretary has failed to  
14 assess the civil penalty applicable under section 209 of this  
15 title with respect to a violation of any railroad safety rule,  
16 regulation, order, or standard issued under this title, or other-  
17 wise required by law, within 90 days after the date on which  
18 such violation occurred, a State agency participating in  
19 investigative and surveillance activities under the provisions  
20 of section 206 of this title within the State where the viola-  
21 tion occurred may apply to the district court of the United  
22 States within the jurisdiction of which the violation occurred  
23 for the assessment and collection of the civil penalty included  
24 in or made applicable to such rule, regulation, order, or  
25 standard. The provisions of this section shall not apply

1 in any case in which the Secretary has affirmatively deter-  
2 mined, in writing, that no violation has occurred.

3       “(b) A State agency participating in investigative and  
4 surveillance activities under the provisions of section 206  
5 of this title may, with respect to a violation that occurred  
6 within the State of any railroad safety rule, regulation, order,  
7 or standard issued under this title, or otherwise required by  
8 law, apply to the district court of the United States within  
9 the jurisdiction in which the violation occurred for injunc-  
10 tive relief to restrain any further violation thereof or to  
11 enjoin compliance therewith.”

**H. R. 7022**

---

## IN THE HOUSE OF REPRESENTATIVES

MAY 9, 1977

Mr. STAGGERS (by request) introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

---

**A BILL**

To amend the Federal Railroad Safety Act of 1970 to direct the Secretary of Transportation to issue regulations requiring railroad locomotives and cabooses to be equipped with bulletproof material.

1       *Be it enacted, by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That section 202 of the Federal Railroad Safety Act of  
4       1970 is amended by adding at the end thereof the following  
5       new subsection:

6       “(h) (1) The Secretary shall, within 180 days after the  
7       date of enactment of this subsection, issue such rules, regula-  
8       tions, orders, and standards as may be necessary to require  
9       that the cab area of all railroad locomotives and the entire

I

1 interior area of all railroad cabooses shall be completely en-  
2 closed by bulletproof material, which shall be of such type as  
3 to not restrict the visibility needed for the safe operation of  
4 trains. Each railroad shall, within one year after the date of  
5 issuance of such rules, regulations, orders, and standards,  
6 comply with the requirements set forth therein.

7       “(2) For purposes of this subsection, the term ‘bullet-  
8 proof material’ means any material which is capable, when  
9 struck with a bullet from a medium-power small-arms  
10 weapon, of providing protection against complete penetra-  
11 tion, passage of fragments of projectiles, or fragmentation to  
12 the degree that injury would be caused to a person standing  
13 directly behind such material.”.

95TH CONGRESS  
1ST SESSION

# H. R. 2908

---

## IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 1, 1977

Mr. FREY introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

---

## A BILL

To promote rail-highway safety by requiring light-reflecting markings on railroad locomotives and cars.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That section 25 of the Interstate Commerce Act (49 U.S.C.  
4       26) is amended by inserting at the end thereof a new sub-  
5       section as follows:

6       “(i) The Secretary of Transportation shall establish  
7       such orders as may be necessary to require each carrier to  
8       place, prior to such date as is established in such order, on all  
9       of its locomotives and cars in service such light-reflecting  
10      paint or other reflector markings as the Secretary deter-  
11      mines to be best suited to promote safety at rail-highway

- 1 drawings. Said orders shall also require proper maintenance
- 2 of such markings and installation of such markings in acco-
- 3 rdance and care placed in service after such date."

[H.R. 6095, introduced by Mr. Sawyer on April 5, 1977, and  
H.R. 6957, introduced by Mr. Sawyer (for himself, Mr. Carney, Mr. Conyers, Mr.  
Moakley, Mr. Patterson of California, and Mr. Winn, on May 5, 1977,  
are identical as follows:]

---

## A BILL

To amend the Federal Railroad Safety Act of 1970 to direct the Secretary of Transportation to issue regulations requiring that the locomotive and rear car of all passenger, freight, and commuter trains have bulletproof glass and equipment capable of providing controlled temperatures.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*  
3       That section 202 of the Federal Railroad Safety Act of 1970  
4       (45 U.S.C. 431) is amended by adding at the end thereof  
5       the following new subsection:

6       “(h) The Secretary shall, within one hundred and eighty  
7       days after the date of enactment of this subsection, issue such

1 rules, regulations, orders, and standards as may be necessary  
2 to require that—

3 “(1) the glass in all exposed windows in the loco-  
4 motive and rear car of all passenger, freight, and com-  
5 muter trains shall be bulletproof; and

6 “(2) the locomotive and rear car of all passenger,  
7 freight, and commuter trains shall have equipment  
8 capable of providing controlled temperatures in such  
9 locomotive or rear car, as the case may be.

10 Any railroad to which any rule, regulation, order, or standard  
11 issued under this subsection applies shall be allowed one  
12 year from the date of the issuance of the final rule, regula-  
13 tion, order, or standard to comply with the requirements set  
14 forth therein.”.

95TH CONGRESS  
1ST SESSION

# H. R. 8017

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## IN THE HOUSE OF REPRESENTATIVES

JUNE 24, 1977

Mr. SIMON introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

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## A BILL

To amend the Federal Railroad Safety Act of 1970 to require the locomotive of all trains to be equipped with strobe lights.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 That section 202 of the Federal Railroad Safety Act of 1970  
4 (45 U.S.C. 431) is amended by adding at the end thereof  
5 the following new subsection:

6 “(h) The Secretary shall, within 180 days after the  
7 date of enactment of this subsection, issue such rules,  
8 regulations, orders, and standards as may be necessary to  
9 require that the locomotive of all freight, passenger, and  
10 commuter trains be equipped with strobe lights which shall

1 be operated at railroad crossings and such other locations  
2 as, in the determination of the Secretary, the interest of  
3 safety requires.”.



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

JUN 27 1977  
... ..

Honorable Harley O. Staggers  
Chairman, Committee on Interstate  
and Foreign Commerce  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the Office of Management and Budget on H.R. 2908, a bill "To promote rail-highway safety by requiring light-reflecting markings on railroad locomotives and cars."

For the reasons stated in the report sent to you by the Department of Transportation, the Office of Management and Budget opposes enactment of H.R. 2908.

Sincerely,

*James M. Frey*  
James M. Frey  
Assistant Director for  
Legislative Reference



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

JUN 27 1977

Honorable Harley O. Staggers  
Chairman  
Committee on Interstate and Foreign  
Commerce  
House of Representatives  
Washington, D. C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the  
Department on H.R. 2908, a bill

"To promote rail-highway safety by requiring  
light-reflecting markings on railroad  
locomotives and cars."

The bill would amend section 25 of the Interstate Commerce Act  
(49 U.S.C. 26) to require the Secretary of Transportation to  
establish by order a requirement that railroads reflectorize  
their locomotives and cars and maintain such reflectorization  
thereafter in order to promote safety at rail-highway grade  
crossings.

The Department has consistently opposed similar proposals that  
have been introduced in prior sessions of Congress. It has  
not been shown that the initial cost and maintenance of  
reflectorization of the railroad industry's car fleet is  
economically justified or will produce the desired safety  
results since road curvature and motor vehicle speeds are not  
constant factors. Reflectorization would require periodic  
cleaning of railroad cars in order to maintain their  
effectiveness. In addition to the additional costs incurred  
as a result of additional maintenance, repeated washings would  
have a deleterious effect on the reflective properties of some  
materials. For these reasons the Department feels that  
improvement of crossing protection or illumination is a far  
more effective approach to promote safety at rail-highway  
grade crossings. Therefore, the Department opposes enactment  
of H.R. 2908.

From the standpoint of the Administration's program, the Office of Management and Budget informs us that there is no objection to the submission of this report to the committee.

Sincerely,

A handwritten signature in cursive script, appearing to read "Linda Heller Kamm".

Linda Heller Kamm



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

JUL 26 1977

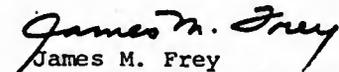
Honorable Harley O. Staggers  
Chairman, Committee on Interstate  
and Foreign Commerce  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your request for the views of the Office of Management and Budget on H.R. 7022, a bill "To amend the Federal Railroad Safety Act of 1970 to direct the Secretary of Transportation to issue regulations requiring railroad locomotives and cabooses to be equipped with bulletproof material."

For the reasons stated in the report sent to you by the Department of Transportation, the Office of Management and Budget opposes enactment of H.R. 7022.

Sincerely,

  
James M. Frey  
Assistant Director for  
Legislative Reference

Mr. ROONEY. Our first witness today will be the Honorable Webster B. Todd, Jr., Chairman of the National Transportation Safety Board, Washington, D.C., and I understand, Mr. Todd, it was expected you would be out of town. I understand you have made many adjustments to be here today, and, Mr. Chairman, we appreciate your willingness to participate in this hearing.

**STATEMENT OF HON. WEBSTER B. TODD, JR., CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD, ACCOMPANIED BY FRANK T. TAYLOR, DIRECTOR, BUREAU OF ACCIDENT INVESTIGATION; THOMAS DeW. STYLES, CHIEF, CENTRAL INVESTIGATION DIVISION, BUREAU OF ACCIDENT INVESTIGATION; ELMER GARNER, CHIEF, RAILROAD ACCIDENT BRANCH, BUREAU OF ACCIDENT INVESTIGATION; AND LUDWIG BENNER, JR., CHIEF, HAZARDOUS MATERIALS DIVISION, BUREAU OF TECHNOLOGY**

Mr. Todd. Thank you, Mr. Chairman. The Board welcomes this opportunity to appear before your subcommittee.

With me today are a number of the Board's professional staff who are available to respond to specific questions, and I might, with your permission, ask some of them to join me: Mr. Taylor, Director of the Bureau of Accident Investigation; Mr. Styles, Chief of the Central Investigation Division, and Mr. Garner, Chief of the Railroad Accident Branch.

Since 1969, the Safety Board has undertaken full-scale investigations of seven major rail accidents in the Northeast Corridor. In addition, since instituting field investigative procedures in April 1976, the Board has investigated 26 less severe accidents and incidents in that area. The investigations break down as follows: Train derailments, 9 (including 1 major) accidents; collisions between trains, 4 (all major) accidents; collisions between trains and derailed cars, 3 (including 1 major) accidents; collisions between trains and highway vehicles, 1 accident; trespasser fatalities, 13 (including 1 major) accidents; on-duty employee fatalities, 2 accidents; fire on board train enroute, 1 accident.

Most persons killed in railroad accident/incidents are trespassers on railroad property. The 13 fatal incidents incidentally are cases ruled accidental. We do not investigate incidents known to be suicides. While most of the victims were adults capable of recognizing the hazards of the tracks and of protecting themselves, one was an 8-year-old child. Another was a juvenile who was electrocuted when he touched the overhead catenary while walking on the top of a freight car. The latter incident was the subject of a full-scale investigation and resulted in a recommendation that railroad rights-of-way be fenced to discourage trespassing. This recommendation ultimately led to the proposed fencing of the right-of-way between Washington and Boston, among other scheduled corridor improvements.

Derailments, collisions between trains, and collisions between trains and derailed cars collectively account for 16 of the Board's corridor investigations. In terms of personal casualties, property damage, and disruption of service, these accidents have been undeniably severe. Naturally, these accidents received rapid response and painstakingly thorough investigations by the Board. Of the six accidents requiring full-scale investigations, five involved passenger trains, and, of these, three occurred during a 16-month period in 1969-70. These 3 accidents produced 295 casualties, including 4 fatalities. The high potential passenger casualty toll of the corridor required that the Board be as concerned with this area as it was in the determination of accident cause factors and their correction. The recommendations developed by the investigations were addressed not only to the operators in the corridor, but to the railroad industry as a whole and to involved Federal and State regulatory agencies.

In the first of the major corridor accidents—a 1969 high-speed derailment of a passenger train—the probable cause was a failure of the track structure. The welded-rail track, considered to be the finest in the country, had literally buckled because of high compressive forces created by heat expansion. Deficiencies in a rail weld and the ballast section contributed to the failure. Following the investigation, the Board called for (1) track maintenance meeting

the carrier's standards, (2) a re-examination of existing maintenance criteria, and (3) development of methods to test rail welds and measure compression forces on track. The Board noted that injury frequency and severity in high-speed derailments depends on keeping derailed cars in line, the ability of cars to withstand crash forces, and the existence of injury-producing interior features of the cars. The Safety Board recommended that designers of passenger cars consider these factors. Finally, recognition was given to post-accident emergency procedures.

The second passenger-train accident in the corridor occurred a few weeks after the first. Two trains collided head-on. During the investigation, violations of operating rules and weaknesses in the carrier's approach to training and supervising employees were uncovered. Recommendations were issued which, if implemented, would improve the situation. The Board also reiterated an earlier call for more attention to crashworthiness in car design.

The year 1970 saw the first of several multiphase train mishaps in the corridor. A freight train was partially derailed when a car's truck components failed. Some of the derailed cars obstructed an adjacent track and were struck by a fast-moving passenger train. Although only a few of the passengers were injured in the collision, the accident illustrates the unique hazard of the corridor's joint freight train and high-speed passenger train operation on adjacent track. The Board's report on the accident stated, "Pathways of passenger trains must be unobstructed for safe operation," since they cannot be steered clear of obstructions. Also, these trains are slow to decelerate. FRA and UMTA were asked to identify the special hazards of joint operations, to develop a method of detecting incursions into track space, and to require improved interlocking couplers designed to help keep derailed cars in line.

Over 5 years later, two passenger trains collided in the corridor. In a 1975 2-stage accident, one passenger train collided with the rear of another, cars derailed and obstructed an adjacent track. A third passenger train, which was operating on that adjacent track, collided with the derailed cars. Following its investigation, the Board recommended that a passenger train be prohibited from entering a block already occupied by a train. In addition, the Board pointed out the lack of necessary flagging protection and the absence of accurate speed-indicating devices on engines. Noted, too, were inadequate emergency lighting, communications, and evacuations procedures.

In February 1975, a newly designed electric locomotive was being tested on the Northeast Corridor before it was to be accepted for Amtrak service. The locomotive and train derailed while running at a speed of about 100 miles per hour near Elkton, Maryland. Investigation of the derailment disclosed design problems in the locomotive, itself. If these problems had not been detected before the locomotives were placed in full service, they probably would have caused serious passenger train derailments. Currently, regulations do not require that the Federal Railroad Administration approve a new design of locomotive or car except for specific requirements, such as safety appliances or power brakes, before that unit is placed in service. In this case, the Safety Board recommended that the

FRA monitor the future testing of this locomotive to determine if it was indeed safe for service. The Safety Board believes that a similar situation could recur on the Northeast Corridor.

Since 1975, two more passenger trains have collided with derailed cars on their tracks in the corridor. Two additional rear-end collisions—one involving two freight trains and one involving two passenger trains—have occurred. There have been eight derailments, all but one of which involved passenger trains; none of these required full-scale investigations.

The problem of operating freight trains and passenger trains on adjacent tracks remains unresolved. The Board's recommendation to prohibit trains from entering occupied blocks has been reiterated several times and is needed now more than ever before. However, no rulemaking has been implemented. Maintenance of track to proper standards must be improved, as well as the standards for such maintenance. However, the Board is hopeful that progress will continue in this area. Crashworthiness concepts have been adopted generally in modern car design, largely because of the continuous attention given this matter by the Board. The benefits of this development will be reaped not only in intercity passenger service, but also in commuter and rapid transit operation. Also, post-accident emergency procedures have been improved greatly through knowledge and awareness on the part of rescue forces all along the corridor.

I have spoken only of the recommendations which followed investigations of accidents in the Northeast Corridor; NTSB investigations of accidents elsewhere in the country have produced many other recommendations which will also enhance safety in the corridor. The handling and transportation of hazardous materials, employee qualifications and training, train inspection practices, radio communication discipline, operating rules, mechanical and structural standards, improvements in the design of locomotives and freight cars, and elimination of grade crossings are among the many recommendations which the Board has made.

Mr. Chairman, as you and your committee know, much work needs to be done on the corridor to provide the desired degree of railroad safety. The revitalization of the right-of-way will certainly improve the derailment situation; however, with freight trains still being operated on the corridor, the danger of their intrusion on the high-speed passenger lines remain.

The Safety Board believes that employees must be better trained and that ambiguous operating rules must be clarified. Technology is available to provide adequate backup systems for human failure and these systems should be employed to provide a safe transportation system.

Currently, the Safety Board is investigating the earlier mentioned derailment of a ConRail freight train at Metuchen on June 22, 1977. The investigation, however, has not been completed as yet. Our investigators were on the scene less than 2 hours after the accident occurred. It occurred at 8:30. We were notified at 9:20, and by 9:25 the area branch had been activated. The New York field office had been instructed to respond by 9:30. By 10:00, we were aware of the presence of the chlorine. The hazardous materials chief was alerted.

By 10:25, the field investigator from New York was on the scene. So I think in that case not only was notification good, but awareness of the hazardous materials and response by our investigators was adequate.

I think at this stage, Mr. Chairman, that I will conclude my prepared remarks and attempt to respond, myself, and the staff here, to any questions you have.

Mr. ROONEY. Thank you, Chairman Todd.

I understand your investigator was on the scene immediately after the accident, but is it not correct the investigator who was there concluded the accident should not be investigated by the Board, and it was through Congressmen Florio and Patten and myself, holding a press conference on the matter, that you decided then to reopen the investigation?

Mr. FLORIO. Mr. Chairman, to refine the question, perhaps, I can recount personally, having talked to someone in the office the next day, and being told it would take a few months as to whether your Agency would even decide whether there should be an investigation because of the fact that there hadn't been a death and a certain dollar amount of damages had not been entailed.

Mr. TODD. Let me respond generally, and then I might ask Mr. Garner to respond specifically to both sides of that, if I may, Mr. Chairman.

One, I can only assume that the timeframe of two months, or a few months, would be more relative to the issuance of a report of the completion of the investigation. As you know, in doing accident work, if you don't do the on-scene portions immediately subsequent to the accident, the investigation, itself, is almost impossible to conduct because you lose so much of the evidence.

As to any question of proceeding with an investigation of that accident, Mr. Garner, would you have any comments on that?

Mr. GARNER. The only comments I have would be these, that I was the gentleman who assigned Mr. Florey to that accident the night it occurred, and there was no question in our mind as to making an investigation of the accident.

I feel certain that if you or your people called our office the following day, I must amplify what Mr. Todd said, that basically we are talking about the issuance of a report and coming up with the probable cause of the accident, which would take several months; no question about that.

Mr. FLORIO. Do you have any criteria to determine what is an investigable accident?

Mr. TODD. We have a statutory threshold that says we must do all accidents above that threshold level. However, when there is an accident that occurs in my mode, whether it is railroad, or aviation, or pipeline or whatever, we, after initial notification, look at it for three things. One, does it meet statutory threshold levels and is, therefore, automatic; two, if it doesn't, does its investigation give us the possibility of looking at trend areas or specific areas of interest that show a pattern through other accidents, similar accidents we have investigated in the past; or, lastly, does it involve an area of operations in that particular mode in which there have either been an inordinate amount of problems, there is an inordinate amount of

exposure, or where we have investigated a series of accidents in the past. Yes, there is judgment involved, but below the statutory limitations, and I think it is safe to say that we are acutely aware of the problems.

We have made a number of recommendations that deal with that area of railroading. I might say they apply anywhere that you have similar circumstances, but have generated out of accident investigations in the corridor, and we are particularly sensitive to any railroad accidents that involves hazardous materials transport because we have done a significant amount of work in this area. We have been working very closely with the American Association of Railroads, the Railway Progress Institutes, the FRA, and others, looking at the problem of the transportation of hazardous materials in these large 112, 114 tank cars, dealing with couplers, head shields, thermal jacketing, and the most recent accident we completed was Glen Ellen, which involved a freight derailment and the puncturing of a hazardous material car.

I will let Mr. Garner or Mr. Styles or Mr. Taylor comment, if they wish, further, but where we have a freight derailment that involves a hazardous material aspect, you can pretty well bet we are going to look at that and look at it hard, because we are very sensitive to the hazardous materials transportation aspect, and in the corridor you have the additional problem.

The Board, I don't believe, has specifically recommended separation of the freight and the passenger operations as far as track utilization is concerned, but it is one of the things we are looking at, and that possibility exists, does it not, Mr. Garner?

Mr. GARNER. Sure does; yes, sir.

Mr. ROONEY. What is the criteria, gentlemen, for the National Transportation Safety Board to investigate a railroad accident?

Mr. TODD. It is one fatality and \$500,000 property damage.

Mr. ROONEY. That is the minimum?

Mr. TODD. Anything above that, Mr. Chairman, we automatically investigate. Anything below is a judgmental call on our part.

Mr. ROONEY. Don't you think it should be expanded to include disruption of service and accidents involving hazardous materials?

Mr. TODD. Hazardous materials, of course, is a second and separate section of our legislation, and not having it in front of me—what is the threshold on hazardous materials?

Mr. STYLES. There is no threshold as far as requirements, but any involvement we look at.

Mr. TODD. Right.

I would think, Mr. Chairman, as far as threshold criteria, either broadening or being more specific, that any guidance is welcome. I think that our judgment in this area is pretty well one that keys off of either past experience with the type of accidents or type of equipment used, or the types of materials involved, or a particular section of track, or, if you will, even a particular railroad that seems to have a high incident rate. I wouldn't be dissatisfied with an expansion of our criteria.

I think when the Safety Board's independence legislation went through the Congress two and one-half years ago that the thresholds that were written into the statutes were, I think, pretty

arbitrary. We have tried to view them and interpret them from a public interest point of view rather than a flat statutory ticket of admission.

Mr. ROONEY. On page 6 of your statement, you discuss the necessity for safety inspections for locomotives before they are placed in service. I am sure that you are aware of the difficulty that Amtrak is having with one of its engines in that there have been excessive derailments.

Is the Board involved in attempting to solve this safety problem with Amtrak, or is it just a matter of waiting for a serious accident to fit the criteria requiring you to investigate? What are you doing?

Mr. TODD. I might generally answer that by saying indeed we are involved. I would leave the specifics which have dealt with operating restrictions, recommendations on further testing at Pueblo, and others to either Mr. Styles or Mr. Garner.

We are heavily involved in that locomotive question.

Mr. Garner will give you specifics.

Mr. ROONEY. What kind of train is it?

Mr. GARNER. The test train is a reproduction of generally the type train that has been involved in the accidents. It is made up of two of the SDP-40 locomotives. It has a baggage car following it and certain test cars as part of its makeup. The idea basically has been to operate this train at various places throughout the country. It started out from Chicago through the northern route, went to Seattle, returned to Chicago, and I understand now it is being operated by the Federal Railroad Administration in several other railroad areas. The Safety Board has been directly involved in a number of accidents in which the SDP-40 has been derailed. We have had people also participate in a number of the tests that have been conducted on this particular locomotive. I, myself, have been directly involved with some of the tests as well.

Mr. TODD. One of the things, I might add, Mr. Chairman, on the SDP-40 is that, after looking at a series of accidents, there was a pattern to them involving sharpness of curve and speed of the train, itself. I don't think anyone is exactly certain why at curvatures of over one degree, 30 minutes, I believe, and speeds in excess of 50-55 miles an hour, this 6-truck locomotive has a tendency to climb the rail and overturn, thereby causing the derailment, and we have recommended, and the recommendation, to my knowledge, has been accepted and is in force, that where these locomotives are being used at curvatures greater than one degree, 30 minutes, trackage with that type of curvature be operated at speeds of less than 40 miles an hour.

That is certainly no answer to the problem as to the track/train dynamics that are causing the accidents, but from our investigative experience, that should keep those trains out of the exposure area until we can find out what the dynamic engineering problem is.

Mr. ROONEY. My final question is, on page 8, you state that the Board believes ambiguous operating rules must be clarified. I wonder if you could furnish some examples of what you consider to be ambiguous operating rules and what is being done about the clarification that you are recommending?

Mr. TODD. May we do that for the record, Mr. Chairman?

Mr. Garner can comment now, or Mr. Styles.

Mr. GARNER. I can comment generally, but we would like to give a more detailed report for the record later, if we could.

Mr. ROONEY. Without objection.

[The following information was received for the record:]

..... insert 2A .....

**EXAMPLES OF AMBIGUITIES IN OPERATING RULES  
CURRENTLY IN EFFECT ON AMTRAK  
(NORTHEAST CORRIDOR OPERATION)**

General Rule "Q", Page 4, 1st and 4th Paragraphs

"Employee subject to Public Law 91-169 (Federal Hours of Service Act), effective December 26, 1970, will be governed as follows:

If he has been ordered to report for duty and has not had the required rest period, he must report the fact to the proper authority before going on duty."

Comment: The impression gained is that the employee can go on duty without sufficient rest as long as he reports the fact to 'proper authority.'

Definition of 'Absolute Block,' Page 6

"A block in which a train or engine is not permitted to enter while it is occupied by another train or engine except as prescribed by the rules."

Comment: Underlined portion is redundant and confuses an otherwise well-worded definition. Once a train or engine is allowed to enter an occupied block, the block is no longer 'absolute' but becomes a 'permissive' block.

Definition of 'Restricted Speed,' Page 8

Proceed prepared to stop short of train, obstruction, or switch not properly lined looking out for broken rail, not exceeding 15 mph."

Comment: As worded, the definition leaves too much to the judgement of the engineer, particularly since restricted speed is widely used to advance trains under critical circumstances.

Rule 12i, Page 15

"Engine while handling wrecking crane engaged in wrecking operations, must not be moved until given proper hand signal with green flag or green light. Other colors may be used when required."

Comment: It appears that the second sentence was added to the rule as an afterthought.

"The explosion of two torpedoes is a signal to reduce speed and be on the alert for a flagman or obstruction or train ahead for a distance of one mile. The explosion of one torpedo will indicate the same as two, but the use of two is required."

Comment: The wording is clumsy and redundant

Rule 16, Page 18

"Unless otherwise provided, each car of a passenger train, when practicable, will be connected with the engine by a communicating signal appliance. When it is inoperative and cannot be put in service without detention, train may proceed after conductor and engineman have an understanding as to how the train is to be operated."

Comment: Underlined 'escape clauses' should be eliminated. The second sentence requires proper alternative action in the event of malfunction, etc.

Rule 27, Page 21, 2nd Paragraph

"Employees operating a switch where the switch light is imperfectly displayed or absent must correct or replace the light if practicable."

Comment: What are the employees to do if the required action is not practicable?

Rule 83B, Page 26

"Trains will be registered at intermediate register stations by the operator, except when a train is displaying signals for a following section it must stop at intermediate register stations on and at the end of single track, and be registered by the conductor unless relieved of that duty by train order as prescribed by Form F, in which case the order must first be sent to the operators at such register stations who will register the train accordingly."

Comment: Rules should be written in a manner which makes them easy to read and understand. This rule consists of a single sentence embracing 78 words. It should be re-written so that it can be easily understood the first time it's read.

Rule 85, Page 27, 3rd and 4th Paragraph

" A section may pass and run ahead of another section of the same schedule, first exchanging train orders, signals and numbers with the section to be passed. The change in sections must be reported from the next available point of communication.

When trains are running in sections, the responsibility for a following section passing a leading section of the same schedule without proper authority rests with the leading section."

Comment: The 'proper authority' referred to in the last paragraph appears to be vested in the previous paragraph. Apparently what is meant is that a failure to exchange orders and identity would be the responsibility of the overtaken section. The rule should say that. Also, the rule is silent as to which train is responsible for reporting the change in identity at "next available point of communication. Presumably, the overtaking section would be responsible. This should be spelled out, too.

Rule S 88, Page 28, 3rd Paragraph

"When a train holds the main track at a meeting point the switch must at once be properly lined for opposing trains. The employe who lines the switch must protect it, unless relieved by some other competent employe."

Comment: The language of this rule requires reliance on the judgement of employees as to who is competent. The intended purpose of the rule would be better served by a simple requirement that the switch be protected by a member of the crew involved.

Rule 103B, Pages 32-33

"When a train or any part of a train is standing where it obscures the view of highway traffic, a member of the crew must protect traffic over the crossing against the movement of trains and engines on adjacent tracks, selecting the most important crossings when they cannot protect all crossings."

Comment: The underlined part of the rule unreasonably requires judgement and decision-making on the part of employees. It should be deleted.

Rule 106, Page 36

"The conductor, enginemen, and pilot are responsible for the safety of the train and the observance of the rules, and under conditions not provided for by the rules, must take every precaution for protection.

This does not relieve other employes of their responsibility under the rules."

Comment: Any time more than one person is held responsible, no one is responsible. This rule should be eliminated altogether. It is in conflict with rule 400N-1 which places ultimate responsibility for the safety of the train with the conductor, as follows:

"Conductors have general charge of the train to which assigned and all persons employed thereon are subject to their instructions. They are responsible for the prompt movement, safety and care of their respective trains and the passengers and commodities carried, for the vigilance and conduct of the men employed thereon and for the prompt reporting to the Superintendent of conditions that interfere with the prompt and safe movement of trains."

As for employees' responsibility under the rules, General Rule 'B' covers this completely:

"Employes must be conversant with and obey the rules and special instructions. Where rules are subdivided they apply equally to all and must be observed wherever they relate in any way to the proper discharge of the duties of employes. If in doubt as to their meaning they must apply to proper authority for an explanation."

Rule 108, Page 36

"In case of doubt or uncertainty, the safe course must be taken."

Comment: This rule can be interpreted in several ways. For example, one might conclude that it is only necessary to take the safe course in cases where doubt or uncertainty exist.

"When a train or engine crosses over to or obstructs a main or secondary track the movement must be protected. Where block signal system rules are in effect, Rule 327 or 504 will govern except where Rule 513 is in effect."

Comment: It shouldn't be necessary to refer to 3 or 4 other rules to learn the full intent of a rule. This rule is bound to cause confusion. The three rules referred to are:

327. To permit a train or engine to enter a block or foul the main track or to cross from one main track to another, the operator must first obtain control of the block to be used.

A train must not enter a block nor foul the main track or cross from one main track to another without proper block signal or permission of the operator.

Where Rule 261 applies and such switch or crossover is not equipped with electric lock, a train order must be issued authorizing the movement if the normal speed is over 20 MPH.

Before permitting a passenger train to cross from one main track to another the operator must know that all blocks to be used are clear of approaching trains and that block protection for the crossover movement has been provided.

Unless so directed by the Train Dispatcher, the operator must not give permission to a train or engine to enter a block at a hand-operated switch or crossover or foul the main track on which another train is moving or has been authorized to move, in the direction of such switch or crossover from the next block station or interlocking.

When permission has been given by the operator to a train or engine to enter a block at a hand-operated switch or crossover, the operator in charge of the block stations or interlockings between which the block is located must know that the movement is being protected before permitting another train to move between such block stations or interlockings and the switch or crossover where such movement is being made.

A train having passed beyond the limits of a block must not back into that block without permission of the Train Dispatcher or operator.

Information concerning the block received by the conductor or engineman must personally be given to members of the crew, when practicable.

All crossover movements must be entered on the block records.

The operator may permit a train to enter a block behind a train a sufficient distance to clear main track switch in order to proceed in the opposite direction.

Comment: Instead of referring to the other rules, the last sentence of Rule 152 needs only to state that where block system rules are in effect, it is necessary to obtain permission from the dispatcher or operator before the movement is made.

Rule 204, Page 41, Last Paragraph

"The engineman of each engine taken on at a point where no train orders are delivered to the train, must be advised by the conductor or engineman of that train of all train orders, previously received, affecting the train in the territory covered by the additional engine."

Comment: Verbal advisement of train orders to an engineman who may be affected by them is contrary to conventional practice and a bad idea in any event. The rule should require the engineman to see and read the orders before the train proceeds.

Rule 331, Page 88, 1st Paragraph

"Trains or engines must not pass a block signal indicating "stop" (Rule 292). When it is necessary to authorize a train or engine to pass a stop signal, verbal permission or hand signal may be given by the Train Dispatcher, or operator when authorized by the Train Dispatcher, to pass such signal after giving proper block indication."

Comment: This rule is badly worded and confusing. The reference to "giving proper block indication" probably refers to the condition of the block rather than to a signal indication. If that is the case, the rule should require that the train crew be given proper understanding by the operator or dispatcher.

Rule 331, Page 88 (Manual Block System Rules)  
Rule 461, Page 93 (Traffic Control System Rules)  
Rule 509, Page 96 (Automatic Block System Rules)

331. "Trains or engines must not pass a block signal indicating "Stop" (Rule 292). When it is necessary to authorize a train or engine to pass a stop signal, verbal permission or hand signal may be given by the Train Dispatcher, or operator when authorized by the Train Dispatcher, to pass such signal after giving proper block indication.

Permission or hand signals must not be given until the train or engine has come to a stop at the signal and a member of the crew is fully informed of the situation.

When hand signals are necessary, they must be given from such a place and in such a manner that there can be no misunderstanding on the part of the employe receiving them as to the signals given or as to the train or engine for which they are intended."

461. "Trains or engines must not pass a block signal indicating "Stop" (Rule 292). When it is necessary to authorize a train or engine to pass a Stop signal, verbal permission or hand signal may be given by the Train Dispatcher, or operator when authorized by the Train Dispatcher, for the movement to be made at Restricted Speed."

504. Unless so directed by the Superintendent, the operator must not give permission to a train or engine to enter a block at a hand-operated switch or crossover or foul the main track on which another train is moving or has been authorized to move, in the direction of such switch or crossover from the next block station or interlocking.

When permission has been given by the operator to a train or engine to enter a block at a hand-operated switch or crossover, the operators in charge of the block stations or interlockings between which the block is located must know that the movement has been made before permitting another train to move between such block stations or interlockings and the switch or crossover where such movement is being made.

513. Trains or engines before entering a main track or crossing from one main track to another must obtain permission from the Train Dispatcher or operator.

At bolt-locked switches, not electrically locked, after promptly operating the bolt-lock of all main track switches involved, members of the crew must wait five minutes before operating the switch or switches.

At non-bolt locked switches, not electrically locked, members of the crew will promptly operate the switch or switches and wait five minutes before making train or engine movement.

This will not relieve employs in train service from the duty of promptly and properly protecting their train.  
(Rev. 3-22-71)

509. "Trains or engines must not pass a block signal indicating "Stop" (Rule 292). When it is necessary to authorize a train or engine to pass a stop signal, verbal permission or hand signal may be given by the Train Dispatcher, or operator when authorized by the Train Dispatcher, for the movement to be made at Restricted Speed.

Permission or hand signals must not be given until the train or engine has come to a stop at the signal and a member of the crew is fully informed of the situation.

When hand signals are necessary, they must be given from such a place and in such a manner that there can be no misunderstanding on the part of the employe receiving them as to the signals given or as the train or engine for which they are intended."

**Comment:** These three rules cover the same situation in different types of territory. They should be re-written in a single rule in simple, matter-of-fact fashion.

Rule 512, Page 97

"When a train or engine has passed a signal and is delayed in the block, it must proceed at Restricted Speed to the next signal. When it is known that the track is clear to the next signal and the next signal indicates proceed, train or engine may proceed in accordance with last signal indication received."

Comment: What constitutes delay? This should be stipulated, not left to the judgement of the crew. The last sentence is not specific enough. The train should not be permitted to run in accordance with last signal indication until crew can positively ascertain that track is clear and next signal is more favorable than "stop" or "stop-and-proceed."

Rule 551, part i, Page 101

"If the Cab Signal warning whistle sounds longer than six seconds the member of crew nearest the operating compartment of the engine will go to the engineman immediately."

Comment: What does the nearest crewmember do after going to the engineman?

Rules 821, 822, Page 155

821. "Detector cars will be governed by the same rules and instructions that apply to track cars. In Manual Block Signal System Territory, Rule 316 will apply to following movements, except track cars may follow detector car in the block under Permissive-block signal when notified by the operator to look out for the detector car ahead."

822. "On tracks governed by Manual Block Signal System Rules, Rule 316 will not apply to the movement of track cars. Track car must not enter a block at a block station without permission of the operator in addition to the block signal indication, nor at any other location without first ascertaining the condition of the block. In the application of Rule 317, opposing movements of track cars within the limits of a block may be permitted under Permissive-block signal by the operator when authorized by the Train Dispatcher, when the movements are restricted to separate portions of the block. A track car may follow a passenger train in the same block under Permissiveblock signal by permission of the operator who shall notify the track car it is following a passenger train."

Comment: Underlined portions of these rules appear to be contradictory.

Rule 400N-2, Page 128, 3rd Paragraph

"The proper place for the forward brakeman on a freight train while train is in motion is the leading end of the engine when a seat is provided."

Comment: Where on the leading end - control compartment, platform, walkway? Where does the brakeman belong when no seat is provided? This rule needs to be more specific.

Mr. ROONEY. I recognize the gentleman from New Jersey, Mr. Florio.

Mr. FLORIO. In the interest of conserving time, I will restrict myself to a couple of questions.

What authority does your Board have with regard to mandating training for employees? Are you just a recommending board, or do you have the authority to mandate that ConRail provide training for its people in hazardous substance handling?

Mr. TODD. We have no mandating authority, Mr. Florio. We make recommendations and then our followup procedures and the degree to which we can keep the heat on is what gets those recommendations implemented.

Mr. FLORIO. Likewise, what responsibility or authority do you have with regard to overall coordination of activities at an accident such as this? I was astounded to learn that apparently the Coast Guard was in charge of overall coordination. Metuchen is in New Jersey, and Coast Guard facilities are not immediately accessible.

Who has the overall responsibility, and what role do you play in determining who has such responsibility?

Mr. TODD. I think I will ask Mr. Taylor to respond to that, if I may.

Mr. TAYLOR. The notification procedure in railroad accidents as well as other surface accidents comes through the Coast Guard network, and we get our notification. We have on a 24-hour basis, for example, a railroad duty officer, pipeline duty officer, aviation, and so on and so forth. The railroad duty officer then gets his information from the Com Center, and we take action based on the notification. We will talk to our regional office, say, New York, in the case of the Metuchen case, and we get a man on the scene that is coordinated with the railroad staff. That is the part that the Coast Guard plays.

Mr. FLORIO. You say your men on the scene coordinate his activity? Who is in charge?

Mr. TAYLOR. The NTSB is in charge. We advise Federal Railroad that we are going to investigate this accident and we are the senior investigating organization with other organizations participating, Federal Railroad, among others.

Mr. FLORIO. Do you distinguish between being in charge with regard to the investigation and being in charge of the possibility of danger? For example, we had chlorine cars there, which, if exploded, would have been another problem. Who is in charge of coordinating the activities with regard to the direct derailment and with regard to preserving safety considerations in the area?

Mr. TAYLOR. That is part of the overall investigation. This is done in coordination with the local law enforcement agencies, with the other Federal Government agencies that are on the scene.

Mr. FLORIO. Did your people know what it was that was in the cars when they arrived at the scene?

Mr. TAYLOR. I can refer that to Mr. Garner at the time of notification.

Did we know there was chlorine on? We knew there was hazardous material.

Mr. GARNER. I, of course, was not at the scene. I found out by telephone that there was a car of chlorine involved in this particular accident about 9:30.

Mr. FLORIO. Apparently there were five to seven cars of hazardous materials and only two of which were chlorine. Some of the individuals had difficulty on the scene reading what it was on the manifest and didn't understand the code so as to ascertain what the other hazardous materials were. Is this a common occurrence?

Mr. TODD. This is a not uncommon occurrence, let me put it that way. As I mentioned earlier, in the Glen Ellen accident derailment which we have just completed our investigation and report on, where you have a hazardous material in the consist of the train, it is, from the containment point of view, the proper responsibility of both the railroad and the immediately responding authorities as to containment.

Our investigators do not supervise, for example, how to deal with a fire, how to deal with a material that is loose, hazardous material that is escaping from its container.

Mr. FLORIO. I would assume different materials would be contained in different ways, and to find out which way, you have to know what the material is?

Mr. TODD. That is correct. And one of the problems when you have a freight train consist that includes hazardous materials, one of the problems is knowing just exactly what the consist is, where the cars are placed within the makeup of that train, and how to deal specifically with the materials that are contained therein.

Now, if you have a derailment—and Tom or Moe, correct me if I am wrong on this—the procedures that are generally in effect and ones that we very strongly support, are the immediate notification of the rail dispatch, which is almost automatic in the case of derailment.

Mr. FLORIO. By whom?

Mr. TODD. It would probably be either the trainmaster or the train crew members through their radios who determine what the consist of the train is, and then use of a system known as "Chemtrec."

Mr. FLORIO. Do you know, by the way, if those people on the train know what it is on the train? My understanding is that they had difficulty reading the manifest so as to ascertain what was being carried in some of the cars.

Mr. GARNER. I don't know about the difficulty that you speak of. However, the manifest generally, and I must say generally, because I don't know about this particular case, but generally it is very clear as to what the car is carrying, and, if it is a dangerous commodity, it must be stamped on the manifest it is a dangerous commodity.

Mr. FLORIO. You make a distinction between having it stamped that this is a dangerous commodity and knowing what it is for purposes of containment. In one instance there were apparently three letters that stood for the chemical component and no one knew what the letters were for.

Mr. TODD. I am not surprised.

Mr. FLORIO. Do you have authority over the Standard Transportation Commodity Code?

Mr. TODD. No.

Mr. FLORIO. This is the code that apparently signifies what the hazardous materials are, and it has been reported to me that State and local officials have no access to the code, so they arrive on the scene and the code is in play, and these people don't know what the code stands for.

Have you had experience in this instance? Do you intend to become involved in making some of these codes accessible?

Mr. TODD. I might ask, with the Chairman's permission, if Mr. Benner, who is with us, who is our hazardous materials expert, would comment on this particular subject matter.

Mr. BENNER. In January of 1976, the railroad industry adopted what they call a 49 series in the Standard Transportation Commodity Code, which identifies regulated hazardous materials. The railroad industry has geared up to utilize that code in its billing and documentation, and some railroads, such as Missouri Pacific, have gone so far as adapting it to print out emergency instructions on the documents that are given to the train crews. The railroad industry is in the process of moving in that direction right now as a whole.

Mr. FLORIO. Would local officials or State officials be privy to that information?

Mr. BENNER. These codes could be widely disseminated, and by referring to a code book, the local officials could identify the commodity.

Mr. FLORIO. Who has the code book?

Mr. BENNER. Presently?

Mr. FLORIO. Yes.

Mr. BENNER. Presently it is distributed in the railroad industry.

Mr. FLORIO. Not to belabor the point, but you have a derailment, the industry has a code book, the firemen and the civil defense unit arrive on the scene, and you have carloads of materials that are obviously about to spring and nobody knows what is in the carloads so as to apply the appropriate containment measures.

Mr. BENNER. Perhaps I didn't make it clear. The industry is in a state of transition. Until they reach a level of conformance with the use of these codes within the industry, you would only have partial information outside of the industry, and it would not be a reliable mechanism for notifying the local authorities.

Mr. FLORIO. You are telling me as of now there is no way local officials know what is going on.

Mr. TODD. It is very difficult. There is a way, but it is difficult.

Mr. FLORIO. Thank you.

One last point: This particular accident apparently was a burned-off journal on a wheel, and, incidentally, the car that had this problem was not even a ConRail car but a freight car from another line.

I have made an informal survey and talked to some of the railroad people around the country, and with regard to their derailments, there seems to be a noticeable high frequency of derailments resulting from defective wheels. Has this presented itself in your studies?

Mr. GARNER. We have run into a number of cases of burned-off journals and defective wheels. I don't think at this particular time

it is excessive. We have had, as I said, several of these cases. In this particular case, you are absolutely right; this was not a ConRail car. This car was loaded in West Virginia and moved on the B&O Railroad to Wilmington, Delaware, where it was placed in a ConRail train.

Right now, our investigator is in the process of going to these points and determining exactly what is being done with shipments before they are permitted to move forward. So we are really checking that.

Mr. FLORIO. Being done in what regard?

Mr. GARNER. To see whether the cars are in proper condition for movement.

Mr. FLORIO. Thank you, Mr. Chairman.

Mr. ROONEY. Mr. Madigan.

Mr. MADIGAN. Mr. Todd, in your investigations, are the railroads generally cooperating in this regard?

Mr. TODD. In my personal experience they are, but Mr. Garner may—

Mr. GARNER. Yes.

Mr. MADIGAN. The extent of your authority is something I am interested in. If they were not cooperating with you, would you have any means by which you could compel their cooperation?

Mr. TODD. Well, I think it depends on the timeframe within which that question is couched. In a longer timeframe—that would be the course of an investigation that does not require any immediate action—we do have the ability to subpoena and call in and depose or force disclosure. When you have an immediate problem or a problem that requires an immediate solution, I can't think, again speaking from my time as Chairman, of an incident where we have had less than the utmost cooperation.

I think the Autotrain is a perfect example. They had one accident that we felt, but weren't sure, was caused by a defective wheel, and two weeks later they had another one that was clearly a broken wheel, and it was a particular type of wheel and code stamping of a serial number that led to a linear crack and disintegration of the wheel and the second accident occurred on Saturday night and by 2 o'clock Sunday afternoon I had spoken to the head of the Autotrain, the head of the couple of railroads involved, and the head of the Federal Railroad Administration, and we had gotten the passenger cars separated from the train carrying cars and a full 100-percent inspection underway that afternoon.

So while there is no normal enforcement capability, I think the reputation of the Board's professional staff is such that if we make a recommendation and it is known that we have made the recommendation, the tendency to deal with it effectively and immediately, if it is a good recommendation, and I put that caveat in there, is quite responsive.

Mr. MADIGAN. The Autotrain accident you referred to, was there a fatality in that accident?

Mr. TODD. No, it was all track and property loss.

Mr. MADIGAN. More than half a million dollars?

Mr. STYLES. No, it was a passenger train, so it didn't have to get to that point. There is also a requirement in the law which says we investigate passenger train accidents always.

Mr. MADIGAN. Regardless of fatality or more than half a million dollar property loss?

Mr. STYLES. Yes.

Mr. MADIGAN. Is that one-fatality and half-a-million-dollar-property-loss threshold either/or?

Mr. STYLES. Yes, except in the case of the passenger train.

Mr. MADIGAN. The USRA recommended that the freight and passenger traffic on the Northeast Corridor be separated. Do you agree with that, Mr. Todd?

Mr. TODD. Let me make two disclaimers. One, I will express a personal opinion because the Board has not formally taken one, and, two, let me yield to Mr. Garner for specifics; but yes, I agree with that. The details I think I would like Mr. Garner to comment on as to the practicality of doing that, which I understand, not being a railroader by background or professional training, I understand it is possible to do that without any severe disruptions, but I may be wrong.

Do you want to comment further?

Mr. GARNER. Yes, you have a line which primarily was used by the B&O, which runs from Washington to the New York area, which could be used as a freight line for eliminating operations of the freight trains on the Northeast Corridor completely. By the same token, you still have a number of industries along the so-called Northeast Corridor that will have to be served. Now, arrangements must be made to take care of those particular people in some manner, shape or form.

Mr. MADIGAN. Isn't it the weight of the freight train that destroys the track and causes many of these derailments?

Mr. GARNER. The weight of the train has a lot to do as far as wear and tear on the tracks; that is true.

Mr. MADIGAN. Would it be possible that you could operate smaller trains with lighter locomotives serving those on-corridor industries and not have the kind of damage done to the track that normally is done by heavy freight?

Mr. GARNER. This could be a possibility; yes.

Mr. TODD. If I may, Mr. Madigan, comment on that, one of the problems, not to thoroughly confuse your subject, but one of the problems that the industry faces is a ratemaking policy on the part of the ICC that encourages larger and heavier cars rather than giving any consideration to breaking the freight down, so the trend over the past number of years, couple of decades, has been to super hopper cars, super tank cars, super boxcars, super gondola cars, primarily, as I understand it, because of rate-making policy.

Mr. STYLES. Both ratemaking and economy as far as use of locomotives and crews are concerned.

Mr. MADIGAN. That has been described to me once, privately by a railroad executive, as the worst management decision that American railroads ever made, to go to that larger equipment. Do you agree with that?

Mr. TODD. I think the operating experience would indicate that the out-sized cars over time have probably caused more problems than they have saved, but, again, I say that as an outsider and not one who has had to live with the economics of the problem.

Mr. MADIGAN. It seems to me the size of locomotives and their weight and size of freight cars and their weight, and the potential that it has for track damage which, in turn, has the potential for causing death and destruction of property, would be a proper area for study by the National Safety Board. Wouldn't you think so?

Mr. TODD. Well, it is a proper area, I would agree with that. I think the traditional response, and it may be worth looking at as to its correctness, but the traditional response has been where you have had an operating problem with a particular section of track, rather than break down the size of the units being transported over that track, the approach has been to issue slow orders on the track, itself. There are some mainline trackage that is down to 20 miles an hour.

Mr. MADIGAN. The consequence of that, I understand, is that freight traffic in the eastern seaboard today moves slower than it did during the Civil War. I think there is a report that substantiates that.

I have no further questions, Mr. Chairman.

Mr. STYLES. I can't comment on that.

Mr. TODD. Can't or don't want to?

Mr. ROONEY. I might comment to the gentleman from Illinois, with respect to the dual or parallel track system, I believe USRA did make that recommendation. This committee discussed purchasing the B&O corridor and rebuilding it, but, because of excessive cost and possible threat of veto, this committee discontinued any further consideration.

I thank the distinguished Chairman of the Board for being here with your colleagues and making your presentation here today. You have been most helpful to this committee.

Mr. TODD. Mr. Chairman, may I thank you and the committee for not only your interest but your activity. It is very germane to the effectiveness of our work to not only have your interest but your support and criticism where necessary.

Thank you.

Mr. ROONEY. Our next witness is Mr. Daniel De Simone, Acting Director, Office of Technology Assessment, in Washington, D.C. You may proceed, Mr. De Simone.

**STATEMENT OF DANIEL DE SIMONE, ACTING DIRECTOR, OFFICE OF TECHNOLOGY ASSESSMENT, ACCOMPANIED BY ROBERT MAXWELL, ACTING PROGRAM MANAGER, TRANSPORTATION ASSESSMENT GROUP; LEE DICKINSON, PROJECT DIRECTOR, RAILROAD SAFETY ASSESSMENT; AND LUCIA TURNBULL, RESEARCH ASSISTANT**

Mr. DE SIMONE. Thank you, Mr. Chairman. I am pleased to report to you today on the status of OTA's assessment of railroad safety for this subcommittee and for the Congress.

With me this morning are Mr. Bob Maxwell, to my immediate left, who is the program manager for the transportation assessment program in the Office of Technology Assessment; Mr. Lee Dickinson, who is the project director for this particular study on railroad safety, and Miss Lucia Turnbull, who is a research assistant in this project.

I plan to make my comments brief, giving you a summary of the purpose of our work, the project plan, how we are going about it, and our timetable. My colleagues and I will then be pleased to answer any questions you may have on the study, itself.

As you know, section 7 of the Federal Railroad Safety Authorization Act of 1976 calls for an assessment of railroad safety problems by the Office of Technology Assessment.

The Act requires that OTA conduct a study of railroad safety to include: (1) "a cost-benefit analysis of the railroad safety research and development activities under the Federal Railroad Safety Act of 1970 and related Federal laws"; (2) "an evaluation of trends with respect to railroad employee injuries and casualties, injuries and casualties to other persons, accidents by type and cause, and such other data as the Office of Technology Assessment considers necessary to determine any significant statistical relationship between safety practices, expenditures, penalties for violation of Federal railroad safety laws and regulations, and accident rates"; (3) "a statistical comparison of railroad accidents reported by each railroad for the 10-year period preceding the date of enactment of this Act"; (4) "the cost-benefit and effectiveness of accident prevention resulting from the methodology used and practices employed by Federal and State railroad safety inspectors under Federal railroad safety laws and regulations"; (5) "an evaluation of safety inspection activities conducted by the railroad industry"; (6) "an evaluation and analysis of industry research and development relating to railroad safety and accident prevention"; (7) "a cost-benefit analysis of the various Federal laws and regulations relating to railroad safety"; and (8) "the need for additional Federal expenditures for improvements in railroad safety."

The Act requires that OTA report the results of its study to the Congress within 18 months after its enactment, which was July 8, 1976. Finally, the Act authorizes the appropriation of such funds as may be necessary to carry out the study.

At the first meeting of OTA's Congressional Board—I will not digress extensively at this time to explain the structure of the Office of Technology Assessment, but OTA has a Congressional Board consisting of six Senators and six Members of the House of Representatives, the Chairman of the Board alternating between both Houses in successive Congresses. At the first meeting of the Congressional Board following enactment of this law, the Board directed that the appropriation for the assessment be sought in the fiscal year 1977 supplemental appropriation bill. Following the Board's decision, the OTA staff began laying the groundwork for the Railroad Safety study and submitted the request for supplemental funds was submitted and was granted in the amount of \$329,000 on May 4, 1977.

Let me talk with you briefly about how we are going about this study. As in most of our assessments, the Railroad Safety study will involve a mix of resources, including an advisory panel, an in-house project director and staff, and consultants and contractors.

In the assessment we intend to address the eight items of the law by obtaining and analyzing the following:

(1) Cost-benefit Analysis of Railroad Safety Research and Development Activities:

In order to respond to this item we will identify Federal R&D activities and expenditures related to railroad safety as a result of the 1970 Act. The scope of these activities, the research facilities, the level of funding and the R&D output will be examined. This will include an analysis of the costs and benefits associated with these activities. Special attention will be directed toward new developments in railroad safety technology.

(2) Accident Data Collection and Trend Analysis:

OTA will identify and analyze accident and injury rates by looking at historical trends and examining types of accidents and causes of accidents. Special attention will be given to the criteria established by the FRA for accident reporting. To evaluate the effectiveness of safety programs, correlations will be made between accident histories and safety improvements, with which this subcommittee has been so concerned, and we have heard something about this morning already.

(3) A Statistical Comparison of Accidents:

This comparison will be based on accident data, over a 10-year period, from 1966-76, and will add another dimension to the analysis by revealing the factors underlying the safety records of individual railroads.

(4) Efficacy of Federal and State Railroad Safety Inspection:

OTA will review the history and implementation of the Federal and State safety programs and examine the inspection practices, enforcement procedures, and the history of violations since the 1970 Act. The analysis will include correlation of track and equipment-related accident rates to data on enforcement and compliance with the law.

(5) Industry Safety Inspection Activities:

Data will be collected on railroad industry inspection programs. The specific activities conducted by inspectors, number of personnel involved in these inspections, and the type and degree of training received by those persons will be examined.

(6) Industry Research and Development:

The OTA study will identify the types of research programs and activities presently conducted by the railroad industry. This will include research and development on equipment, track, and roadbed. Analysis will then be undertaken to correlate past R&D efforts with accidents to determine the effectiveness of R&D programs. In addition, the assessment will examine available studies on railroad safety R&D to determine their applicability.

(7) Costs and Benefits of Federal Railroad Safety Laws and Regulations:

This task will require an analysis of the applicable Federal, State, and industry costs in the prevention of railroad accidents. These costs will be compared with the costs to industry and others as a result of accidents. The study will try to identify any trends in such costs.

(8) Congressional Options:

We will provide this subcommittee and Congress with a description of the study findings, a discussion of the issues, an identifica-

tion of the alternatives, and an analysis of the impacts of each alternative. We anticipate presenting both long and short-term alternatives for congressional action to improve railroad safety. In the area of technological alternatives, existing and potential developments related to rolling stock, roadbed and equipment will be examined. The report will identify the various technological, legal, regulatory, and economic impacts of alternatives to achieve railroad safety.

In conclusion, Mr. Chairman, I would like to assure the subcommittee that OTA will provide the Congress with an objective examination of railroad safety and will intensify its efforts in the study so that results will be available to the subcommittee in time for its use early next year.

Mr. ROONEY. Thank you, Mr. De Simone.

In your conclusion, you assure the subcommittee that the results of your study will be available in time for its use early next year. The Act requires that the report be available in January.

Could you tell the committee whether or not early next year means January, or is it true that this report will not be forthcoming until the middle of the year, possibly?

Mr. DE SIMONE. No, we intend to meet our requirements under the law, Mr. Chairman. The report will be ready at that time. It will not be available out of the Government Printing Office. It does take some time for our reports to go through review and editing, but the results of the study will be provided to this subcommittee in time for its hearings.

Mr. ROONEY. I hope you are right, because my staff has informed me that OTA has indicated, maybe not to your knowledge, but that the OTA staff has indicated to the FRA and to the Senate staff that it does, in fact, intend to ask for an extension of time; and that OTA will not have the report available by January.

Mr. DE SIMONE. Let me clarify the record, Mr. Chairman. We will have the results ready. We will do everything that is required to provide the material that is recited in the statute. It will not be a report available to the public out of the Government Printing Office, as I indicated, but the results will be ready for this subcommittee.

Mr. ROONEY. Your statement indicates a number of things that OTA will do, and the outline seems to me to be very interesting. I would like to know if you can inform the subcommittee what has already been done?

Mr. DE SIMONE. To date, Mr. Chairman, we have laid out the groundwork, the planning efforts. We have established a working group, the advisory panel I indicated earlier. That group has met two times and is due to meet again later this month. We are going forward with a contract in the near future. Under the circumstances, we are entirely justified in not going the usual route in Government contracting, which would require an excessive amount of time. Because of the importance of this study and the schedule of this subcommittee, we will arrange for contractual assistance much earlier than would normally be the case. I think it was on the basis of the normal contracting procedures, where the exigencies do not require rapid contractual assistance, that the sources of information

you mentioned may have determined that we would not have our results until the middle of next year.

We have, in many other instances where the timetables of the committees of the Congress have required, accelerated our contractual efforts, and we will do so in this instance.

Mr. ROONEY. Have these consultants and outside contractors already been selected?

Mr. DE SIMONE. We have consultants in this assessment, Mr. Chairman. We have not selected the contractor yet, but we are proceeding with the accelerated contracting procedure I indicated.

Mr. ROONEY. What is the function of the consultants? What have they done thus far?

Mr. DE SIMONE. I would like to ask the project director, and the head of the transportation program to answer that specifically.

Mr. MAXWELL. I would be glad to comment on that. The work that we have had our consultants do up to this time has been primarily assisting in identifying issues and laying out ways we can address this overall study; in other words, the development of a study plan, a structure. We feel that in a study of this type that the attention to developing the correct type of study structure is extremely important and the emphasis that we can place on that in the early stages of the study pays off in a significant way as the study proceeds. This has been the primary work that our consultants have assisted us with to this time.

Mr. FLORIO. Would the gentleman yield?

Mr. ROONEY. Yes.

Mr. FLORIO. Was the presentation this morning, and the outline, the result of the consultants' deliberations as to what the field of study was going to be?

Mr. MAXWELL. It was the result of the consultant recommendations and also the advice of the advisory panel that we have formed.

Mr. FLORIO. No disrespect is intended, but the outline this morning is not that profound a statement as to what the scope of the problems are. I am not sure how long the consultants had to work to come up with that monumental statement as to what we have to look at, but if that is what has been done and we are not at the point of having contractual authority for the ultimate consultants to go to work, and this is expected to be done by the end of the year, I think you are going to have problems complying with the statutory requirement.

Mr. DE SIMONE. Congressman Florio, my statement is a brief outline of the planning study document, itself. It is true that roughly 6 months remain before the end of the year, but we have conducted assessments under equally difficult circumstances and provided the results in time for the Congress, and we will do so for this subcommittee.

Mr. ROONEY. I understand the panel has had two sessions; is that correct?

Mr. DE SIMONE. Yes, sir.

Mr. ROONEY. I have heard rumors from members of the panel that the discussions were not very fruitful. Can you tell me what happened at these discussions and whether or not you foresee some accomplishments that may come forth in the future meetings?

Mr. DE SIMONE. Mr. Chairman, I was not personally at these meetings, but we have had similar experience in every other assessment area. This is part of the technology assessment process. We assemble a panel of people of divergent points of view. The first meeting or two elicits these divergent points of view and I think it is a salutary development of any assessment.

We have had two meetings of this panel. We are going to have more. As time goes by, and we have had this experience in our other panels on health, energy, international trade, and research and development priorities, we find that toward the end of the assessment the participants begin to appreciate each other's point of view much more than at the beginning. They may not agree, but there is that developing process. It is not surprising that we have the same development in this study.

Mr. ROONEY. Mr. Florio.

Mr. FLORIO. I don't think it is appropriate to start asking you to anticipate the results of your study so I will not go into specific questions. But I will ask, for example, do you anticipate that your study will delve into whether FRA is being as diligent as it could be in expediting loans under title V of the Act for maintenance of lines and equipment?

Is this the type of thing you will go into, whether the monies to upgrade lines are being used as they should be?

Mr. DE SIMONE. In the eight items recited in the Act, this would be included. That is, the activities of the Federal Government in railroad safety are covered in the Act and we would look into those aspects of it.

Mr. FLORIO. But you are really not in a position today to specifically say whether that is being looked into?

Mr. DE SIMONE. No, sir.

Mr. FLORIO. Thank you.

Mr. ROONEY. The ranking minority member of this committee could not be here because of conflicting committees this morning, but he asked me to submit three questions for Mr. De Simone in the record and perhaps you can furnish the answers.

Mr. DE SIMONE. We would be glad to, Mr. Chairman.

[The questions and answers were received for the record:]

ANSWERS FROM MR. DE SIMONE IN RESPONSE TO CONGRESSMAN SKUBITZ' QUESTIONS

1. "Mr. De Simone, you have listed the eight criteria set forth in the law which formed the basic goals of the study. In addition, you have set forth the actions you intended to take in order to achieve those goals. Would I be correct in assuming that you have enough flexibility so that you can collect or analyze additional information should it appear relevant to the basic goals of the study once the study has begun?"

Our study has been planned in accordance with the approval of our Congressional Board, to achieve the requirements of the law in a timely manner. There is flexibility in our plan to emphasize or de-emphasize project tasks according to information that is gained as the study progresses.

2. "The main reason for this study amendment which was first adopted by the Subcommittee was to lay a foundation for a complete re-write of our rail safety laws should it appear that such an endeavor would reduce the number of railroad accidents. Do you envision your study to be comprehensive enough to provide meaningful information for us to evaluate the efficacy of the present law?"

Yes, I do. In providing answers to the eight items listed in the law, the major issues and problems in railroad safety will be identified and analyzed. The results of our efforts should provide Congress with meaningful information to assist in the evaluation of the present law and to examine possible alternatives.

3. "Mr. De Simone, there seems to be very little time left in order for you to get the work done that is necessary to fulfill the requirements of the law. Do you now have to send out requests for proposals from dozens of different contractors, wait several months before you can determine who should get the job, or do you have some mechanism whereby you can expedite selection of the particular contractors which will be necessary to get the work done if the study is to be done on time?"

We will be contracting for this assessment in the very near future to secure the necessary assistance for our in-house staff and to ensure the timely completion of the study for this Subcommittee.

Mr. ROONEY. Thank you very much for appearing today. I do hope that on January 1st we will see your report.

Mr. DE SIMONE. We assure you we will have results for you.

Mr. ROONEY. Our next witness will be Mr. Charles E. Bertrand, Vice President and General Manager, Northeast Corridor, National Railroad Passenger Corporation, Washington, D.C. You may proceed and I would appreciate very much if you would introduce your colleagues for the record.

**STATEMENT OF CHARLES E. BERTRAND, VICE PRESIDENT AND GENERAL MANAGER, NORTHEAST CORRIDOR, NATIONAL RAILROAD PASSENGER CORPORATION [AMTRAK], ACCOMPANIED BY HERBERT ARCHDEACON, ASSISTANT CHIEF ENGINEER OF MAINTENANCE, NORTHEAST CORRIDOR; AND WILLIAM SPONSELLER, MANAGER, ENGINEERING AND CONSTRUCTION, NORTHEAST CORRIDOR**

Mr. BERTRAND. Thank you, Mr. Chairman.

I would like to introduce Mr. Herbert Archdeacon, the Assistant Chief Engineer of Maintenance of the Northeast Corridor and Mr. William Sponseller on my right who is the Manager, Engineering and Construction, of the Northeast Corridor and the NECIP Program.

Mr. Chairman, we greatly appreciate the opportunity to testify before you today on a subject which is of great concern to me personally as well as to the members of this subcommittee and the public whom they represent.

I have been in the operating end of the railroad business in one capacity or another for over 40 years. As I have assumed more responsibility in different positions during the course of my railroad career, I have directed a great deal of time and effort toward insuring that the operation for which I was responsible was *first* and *foremost* a safe operation.

Railroad safety has sometimes attained the image of a sacred cow. Like motherhood, the flag and apple pie, it is something that everybody is "for." I have always tried to see that I and my supervising officers were not only "for" safety but also that our operating practices and our daily decisions were made with safety as a primary ingredient. I know too well the grief, heartache and anguish that can result when operating expediency is permitted to take priority over the safety and comfort of passengers, crew members, and the public at large. For this reason the very first day I obtained operational direction and control of the Northeast Corridor, I took the rather unpopular step of implementing a number of temporary speed restrictions called "slow orders" on various sections of this railroad.

My intention in appearing before you today is to let you know *what* we in the Northeast Corridor inherited, what we have done about it in the 14 months we have had management of the maintenance forces, and what we intend to do about it in the future.

I don't need to tell this subcommittee that the Northeast Corridor constitutes one of the heaviest freight and passenger rail operations in the world. On an average day, we operate either for our own account or for Consolidated Rail Corporation *103* intercity passenger trains, *653* commuter trains, and approximately *120* freight trains. The maintenance of the right of way in the Northeast Corridor, like the maintenance of a great deal of former Penn Central railroad, was allowed to deteriorate over the years that corporation was in reorganization. This is not to say that the property in the corridor was totally worn out. Indeed, in certain areas, the property was well maintained. It did, and still does, require a substantial amount of work over at least 5 years to permit the continuation of a high speed, high volume operation.

Amtrak acquired ownership of the corridor April 1, 1976. On May 19, 1976, 14 months ago tomorrow, we took control over the maintenance-of-way forces. In preparation for that take-over, I directed the Chief Engineer of the Northeast Corridor, Mr. E. C. Lawson, to make a detailed survey of the corridor and to pinpoint those spots in the railroad that were in need of substantial realignment or rebuilding of the track and to order the restricted operation of trains over those sections of track. This he did. A total of 48 slow orders covering 89 track miles was put into effect May 19, 1976, in addition to the 90 slow orders covering 94.4 miles of track then in existence. In some cases, these slow orders did not affect the speed of our so-called conventional trains whose speed is 80 mph, but only affected the top speed of the Metroliners, reducing their speed over these sections from 105 mph to 90 mph, or in some cases, 80 mph and less. Some of these slow orders were for sections of track as long as 8.0 miles and others were for sections as short as 0.1 miles. Since that time, a number of areas have been repaired but slow orders have been implemented in other areas as a result of winter conditions and subsequent inspections. As of today, we have 127 track miles in the Northeast Corridor under some sort of speed restrictions out of approximately 1,200 track miles, as compared to a total of 183.4 track miles on May 19, 1976.

Track alone is not the only ingredient necessary for a safe railroad operation. Safe operation requires dedicated and well-disciplined crews who adhere to safe operating rules; safe equipment which is rigidly inspected with a view toward weeding out that which is operationally unfit; an efficient and mobile police force to guard against vandalism, which is a serious cause of accidents; elimination of grade crossings in areas of high-speed, high-density operations such as in the corridor. We of Amtrak management have programs in each of these areas to insure that safe practices are followed in all areas of operation.

Despite these efforts the record is not perfect. Since April 1, 1976, under Amtrak ownership, we have had a total of *29* reportable train derailments on main track in the corridor. [See Exhibit A p. 56.]

This has been during a period of intense work upon the right of way, much of which is being done under the Northeast Corridor Improvement Program, now getting underway. By working steadily on the right of way and by rebuilding sections of it in connection with the Northeast Corridor Improvement Program, we hope to have the right of way up to a high level of maintenance to facilitate high speed passenger operations in the corridor, in accordance with safe operating practices.

I must point out that with the amount of work planned in replacing rails, ties and ballast in the corridor comes an increasing opportunity for vandalism. Many of the urban areas through which the corridor railroad runs are notorious for the incidence of rock throwing. Debris often in the form of abandoned mattresses or stoves is sometimes placed in front of trains. Added to this now are potential problems with ties and other materials and machinery used in the Corridor Program, which are out along the right of way, being placed by vandals in the path of oncoming trains.

The Corridor Improvement Program calls for the erection of a substantial chain-link fence along the right of way from Boston to Washington. This is fine if—and this is a mighty big if—that fence is thoroughly maintained, and if it is designed in such a way as to keep most of the vandals and trespassers out. Until that day comes, and even after that day comes, we will need intensive police patrol along the parts of the corridor to eliminate the chances of derailment caused by vandals. We have examined the possibility of employing a helicopter patrol, similar to that used by Southeast Pennsylvania Transportation Authority (SPETA) in the Philadelphia area and the Metropolitan Transportation Authority (MTA) in New York, on a trial basis to augment our Amtrak Police Department force. To my dismay, our budget for fiscal year 1978 does not permit this.

Also, the 16 remaining public highway grade crossings in the Northeast Corridor between New York and Washington are scheduled to be eliminated under the 1970 Federal Highway Act Public Law 93-87. There are 22 public crossings between New Haven and Boston, the elimination of which is the responsibility of the various States. Private crossings are to be eliminated under the Northeast Corridor Improvement Program. Elimination of grade crossings is the only sure way to avoid a collision between a high-speed train and a highway vehicle. It costs a lot of money but is inexpensive when compared with the grief and tragedy that accompany a grade-crossing accident.

The accident at Metuchen, New Jersey, June 21, in which 17 freight cars were derailed caused me a great deal of concern. I can only say we were all thankful no one was seriously injured in that derailment. To be sure, ConRail suffered considerable damage to its freight equipment and incurred costs in clearing the wreck. Amtrak and the commuter agencies suffered serious interruption to their train operations. Amtrak incurred the cost of restoring the facilities.

This derailment occurred when the end of an axle or "journal" of a freight car became so overheated that the metal separated, thus causing the car to drop onto the ties. This is a condition known as a

"hotbox." We're all fortunate that a passenger train was not approaching Metuchen at the time. Many serious injuries and perhaps loss of life could have resulted from such a collision.

The United States Railway Association in its Final System Plan recommended that plans be formulated and implemented to separate through freight and passenger service in the corridor. It is regrettable that this concept was not followed and funded. The best way to minimize the chance for equipment related derailments involving freight trains is to place as much of the freight traffic as possible off the passenger lines. Additionally, removal of through freight traffic would facilitate maintenance on the corridor as well as reduce the cost of such maintenance.

In conclusion, speaking for Amtrak as the operator of the Northeast Corridor, and for the other users as well, I firmly state that we will make safety of operations the top priority in the improvement and operations of the corridor.

[Exhibit A, referred to, follows:]

EXHIBIT A

SUMMARY OF TRAIN DERAILMENTS AND COLLISIONS

NORTHEAST CORRIDOR

APRIL 1, 1976 to JUNE 30, 1977

	Passenger	Freight
Collisions	0	2
Derailments	$\frac{3^*}{3}$	$\frac{24}{26}$

Causes

	Passenger	Freight
Equipment defects	2*	6
Track defects		12
Vandals	1	
Human factor	$\frac{3}{3}$	$\frac{6}{26}$

\*Includes derailment caused by MU train striking side door lying on track which had fallen from a freight car.

Mr. BERTRAND. I would like to add to my statement pertaining to the separation of freight and passenger service. I am terribly concerned about passenger train operations. With the recent freight train derailment, it was only by the grace of God that passenger trains were not involved.

Mr. Chairman, I will be glad to answer any questions you or your committee may have.

Mr. ROONEY. Thank you, Mr. Bertrand.

If we were to have a dual system in the corridor and for Amtrak to take over the ownership and maintenance of the right-of-way along the B&O corridor, how much additional would that cost?

Mr. BERTRAND. I can only repeat to you, Mr. Chairman, the figures that I read when the final system plan was being discussed. As I recall, there was somewhere around \$100 million that the purchase of the B&O property would cost.

Mr. ROONEY. How much would it cost to upgrade the property?

Mr. BERTRAND. Well, the second track would have to be restored. It is single track now between Baltimore and Philadelphia. It is centralized traffic control territory and you can operate in both directions under signal indication. But that would not be sufficient. You would have to put in the second track. I would have to reach up in the air and grab a figure of several millions of dollars with which to restore that track.

Mr. ROONEY. So you are talking about an additional overall \$1 billion, correct, give or take a couple hundred million dollars?

Mr. BERTRAND. Maybe half a billion, maybe.

Mr. ROONEY. On page 5 you discuss the various difficulties you are experiencing and anticipate to experience with regard to vandals. Without attempting to discount the seriousness of vandalism, I wonder whether or not the problem is really in perspective to other accidents.

For example, in your exhibit A, of the 29 accidents that occurred in the Corridor since Amtrak took over, only one has been the result of vandals.

Mr. BERTRAND. That is correct. We have had many, many delays to our trains, damage to our equipment, but fortunately did not derail. What I am afraid of is that eventually they are going to derail. They are putting ties in front of the trains, putting all sorts of debris on the tracks. Fortunately, we have hit it at high speeds and while it has damaged equipment and caused delays, it has not derailed the train.

Mr. ROONEY. Aren't the most serious incidents with respect to vandalism inflicted upon engineers operating the train or someone in the caboose? Isn't that where the most serious vandalism incidents occur?

Mr. BERTRAND. Do you mean stone throwing or shooting at them?

Mr. ROONEY. Right.

Mr. BERTRAND. There are a great deal. To break that down as to percentage, we possibly have that, I don't have it myself, but I would be willing, based on my experience and the reports I receive, I would be willing to say at the moment that it would be more of the other than it would be by the caboose and the locomotives. It is throwing rocks on the sides of the passenger trains and even shooting with rifles.

I was on the Metroliner between Baltimore and Washington, and north of Baltimore along the trailer park, up in that area around milepost 83, I was standing right behind the engineer and I noticed this man with a beard, I would guess somewhere in his mid-

twenties, and two youngsters in their teens, and the man was carrying the rifle. Fortunately, he did not shoot, but he aimed a rock at the cab and hit the windshield of the Metroliner dead center. It shattered. We carry safety glass in there so it did not penetrate. But he hit the outside glass and there happened to be a little crack and the shattered glass blew up to his eyes. So we had to come to a stop.

We notified the police department. We have not apprehended the individuals. We were delayed about 20 minutes and we had to proceed on slow speed to Perryville and turn the train on the Y so the engineers could operate it from the other end.

I was on the Metroliner last August when we were approaching Philadelphia after leaving Wilmington and crossing over at Westchester. We had a restricted approach signal to cross over at one track from another at 40 miles an hour. The engineer reduced his speed and I noticed a huge pile of debris on the track in front of us. We saw it and the engineer kept the train under control and was reducing his speed to 40 when I saw the shadows of blades in the air. A helicopter was above us and came on the radio and said, "Eagle 1 to Train 118" and said there was an obstruction on the track. Fortunately, the debris was such that we could remove it without the maintenance forces. Had we not crossed at 40 miles per hour and had he been running at 105 miles per hour, we would have hit the debris. We may have derailed or caused some damage or knocked it clear, I don't know.

Mr. ROONEY. You mentioned something about the throwing of rocks and shooting of firearms at the engineers. How about bullet-proof glass, would that eliminate some of the problem?

Mr. BERTRAND. The lexon glass, supposedly through tests, a 45 caliber shell will not penetrate it. We have had very little experience hitting that so I cannot really say that that is guaranteed that it will not. But it is supposed to shield and protect against that high a caliber.

Mr. ROONEY. As you know, there are going to be some restrictions as to the amounts of money that the Department of Transportation is going to spend to prevent vandalism along the Northeast Corridor. I understand that the Secretary is not going to go forth with the development of the chain link fences because the States are unwilling or unable to contribute their share.

Are you aware of that?

Mr. BERTRAND. I have been informed that they are now considering the elimination of part or most, possibly, of the fence. I personally have voiced an objection against the fence from the beginning, not that I don't want the protection, I do want it, very badly. But I do not think that a chain link fence the entire length of the Corridor, unless it was 100 feet high with 10,000 volts in it, would keep the vandals off the track. We have been told by the high school students in the Baltimore area that you put a fence up and we will remove it the first day it is there. They will come in with wire clippers or use vehicles to knock it down.

As I told the Secretary of Transportation in the former administration, that the cost of \$150 million, the original cost, is peanuts compared to what it would cost you to keep it maintained, by our

own experience. I would like to have something to keep vandals off and right now I favor the helicopter.

Mr. ROONEY. Why don't you employ a helicopter on a trial basis?

Mr. BERTRAND. We have used helicopters in conjunction with the Southeastern Pennsylvania Transit Authority in the Philadelphia area where they provide the helicopter and the pilot and we provide the police officers. It has been very successful. It reduced vandalism to a great extent. We feel in our studies, and we hired a consultant to make this determination for us, that it would really take four helicopters to give us the protection we think necessary on the corridor by having one always ready for standby and three in service. But the cost is very, very high.

Mr. ROONEY. Could you take that cost out of the \$1.75 billion that we have allocated to improve the Northeast Corridor?

Mr. BERTRAND. If the fencing was going to cost \$150 million and now it is going to be eliminated, we could provide four helicopters for under \$5 million.

Mr. ROONEY. Why don't you do that and take it out of the \$1.75 billion?

Mr. BERTRAND. Mr. Chairman, I wish I had that authority. Unfortunately, Amtrak has no control over that money. That was funded and the money is to flow through the Department of Transportation and the FRA.

If you will pardon me, I was looking at a note I made asking a question on this subject the other day. For \$150,000 we could purchase two and for about \$6,000 for the maintenance and operation, altogether for about \$210,000 we could get two. But we need three to protect from New York clear through to Washington. These would be patrolling.

I don't say that will eliminate it entirely, but the very fact that they are there and with a loudspeaking system that they have and the possibility in some locations where you can land and apprehend, goes a long way to scare a lot of these youngsters, which the bulk of them are, that don't realize when they throw that stone what they are really doing. They are just thinking about throwing a stone. They are not thinking about putting a person's eye out or cutting him seriously.

The very fact that they know the helicopter is there and we arrest a few I think would be sufficient to scare a lot of them off.

Mr. ROONEY. Thank you.

Mr. Florio.

Mr. FLORIO. Sir, you mentioned about the hot box with regard to the accident at Metuchen. It is my understanding that the train had just passed the hot box detector. Has there been an investigation as to whether the hot box detector was in operation or whether it indicated anything or was the hot box detector not in operation?

Mr. BERTRAND. It was in operation at Grundy which is 46.6 miles west of the point of the accident. As to whether we made an investigation to determine whether or not the hot box detector was working, it was working. It showed the train going past and showed absolutely no evidence of any problem with any journal. In the 46.6 miles it developed sufficient heat to burn off that journal at the point of the accident at Metuchen.

Mr. FLORIO. In your experience is it probable that that period of time and that distance would be sufficient to generate those problems?

Mr. BERTRAND. It is very possible it could do that. You must remember, however, when hot box detectors were put in such as this one, the railroads recognized that we must find some device to warn us of these things, if possible. The hot box detector was invented and we had no experience with it.

So we put them in in various locations by hit and miss thinking, well, this will be the best place to put them. Since they have been in existence for a number of years through research, and particularly the AAR Research Department, we now find that they should not be any further than 30 miles apart. In fact, as I understand the Southern Railroad most recently, they are installing new ones at 25 miles. There will be numerous hot box detectors put in the Northeast Corridor in the improvement program work. It is my recollection that they will be about 30 miles apart.

Does that conform with your understanding, Bill?

Mr. SPONSELLER. That is what is recommended.

Mr. ROONEY. Union Pacific, I understand, has them every 20 miles.

Mr. BERTRAND. Some railroads vary. When they were put in originally, you put them in hoping you found the right spots to give you certain warnings due to conditions ahead, et cetera. We now find it is something between 20 and 30 miles.

Mr. FLORIO. You say that is recommended. Is that what is going to happen? Who has the determination to say yes or no?

Mr. SPONSELLER. That is through the FRA. We have a tentative program and we have had more funding for a small amount of communication and signal items while we build up force and get people trained.

For the initial program there are some hot box detectors. The ultimate program will be studied and developed over the ensuing years. I see no problem. The FRA generally agrees with what are practical recommendations, so I don't see that we will have any difficulty in getting the number of hot box detectors required.

At this time we have advanced no figure of what the total cost of this might be.

Mr. FLORIO. I assume that your proposal was made in the light of the monies that you anticipate as being available?

Mr. SPONSELLER. No, sir. The proposal was only to cover action that we could start this year, again, based on the areas where we have in effect design ready where these could be readily accomplished and where we have forces trained to do it. We have not developed a broad program yet, nor asked for any funds for a broad program.

Mr. FLORIO. With regard to the Metuchen accident, I think you made reference to the fact that ConRail entailed a substantial amount of costs in cleaning up of damaged equipment. Do you have a figure on that?

Mr. BERTRAND. No, I don't have on the entirety. When an accident occurs, your first investigation will give you an estimated cost.

They are still in the processing of coming down to the final costs on that and also we don't have the wrecking experience costs yet.

Mr. FLORIO. Is that going to be exclusively ConRail's responsibility?

Mr. BERTRAND. ConRail will bear the cost of equipment. We bear the cost of track unfortunately.

Mr. FLORIO. How about the line that had the car that caused the accident?

Mr. BERTRAND. That was ConRail.

Mr. FLORIO. Apparently the car belonged to another line.

Mr. BERTRAND. That is true, but every train in this country that operates throughout the United States has, if you have 100 car trains, you may have 100 different ownerships in it. But we have rules and laws that should make no difference as per the ownership if you follow your inspection and repair practices.

No, in my humble opinion it has nothing to do with whether it was a Burlington, B&O, or whatever. If the car had been properly maintained, and maybe it was because a lot of things can develop. Any one of 1,000 things can develop in the case of a freight car to cause derailment. It was a friction type journal and the waste might have gotten in there or the packing or maybe the oil was thrown out in some way that caused friction, but something happened to cause that journal to get hot. It got so hot it burned off, allowing the side frame to drop down on the track which caused the derailment.

Mr. FLORIO. You are saying if it could be ascertained there were negligent aspects of the management for maintenance for that car and the car belongs to another company and that was the approximate cause of the accident and it will be the responsibility of ConRail and the maintenance of Amtrak for the lines?

Mr. BERTRAND. That is correct, once they accept that car for interchange.

Mr. FLORIO. ConRail has the responsibility to inspect the cars?

Mr. BERTRAND. That is right. If you accept that car on interchange and something happens later on on your track, it is your responsibility, not the railroad who interchanged it to you because under the rules and the ICC regulations, we are supposed to inspect every car that is given to us on interchange.

Mr. FLORIO. We being?

Mr. BERTRAND. Any railroad. In this case I would say ConRail accepted a car on interchange from the B&O, I would assume. I don't know whether that actually happened, if there was anything wrong with that car when it was interchanged through ConRail. ConRail had the responsibility to inspect it upon receipt. If they took no exceptions to it and later on something happened, it is their responsibility.

Mr. FLORIO. Does Amtrak have any responsibility for inspecting cars that it permits to run on the Northeast Corridor?

Mr. BERTRAND. We accept ConRail's inspection by a working agreement with them.

Mr. FLORIO. The last point, you may or may not have been here earlier when one of the witnesses testified that there is an intricate code for ascertaining what hazardous materials or commodities are being transported and those codes are not made available to anyone except in-house industry people.

Are you aware of what it is that is transported on your lines?

Mr. BERTRAND. Yes, sir. We are notified by ConRail which is the only freight user of Amtrak's tracks.

Mr. FLORIO. Specifically, in this instance, at what point were you aware of the fact that five or seven cars were carrying hazardous materials?

Mr. BERTRAND. Before that train entered the corridor, Amtrak's tracks. Our train dispatchers of the Northeast Corridor, Amtrak, would be notified by ConRail's people that you had "X" number of dangerous commodities, placarded cars, in the train and what their location was.

Mr. FLORIO. Is that a routine thing we just put through the manifest?

Mr. BERTRAND. That is a routine item. I think it is important enough that I tell you how it really works so I will quote this.

"The Northeast Corridor chief dispatchers and train dispatchers are notified by ConRail dispatchers or conductors of the number of any placard cars prior to the train being moved on the Northeast Corridor."

Mr. FLORIO. What is a placard car?

Mr. BERTRAND. Any car loaded with hazardous material, and the chlorine happened to be in one of these cars, the placards would be on there. So you know you have a dangerous commodity and you know its location.

ConRail has form CT-225, hazardous material regulations. We have adopted that and accepted it because of our relationship. There is a designated procedure set forth in these instructions governing the action of all employees and supervisors relative to their handling of hazardous materials while on our line. It requires that each conductor and engineman of ConRail has the form CT-168 showing the location in their train of every placarded car. In the event that the train and engine crews are changed while under our control, this form must be transferred to the new crew.

In the event of fire, accident, or leakage, the hazardous material regulations provide instructions for immediate action to be taken to prevent injury; loss of life and property loss. The crew must provide the exact name of the hazardous material involved to the local fire company, police or other agencies. The report of this derailment is received by the dispatcher involved and would also contain the above information.

The National Transportation Safety Board has made recommendations that would require train dispatchers to maintain records of cars carrying hazardous materials and current procedures for handling them in the event of a mishap. They would be required to communicate this information to public safety officials immediately after they learn of an accident.

Our dispatchers, train and engine crews in their examination for promotion and their annual instructions review the current requirements of the handling of hazardous materials. This information provides the basic requirements for their conduct and assures that procedures are set forth for the protection of the public and property in instances where hazardous materials are involved.

To go one step further, in the Metuchen case, for example, in addition to this report to me by the Assistant Vice President of Operations, I was on the ground and saw the site of actual incident. If you are interested, I brought along with me copies of the photographs that were taken of that derailment. I looked over the scene of this accident. The superintendents had copies of the way bills. I looked into that. When this accident occurred, we knew that the derailment was the 17th through 35th car in that train.

Now it showed, we had information that one car was tetraethyl lead which is liquid poison, Class B. That is the chemical name on the shipping classification. It is toxic and can injure through breathing or contact.

Two, it does not burn or burns with difficulty.

Then we have another known as risk precaution. We build dikes to contain flows of this material, keep out of streams and sewers.

The other item is life precautions, one, minimize handling, use protective equipment, avoid breathing vapors, reference to chemical dictionary, Title 45, Bureau of Explosives, BE-2.

On the chlorine, and I would like to correct the record for your information because I have heard it said by other witnesses and yourselves today that there were two cars with chlorine in this train and that is not a fact, there was only one car with chlorine in it, but that is bad enough because it can cause enough problems.

The chlorine, shipping classification, nonflammable compressed gas; risk degrees, 1, toxic, can injure through breathing or contact, 2, noncombustible. Risk precaution, build dikes and keep out of streams and sewers. Life precautions, 1, minimize handling, use protective equipment, avoid breathing. If large leakage, no fire involved, evacuate for 100 feet. That is title 49.

We have each one of those. We notify these people. I have handled hundreds of wrecks in my life. If we have a carload of explosives, you immediately notify the Explosive Bureau and they send people to the scene whom we look to for advice as to how we handle these explosives before we touch them.

Mr. FLORIO. Local officials were not notified there.

Mr. BERTRAND. There was no leakage.

Mr. FLORIO. You have a derailment by your own elaborate format. If you have a derailment, notification is given to at least you, and I don't know who else, that you have a carload full of chlorine there with evacuation being desirable and we have not got the leakage immediately upon ascertainment.

Mr. BERTRAND. The process was followed, Mr. Florio, the notification that the car was there and it was derailed and it was chlorine. That was given out to whom all I cannot enumerate at the moment, but our supervision would do that.

Mr. FLORIO. That is half the problem. The State officials are not aware of any of our procedures. That brought to my attention that the local officials were not aware of what was in the materials. They didn't have the ability to contain because they didn't know what it was that they had to contain. I think that though you have a very elaborate format of regulatory procedures, something has to be improved in terms of getting the word out so that we just don't have to wait for something to break.

Mr. BERTRAND. I am under the impression, sir, that we had the word out. In fact, the matter was that we were delayed about 1 hour and 45 minutes because of the State police and fire department clearing the area before we started to touch the chlorine. We had worked on other cars involved in the accident but not up against the car of chlorine where we could actually do something to cause a rupture or cause the car to start to leak.

It had been determined that the chlorine car derailed was no problem until you start to handle it. When we started to handle it, the State police and fire department was there and they cleared the area for I don't know how many feet for 1 hour and 45 minutes. When we picked that car up, it came up nicely and we got it out of the way and there was no problem. But the people were notified.

Mr. FLORIO. What were the other hazardous materials?

Mr. BERTRAND. Anti-knock compounds, that is the tetraethyl lead. You also had the chlorine car and potash. But only three, the anti-knock, chlorine, and potash were placarded cars. Potash is classified as corrosive material. Risk degree is alkaline reaction, can cause burn to the skin and eyes. Risk precaution, control dikes and wear protective gloves and safety devices and avoid breathing the fumes.

Mr. FLORIO. What is the shipping classification? Is that listed on the manifest? You say it is a shipping classification. They seem to be fairly inane and innocuous kinds of things.

Mr. BERTRAND. The shipping or hazard classification would not be listed on the manifest. It would be placarded on a car. If you have a car of chlorine, you go to whatever book contains the instructions for handling that and that gives you this information.

Mr. FLORIO. Thank you.

Mr. ROONEY. Thank you, Mr. Bertrand. I believe this is the first time you have been before this subcommittee. You proved to be a very fine witness.

You said you have had 40 years of railroad experience prior to coming to Amtrak. Whom were you with and what were you doing?

Mr. BERTRAND. Do you mean you want me to start at the beginning?

Mr. ROONEY. If you would please?

Mr. BERTRAND. Well, Mr. Chairman, I was employed on the Alton Railroad in 1937 as a trainman. At that time the Baltimore and Ohio owned the Alton Railroad. I later went to B&O in Chicago and I was a conductor and a train dispatcher and assistant trainmaster and assistant superintendent at Chicago. Then I was superintendent of several divisions on the B&O from Chicago through to Baltimore.

Then I was assistant general superintendent, general superintendent, general manager, assistant vice president of operations and maintenance and vice president of operations and maintenance of the B&O.

Then I went to the Reading, which was controlled by the B&O on stock ownership at that time, in 1963 as executive vice president. Then I became president, chief executive officer and chairman of the board. I have held them all.

Mr. ROONEY. You have had a wide range of experience.

Mr. BERTRAND. I am ready to go sit down. If this was not a challenge offered in the Northeast Corridor, my wife and I would be fishing.

Mr. ROONEY. As chairman of this subcommittee I hope you will be around for many years.

Thank you very much.

Our next witness will be Commissioner Michael Johnson, Pennsylvania Utility Commission, representing the National Association of Regulatory Utility Commissioners, Washington, D.C.

Mr. Johnson, I want to personally welcome you to this subcommittee. I have known you for many years while serving in the Pennsylvania State Senate. We welcome you today to this committee.

**STATEMENT OF MICHAEL JOHNSON, ASSISTANT CHIEF, CONGRESSIONAL LIAISON, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS, AND COMMISSIONER, PENNSYLVANIA PUBLIC UTILITY COMMISSION, ACCOMPANIED BY PAUL RODGERS, GENERAL COUNSEL, NARUC; CHARLES SCHNEIDER, ASSOCIATE GENERAL COUNSEL, NARUC; AND JAMES CONNERS, DIRECTOR, INTERGOVERNMENTAL AFFAIRS, PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Mr. JOHNSON. Thank you, Mr. Chairman.

My name is Michael Johnson. I am the Assistant Chief of Congressional Liaison—I have to be careful how I read that because I was just given that title—for the National Association of Regulatory Utility Commissioners known as NARUC. That is not a paid job, Mr. Chairman. I get paid by the Pennsylvania Public Utility Commission of which I am a Commissioner.

I happen to be here on this all-important matter about which we in Pennsylvania and I, particularly, together with some of my friends in the railroad unions, have had such a deep concern.

I am accompanied here at the table by the General Counsel for NARUC, Mr. Paul Rodgers and Mr. Charles Schneider, his associate, and to my left, Jim Connors of Pennsylvania who is Director of Intergovernmental Affairs and will be here in Washington spending time.

We thank you very much for the opportunity to appear before you. As you know, NARUC is a quasi-governmental, nonprofit organizations founded in 1889. Its members are the governmental agencies of the States, the District of Columbia, Puerto Rico, and the Virgin Islands engaged in the regulation of utilities and carriers. The mission of the NARUC is to improve the quality and effectiveness of public regulation for the benefit of the American public.

The members of the NARUC appreciate your invitation to testify on the vital question of railroad safety.

Fortunately, the accident which has provided the impetus for today's hearings took no lives, although it did cause substantial disruption of service and inconvenience to thousands. The bill for the damage is yet to come as we just found out.

Potentially, it could have been a disaster of a magnitude I do not even wish to contemplate. The present significance of Metuchen is that it is all too typical of the ever increasing number of railroad accidents occurring each year in the many States. In 1976, the

Federal Railroad Administration reported 10,450 train accidents, a 30 percent increase over 1975 figures. In 1976, 980 persons were injured and 108 persons lost their lives in railroad accidents. While there was a drop from 1975 figures in the number of people injured, the 1976 fatality statistics represent a 32-percent increase over the previous year. That is one-third more people killed as a result of railroad accidents from 1975 to 1976.

But more than that, the FRA tells us that the number of deaths in 1976 due to train and train-related accidents totaled 1,660. Additionally, FRA reported 65,404 injuries during the same period of time. It is no secret that the railroad safety record has worsened over the past decade and this trend continues unchecked.

These shocking statistics are of vital concern to the various States which seek some control over railroad safety matters directly affecting their citizens. We do not know, at this time, the cause of the accident at Metuchen or what specific steps could have prevented that event. I am nevertheless certain that a substantial number of similar accidents and related injuries and deaths could be prevented by an effective railroad safety inspection program with the States sharing a large portion of the inspection, enforcement, and policymaking responsibilities.

Presumably, it was in recognition of these considerations that Congress passed the Federal Railroad Safety Act of 1970. [45 U.S.C.A. Secs. 421, et seq.] This Act prescribed a Federal/State partnership patterned after that set up under the Natural Gas Pipeline Safety Act of 1968. Yet the FRA has not actively pursued the partnership concept and has left the States with little or no choice but to abstain from involvement in railroad safety.

Mr. Chairman, I mean to imply that a mood has been created which discourages, really, rather than encourages, State participation in this program. We decry the fact that the mood does exist.

Today, 7 years after passage of the Act, we find this partnership a partnership in name only, while the railroad safety record continues to deteriorate. The Act requires the Secretary of Transportation to promulgate standards in all areas of railroad safety and specifically provides that a State may participate in carrying out investigative and surveillance activities as prescribed by the Secretary.

To date, substantive regulations have been promulgated in only two areas—track and freight car safety. State participation is available only in these two areas and the FRA regulations allowing such participation have been constructed so as to effectively preclude meaningful involvement by the vast majority of the States. Only 17 States are participating in enforcement of track standards and only eight in freight car safety. I might point out to you proudly, Mr. Chairman, that Pennsylvania is one that is participating in both aspects.

After 7 years, this is not an impressive beginning for a new partnership. Further, the States can expect little or no authority under the present Act or under FRA practices, to protect its citizens through meaningful enforcement activities.

In order to facilitate the improvement of the Nation's rail safety program, the NARUC believes that the Federal Railroad Safety Act of 1970 should be amended in three respects. In our appendix we

attach the proposed amendments to the bill which you did introduce.

Mr. ROONEY. Without objection it will become part of the record [see p. 69].

Mr. JOHNSON. I want to depart from my statement to provide the committee with some other statistics.

As of July, 1977, there were only 185 Federal inspectors for track, 44; motor power and equipment, 78; operating practices, 30; signal and train control, 19; and hazardous material, a growing commodity being transported by rail, only 14. This is nationally.

At the State level where we are limited to equipment, the freight car equipment and track safety, there are 30 State employees involved in track inspection and 12 in equipment. That is part of this so-called partnership. You can see what a very feasible partnership this is.

Mr. FLORIO. Mr. Johnson, those figures you threw out on the States, is that just your State or States across the country?

Mr. JOHNSON. That is national.

Mr. FLORIO. So there are only 30 officials who are State inspectors?

Mr. JOHNSON. Thirty State inspectors who are employed as a result of the Federal-State sharing program out of the 17 States only. Twelve of them are for equipment.

I might point out that about 35 percent of these are employed in the State of Pennsylvania. We are trying to increase that.

[Discussion off the record.]

Mr. JOHNSON. Now there are 30,000 locomotives in use, 1,369,000-plus freight cars. These are 1974 figures, whereas the personnel figures are as of July, 1977. You have 7,000 passenger cars. Now that may be higher by now. When we read of there being one Federal inspector for every 32,500 motor trucks, we shudder. We think that this is awful. But there is one employee, Federal employee, for every 32,200 miles of railroad track and there is one for every 5,000 locomotives and one for every 32,000 freight cars or passenger cars.

Now that is the personnel setup at the moment which would enable us to proceed with enforcing the will of Congress. Now the first NARUC amendment would authorize the States to participate in investigative activities in connection with all rail safety laws and regulations. That doesn't exist today.

The second would provide for a Railroad Safety Advisory Committee, that provides for 9 members representing the railroads, railroad labor, the public, government, and a chairman.

The third is the authorization for the States to seek injunctive relief in Federal courts. This is perhaps the most important one: Under Section 206 of the Act (45 U.S.C.A., Sec. 435(a)), the FRA, through the Secretary of Transportation, can assess penalties or obtain injunctive relief in Federal courts for violations of safety standards. Pursuant to Section 207 of the Act (45 U.S.C.A., Sec. 436), if the Secretary has taken no action on an alleged violation for a period of 90 days, a State may go into Federal court for relief unless the Secretary has determined in writing that no violation has occurred.

Earlier today we heard of some kind of financial or dollar measurements that require an investigation of an accident. Congressman Florio asked the question about that.

Now the States need some independent enforcement authority to support their investigative efforts. The present enforcement mechanism is cumbersome and is not supportive of State efforts to carry out an effective safety program. State inspectors are frequently treated with less respect than is due to them because the railroads know that, for all practical purposes, no violations will be enforced unless the Federal Government pursues the matter. Where that is not forthcoming, the railroads treat us with benign neglect.

That is in answer to a question of yours, Mr. Chairman, as to how the railroads cooperate. The plain fact of the matter is that they cooperate very poorly and the worst offenders are those that are operated by the Federal Government.

This weakness in the present law should be corrected by an amendment which would authorize participating State agencies to seek injunctive relief in Federal courts without the 90-day delay.

In conclusion, Mr. Chairman and subcommittee members, NARUC believes that State participation in the rail safety program can work and will work. Our Association insists that the States are ready to do what they can to reduce the tragic loss of life and disruption in traffic. While no accident level is acceptable, any reduction in personal injury and property damage is welcome.

We encourage this subcommittee and the Congress as a whole to review the Federal aid safety program. Prior to his confirmation in the Senate, the new head of the Federal Railroad Administration and a fellow Pennsylvanian, the distinguished John Sullivan, said that he intended to give the program careful review in an attempt to expand the level and scope of State participation. Mr. Sullivan, I might add, hails from my county in Pennsylvania.

While he said it was "premature" at the time to offer specific recommendations, he did assure the committee that he would "consult with a broad spectrum of concerned interests in this endeavor." We support Mr. Sullivan's promise to take a hard look at our side of this story. We trust the Congress will give the Administrator outside time limits on his review process and, at the same time, give serious consideration to the NARUC amendments described in my testimony.

Thank you.

I am prepared to answer any questions that you may want to put. But before you do, let me point out that I am a little disappointed that to this point I have heard nothing, either from this side of the bench, the witness side, or from the subcommittee's side, about the great economic value of a viable railway system in the United States. I know this omission is merely an oversight.

You know, Mr. Chairman, that I myself come from a State where my Governor has fought for a viable system. He fought against the Pennsylvania Railroad/New York Central merger and only now it is acknowledged that he may have been right. He supports the expansion of railroads and the need to make them a more viable part of our economy.

I want to point out that the record nowhere will reveal increased economic health in a community where railroad facilities have deteriorated, but the opposite is very definitely the truth. Throughout the Northeast Corridor, New England and particularly in our home State, Mr. Chairman, we suffer badly because of a declining facility to transport goods and materials by rail.

I am prepared to answer your questions, Mr. Chairman.  
[The appendix referred to follows:]

APPENDIX

A BILL

To amend the Federal Railroad Safety Act of 1970, as amended, to clarify and strengthen the role of the States in promoting safety on the Nation's railroads; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the Federal Railroad Safety Act of 1970 be amended as follows:

ADVISORY COMMITTEE

Sec. 1. -- Subsection (g) is added to Section 202 as follows:

"(1) The Secretary shall establish a Railroad Safety Advisory Committee to advise, consult with and make recommendations to the Department concerning railroad safety. The Committee shall consist of the Federal Railroad Administrator, who shall be chairman, and eight members appointed by the Secretary as follows: two public members, two members from railroad management, two members from railroad labor organizations, and two State commissioners engaged in railroad safety regulation selected after consultation with the national organization of the State commissions referred to in sections 202(b) and 205(f) of the Interstate Commerce Act, as amended. Members shall be appointed by the Secretary for a term not to exceed three years. Members of the Committee, other than those regularly employed by the Federal Government, may be compensated in accordance with the provisions of section 9 of the Department of Transportation Act (80 Stat. 931, 944). Service under this section shall not render such appointed members of the Committee employees or officials of the United States for any purpose. All proceedings of the Committee shall be subject to applicable provisions of the Federal Advisory Committee Act, P.L. 92-463, 86 Stat. 770, 5 U.S.C., App. 1.

"(2) The Secretary shall prior to publication submit to the Committee all proposed rules, regulations, and standards, and amendments or repeals thereof, and afford such Committee a reasonable opportunity, not to exceed ninety days unless extended by the Secretary, to submit a report on the necessity, technical feasibility, reasonableness, and practicability of such proposal. Each report by the Committee shall be included in the record of any proceeding that may be held on such proposal. In the event that the Secretary rejects the conclusions of the majority of the Committee, he shall not be bound by such conclusions but shall publish his reasons for rejection thereof."

PARTICIPATION BY STATES IN INVESTIGATIVE ACTIVITIES  
IN CONNECTION WITH ALL RAIL SAFETY MATTERS

Sec. 2. -- Subsection (h) is added to Section 206 as follows:

"Notwithstanding any other provision in this title or any other law pertaining to railroad safety, a State agency may also participate, in the manner prescribed in this section, in carrying out investigative and surveillance activities in connection with railroad safety laws and regulations in effect on the date of enactment of this title or made effective subsequent to the date of enactment of this title."

STATE AUTHORITY TO OBTAIN INJUNCTIVE  
RELIEF IN FEDERAL COURTS

Sec. 3(a) -- The final sentence of Section 206(a) is amended to read as follows: "The Secretary shall retain the exclusive authority to assess and compromise penalties (except as otherwise provided by section 207 of this title) for the violation of rules, regulations, orders and standards prescribed by the Secretary under section 202(a)

of this title and to recommend appropriate action as provided by section 209 of this title."

Sec. 3(b) -- Section 207 is amended to read:

"(a) In any case in which the Secretary has failed to assess the civil penalty applicable under section 209 of this title with respect to a violation of any railroad safety rule, regulation, order, or standard issued under this title, or otherwise required by law, within 90 days after the date on which such violation occurred, a State agency participating in investigative and surveillance activities under the provisions of section 206 of this title within the State where the violation occurred, may apply to the district court of the United States within the jurisdiction of which the violation occurred for the assessment and collection of the civil penalty included in or made applicable to such rule, regulation, order, or standard. The provisions of this section shall not apply in any case in which the Secretary has affirmatively determined, in writing, that no violation has occurred.

"(b) A State agency participating in investigative and surveillance activities under the provisions of section 206 of this title may, with respect to a violation that occurred within the State of any railroad safety rule, regulation, order, or standard issued under this title, or otherwise required by law, apply to the district court of the United States within the jurisdiction in which the violation occurred for injunctive relief to restrain further violation thereof or to enjoin compliance therewith."

Mr. ROONEY. Thank you very much, Mr. Commissioner.

I should like to remind the distinguished gentleman from Pennsylvania that to the best of my knowledge this committee has done more in the last 3 years to preserve the railroads in this country than any previous committee. I think we have saved the Northeast from bankruptcy. We have appropriated millions of dollars for rail safety. I think the record of this committee will speak for itself.

I might say that I think the States should take a more active interest with the Federal Government. I cannot understand the Federal Government's role with respect to NARUC. I know that I have talked to your distinguished chief counsel on many occasions, Mr. Rodgers. But from time to time it is very difficult to get the administration motivated with respect to what the States can contribute with the assistance and the cooperation of the Federal Government.

I believe in the concept of NARUC. I am hopeful that this administration, this Secretary of Transportation, will take a look at what you have to offer.

Mr. JOHNSON. Mr. Chairman, I would like to point out in response that if you examine the testimony, you will find that we do detail the avid interest of Congress in this entire matter dating back to the very beginning. I think any negative aspects or angry sounds I might have made were not directed at Congress but at the administration. This is perhaps beyond your control. Perhaps now with a friendly Pennsylvanian in the FRA as its Administrator we will be able to get more attention from him for this problem for the entire country.

If there are any other questions, I will be glad to answer them.

Mr. ROONEY. I was wondering why you were appointed Congressional Liaison between NARUC and the administration. Now I have a good idea. You have the Chairman from Pennsylvania, you have a FRA Administrator from Pennsylvania, you have a friendly colleague of mine from New Jersey. I am hopeful we will be able to accomplish something.

Mr. JOHNSON. Pennsylvanians had a great interest in his recent election and migrated across State lines and invaded New Jersey. Of course, we need him here.

Mr. ROONEY. Commissioner Johnson, last year there was testimony that one of the principal problems being experienced by the States was the stringent qualifications requirements placed on safety inspectors by the Federal Railroad Administration. I think it was stated at that time that there were just not enough qualified people to undertake this mammoth task.

I will direct this question to either you or your colleagues: Has this problem been alleviated to any degree during the past year?

Mr. RODGERS. No. We have the same problem. As the committee recognizes, the Federal safety program is basically a Federal program. The States are in there to contribute what they can. The FRA since 1970 has discouraged State participation by a number of devices. One of those has been by the requirement of exceptionally high qualifications for State people. It is like saying only brain surgeons can administer first aid.

We do not think qualifications need be as high as they have been set. That discourages State participation. In all of this the States do not act independently. They are backed up by the Federal people. The more State people you have on the tracks inspecting freight cars, the safer system we will have.

We think this has been a great mistake on the part of FRA. We feel the only reason they have done this is to try to build their own bureaucracy to avoid cooperation with the States. We hope very much that the new Administrator will review this situation. This has been one of the most difficult hurdles the States have had.

Mr. ROONEY. As you probably know, the previous administration did not looked upon advisory committees with great favor, and I was wondering whether or not you can tell the committee whether or not you have any insights as to how well the advisory committee proposed in your bill would be accepted by this administration?

Mr. JOHNSON. I have no crystal ball, nor do I have any private access to the White House that other people may have, but we believe that we can make a very excellent case for its existence.

The advisory committee calls for two members representing the railroads, two representing railroad labor, two representing government, two representing the public, and, of course, the chairman.

Let me point out, if I may, my long-overdue respects to the members of the railroad labor unions who really are the guardians of this system when it comes down to it. An accident will take place in some isolated place, and all you have is the railroad crew that has to do the job. This is so unlike motor accidents, which take place on highways where you have State police and local police intervention readily available. So with State presence on the committee, I think a fresh and vigorous point of view can be brought to this entire problem.

Given an administration and an Administrator with the will and the desire to do the job, we believe we can finally get on with the work which Congress mandated be done over 10 years ago.

While I am at it, I want to pay my deepest respects to you for your leadership role and that of your colleagues in convening this hearing and in the past having pushed for important railway safety legislation.

Mr. ROONEY. Thank you.

Mr. Florio?

Mr. FLORIO. Thank you. I would like to say I am pleased to have met you for the first time today. I have heard a bit about you, and it has all been good, and I commend you for a fine statement.

I have a couple of observations. One, I think it is important that the States get their own house in order with regard to the dispersal of authority with regard to railroad inspections. I know my State and a number of other States have the problem with the utilities commission and the Department of Transportation. Most States now have a Department of Transportation and, in fact, there has been some question as to where is the appropriate place to put this important function so that it is not exactly clear in a number of States, my own being a good example, as to who should be in charge.

So it is important, if we are going to have a meaningful Federal-State relationship, the State gets itself together so it can be a

partner after we deal with the problems you have outlined that have to be dealt with at the Federal level.

The other point is that I think we have to realize, to a large extent, safety in railroads is going to have to ultimately end up being automated, to a large extent. We are going to have to move into high technology areas, and I am not sure what your organization is doing in this regard, but whether it be the Federal Government, State, or your organization, we are going to have to start reaching out and getting involved in some of these means of inspecting in a much more modern way.

I read an article over the weekend that laser beams are being used in some areas. The fact is, it is impressive to come out and say we only have one inspector for 5,000 miles of track or whatever it happens to be.

Mr. JOHNSON. Thirty-two thousand miles of track.

Mr. FLORIO. Whatever the number is, it is an impressive number, and the fact is it is probably not going to be too much improved on over and above that as the cars become more complicated, more sophisticated, and it is going to again reduce the ability of individuals in a nonautomated way to effectively be inspected.

So I think it is something we are all going to have to be aware of, become attuned to and start moving in that direction.

Mr. JOHNSON. Mr. Congressman, in Pennsylvania, for example, the responsibility rests with the Public Utility Commission. We join with the Department of Transportation at the railroad crossing, and that is where we meet them. Once you leave the railroad crossing, it is the PUC that has the responsibility. We don't shirk from it. We want to expand on it.

We believe that the public service commissions throughout the State can do the job if they are encouraged to do it, if they are required to do it, and you can prod them, and if you expand this partnership relationship that we have referred to.

Mr. FLORIO. Just making a personal reference to my State, the Public Utilities Commission has the authority obviously over utilities, gas, electric, cable television, over sanitary waste disposal, and they also have it in part over the railroad crossings and some other things.

They have made, apparently, the decision to get themselves out of that area and start shifting it over to the Department of Transportation. I think that is a wise decision in my State, and I think it is something that perhaps should be looked at in other States as well.

Mr. JOHNSON. This perhaps can depend on the size of the State, and so forth.

Mr. FLORIO. Certainly.

Thank you, Mr. Chairman, very much.

Mr. ROONEY. Thank you, Mr. Johnson, Mr. Rodgers and your colleagues, for appearing before the committee today.

Mr. JOHNSON. Thank you.

Mr. ROONEY. Our final witness will be William G. Mahoney, representing the Railway Labor Executives Association, Washington, D.C.

**STATEMENT OF WILLIAM G. MAHONEY, ON BEHALF OF THE  
RAILWAY LABOR EXECUTIVES' ASSOCIATION**

Mr. MAHONEY. Thank you, Mr. Chairman. I would like to apologize for the scheduling foul-up in my office which had me testifying at two hearings this morning, and you didn't get copies of my statement until quite late, for which I apologize.

My name is William G. Mahoney. I am a partner in the law firm of Highsaw, Mahoney & Friedman with offices in Washington, D.C. I appear before you today on behalf of the Railway Labor Executives' Association, an association of chief executive officers of all of the standard national and international railway labor unions representing virtually all of the railroad employees in the United States. The unions whose chief executives belong to the RLEA are as follows:

American Railway Supervisors' Association; American Train Dispatchers' Association; Brotherhood of Locomotive Engineers; Brotherhood of Maintenance of Way Employees; Brotherhood of Railroad Signalmen; Brotherhood of Railway, Airline and Steamship Clerks, Freight Handlers, Express and Station Employees; Brotherhood Railway Carmen of the United States and Canada; Brotherhood of Sleeping Car Porters; Hotel & Restaurant Employes and Bartenders International Union; International Association of Machinists and Aerospace Workers; International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers; International Brotherhood of Electrical Workers; International Brotherhood of Firemen & Oilers; International Organization of Masters, Mates & Pilots of America; National Marine Engineers' Beneficial Association; Railroad Yardmasters of America; Railway Employes Dept., AFL-CIO; Seafarers' International Union of North America; Sheet Metal Workers' International Association; Transport Workers Union of America; and United Transportation Union.

I appear before you today to present the view of the members of the RLEA with regard to enforcement of the Federal Railroad Safety Act of 1970 by the Federal Railroad Administration.

Seven years ago, Congress passed the Federal Railroad Safety Act. Once heralded as the mechanism for halting the increase in rail accidents, which had doubled over the previous decade, the Act has now fallen victim to inadequate administration and enforcement.

Today, rail accidents and incidents continue to occur at a staggering cost to property and human life.

As you know, each time this committee has conducted hearings into the Federal Railroad Safety Act, it has discovered tragic railroad safety conditions. In 1974, this committee stated:

"The weight of evidence gathered in testimony before the subcommittee indicated that the Federal Railroad Administration simply was not living up to either the spirit of the Federal Railroad Safety Act of 1970, or, in some cases, the letter of the law.

"The committee found that the Federal Railroad Administration has consistently downgraded enforcement and inspection . . ." (H. Rept. No. 93-1083, 93rd Congress, 2nd. Sess. 6(1974).)

And again in 1975, this committee stated:

"Each time the committee has held hearings on . . . the Federal Railroad Safety Act of 1970, it has hoped to see a reversal of the increasing rate of rail accidents. Each time, the committee has been disappointed, and this year has been no exception.

"The committee feels that . . . the Federal Railroad Administration (FRA) is not doing its job adequately. The committee also feels that a major reason for this problem is that the FRA has consistently failed to avail itself of the safety inspectors and funds authorized by this committee. The result has been ever-increasing accidents and injuries on the railroads." (H. Rept. No. 94-240, 94th Congress, 1st Sess. 4-5 (1975).)

Finally, in 1976, this committee once again in effect reiterated the same problem: "inadequate enforcement and inspection by the FRA." (See H. Rept. No. 94-1166, 94th Congress, 2d Sess. 6-7 and 6-17 (1976).) It has been a chronic problem over the years.

This year has been no exception. Nothing has changed; the number of train accidents and incidents continues to rise. In 1974, 7,491 train accidents occurred, representing a 10 percent increase from 1973. (H. Rept. No. 94-1166, 94th Congress, 2d Sess. 6 (1976).) I have been advised that in 1976 approximately 10,690 train accidents—there were 57,302 injuries as a result of train accidents, and 49,300 injuries as a result of non-train incidents (i.e., shop accidents)—occurred, which represents an increase of 42 percent from 1975. By comparison, there were 4,016 accidents in 1960. Incidentally, I did not see Commissioner Johnson's statement. In fact, I had not met him until this morning, and I see our statements apparently parallel quite closely. I guess this comes not as any surprise, but the closeness of the parallel is sort of surprising to me.

Employee-on-duty injuries tripled in 1975, from 15,620 to 42,298, despite the fact that track usage was substantially decreased in 1975.

Preliminary 1976 figures remain shocking. The number of accidents and incidents continue to increase for the sixth straight year. The preliminary figures indicate a continued slight reduction in the number of employee deaths in 1976 as compared to 1975, but the total number of such deaths, 372, remains unacceptable. Although major disasters get the headlines, the effect on the thousands of persons maimed or killed in railroad accidents is no less real and devastating to them and to their families.

We respectfully submit that a major reason for the continued increase in accidents is the FRA's failure to hire a greater number of inspectors in order to insure railroad compliance with the safety standards and regulations. Although authorized to hire up to 500 inspectors, the FRA's 1977 budget allows for only 376 safety positions, down from the 386 positions requested in their 1976 budget. Consequently, there has been a substantial decrease in inspection efforts by FRA. For instance, locomotive inspections decreased dramatically from 73,111 units in 1973 to only 29,328 in 1975. Freight car inspections dropped from some 8,577 inspections of 59,898 cars to 8,311 inspections of 58,180 cars in 1975, which represents only 3.4 percent of the total number of freight cars. (H. Rept. No. 94-1166, 94th Congress, 2d Sess., 8(1976).)

FRA should not be heard to complain about budgetary difficulties in procuring sufficient numbers of inspectors; especially when such

problems could be obviated by vigorous enforcement and encouragement of State participation. Adequate authority exists under present law for FRA to encourage and to enforce State participation. In 1976, FRA increased the number of participating States from 8 States with 14 inspectors to a mere 12 States with but 22 inspectors.

Clearly, FRA is not vigorously pursuing the Federal-State certification program.

Without adequate and vigorous enforcement of all aspects of the Federal Railroad Safety Act by the FRA, accidents, injuries and deaths, as well as property damage, will continue to soar. I respectfully suggest that the cause is primarily the fault of FRA executives in not requiring the railroads to comply with FRA's rules and the industry's standards of safety. The railroads know that FRA historically has not and is not going to enforce safety laws vigorously; poorly enforced laws have encouraged violations since most defects go undetected. The results have been tragic.

In short, there is very little of a positive nature that can be said about FRA's handling of railroad safety in this country. Something must be done to curb this continuing tragedy.

The only effective method of implementing the clear intent of Congress in the field of railroad safety is the enactment of specific detailed legislation directing the employment by number and by State or region of FRA inspectors necessary to accomplish that end.

Such a course would be most unusual, indeed; but the alternative is a continuation of unnecessary human misery and death.

Thank you.

Mr. ROONEY. Thank you, Mr. Mahoney. I concur wholeheartedly with your statement.

As you know, Congress enacted legislation; it did provide for 500 inspectors, but the FRA has refused to implement the intent of Congress. I would like to know, and perhaps you can comment on some kind of specific legislation that would cause them to appoint the 500.

Mr. MAHONEY. As I said in the statement, Mr. Chairman, the only thing I can think of is sort of leading children by the hand, which Congress should not have to do in this case, but I don't know what else can be done. We have come back here year after year. There has been testimony year after year; the statistics have gotten worse year after year, and still nothing is done. It gets simply worse and worse.

The FRA—I haven't heard their participation in this testimony here, the hearing thus far, but in any event whatever the reasons are, I have never heard a good one why they are not employing the inspectors they are authorized to provide and put them in the field and vigorously enforcing these things.

So, the only suggestion I have, we have, at this date, is to just draft a piece of legislation which would tell them what they were going to have to have in various regions, which, as I say, is a sort of insulting thing to do, but I don't know what else to do. It is getting desperate.

Last year or so, I had an experience where some of my clients asked me to go to the FRA on a complaint they had and couldn't get

anything done. So I wrote to the then chief counsel, and I told him of the problem, described it to him, and he said, all right; he wrote me back and said he would get right on it.

About 13 months later, I got a letter saying that they had inspected the situation in the yard that I told them about and that we were right; it was a terrible situation, and they issued some orders to clean up the mess. I forget what the detail was. But that is 13 months.

It just seems an incredibly incompetent way to run an administration of any kind. And the reason was they said they didn't have the inspectors, which was why they couldn't get around to it. So make them hire them, is all I know.

Mr. ROONEY. Thank you.

Mr. Florio?

Mr. FLORIO. I have no questions, but the obvious conclusion that comes from a few of the individuals who have testified today, which is that the committee has a need to get together before too long with the new FRA Administrator to discuss some of these things with regard to safety, with regard to what has been brought to my attention as the inadequate flow of some of the RRRR Act funds for maintenance and improvement of equipment, and there is a host of things we perhaps should bring to his attention, and I think it is desirable before too long that we do invite the new Administrator to come and perhaps chat with the committee.

Mr. ROONEY. If the gentleman will yield, the new Administrator will be the lead-off witness tomorrow morning, at which time you will have an ample opportunity to cross-examine him.

Mr. MAHONEY. I wish I could be here.

Mr. ROONEY. On this side of the table.

Mr. MAHONEY. Yes; I much prefer that.

Mr. ROONEY. Thank you.

The meeting stands adjourned until tomorrow at 10 a.m. in Room 2218.

[Whereupon, at 12:37 p.m., the subcommittee adjourned, to reconvene at 10 a.m., Tuesday, July 19, 1977.]

# RAIL SAFETY: DERAILMENTS IN THE NORTHEAST CORRIDOR

TUESDAY, JULY 19, 1977

U.S. HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE,  
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,  
*Washington, D.C.*

The subcommittee met, pursuant to notice, at 10 a.m., in Room 2218, Rayburn House Office Building, Hon. Fred. B. Rooney (chairman of the subcommittee) presiding.

Mr. ROONEY. The meeting will come to order.

Our first witness this morning will be one of our distinguished colleagues from the great State of Illinois, Mr. Paul Simon. Mr. Simon has been very much concerned about strobe lights, has talked to me about this subject on many occasions, and I am sure you are here to discuss that subject this morning.

## STATEMENT OF HON. PAUL SIMON, A REPRESENTATIVE IN CONGRESS, FROM THE STATE OF ILLINOIS

Mr. SIMON. That is correct, Mr. Chairman, and I will be very brief.

If I may enter a statement in the record as well as a letter to the FRA, I would like to do that.

Mr. ROONEY. Without objection [see p. 81].

Mr. SIMON. Let me just touch very briefly on the basics for you, Mr. Chairman.

I appreciate your courtesy and that of my colleague whom I used to have the office next to in the Longworth Building.

Mr. ROONEY. That was before you both built up seniority.

Mr. SIMON. We have both built up our seniority.

Mr. FLORIO. Mr. Chairman, I just note that I am still there.

Mr. SIMON. He had a better office than I did, Mr. Chairman.

The basics are these: We have 180,000 unprotected railroad crossings in the Nation. We have 27,000 locomotives, one fifth of which are equipped with either strobe lights or oscillating lights. We have had three studies by the FRA, and I have the three studies right here, going back to 1971, all three of which recommend the installation of strobe lights.

The cost, in terms of lives, of not putting these lights on all locomotives we don't know. All we know is that some lives would be saved if more locomotives had them. In terms of dollars, it is very interesting to note that if the strobe lights are 1 percent effective, they are cost effective. The cost per year runs about \$50 when you include upkeep, amortization and operating costs. Installation is about \$500, including the cost of the lights. The FRA study estimated that, figured conservatively the cost effectiveness ratio would 11.4 to 1. In other words, the cost effectiveness, aside from the humanitarian consideration, there is just no question about.

The other two questions that have been raised, in fact one, if you recall, Mr. Chairman, was raised on the floor by our colleague from California, John Moss, who said "What about epilepsy?" That question was answered for us. We contacted the National Epilepsy Foundation, and they recommended the three top physicians in the Nation in this field. We contacted all three, and they said when you are talking about the number of flashes per second that we are talking about, 3 per second or less, there is not a problem. Only when you get up to 16 per second, or something near that, could there be a problem. Of the strobe lights we now have, the FRA does not have a single case on record where anyone had an epileptic seizure because of it.

Then the other argument that was used against it is that crews don't like it. It bothers them. Let me just read two sentences from the May 1975 FRA report. It says "The interviewers"—these are people from the FRA going out talking to the railroad crewmen—"sense great enthusiasm for the lights among all crewmen."

Then another sentence says "Train crews were unanimously enthusiastic about strobe effectiveness."

It is clear, Mr. Chairman, that the studies are here. The evidence is overwhelming. We can save lives. We can save money. We shouldn't just dillydally around. We ought to move on it, and whether it is the bill I introduced or an amendment you can tack on to another bill, how you do it I leave to your good judgment, but we ought to move.

[Congressman Simon's prepared statement and attachment follow:]

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STATEMENT OF HON. PAUL SIMON, A REPRESENTATIVE IN CONGRESS  
FROM THE STATE OF ILLINOIS

ON H.R. 8017

I am testifying in support of H.R. 8017, which would require the installation of stroboscopic lights on all train locomotives, in order to decrease the number of accidents involving trains.

There is a great need for improving the safety of trains. There are about 12,000 train-vehicle collisions at grade crossings every year. In 1976, there were 1,126 fatalities at grade crossings, an increase of 148 over 1975 fatalities. This is an unnecessarily high number of casualties, and my bill is an attempt to prevent many of these accidents.

The Federal Railroad Administration has said that "since it is reasonable to assume that few motorists deliberately drive into a train or in front of a locomotive, one must conclude that a key element in most accidents is a failure either to see the train or accurately to judge its arrival time." (p. 1 May '75 Report #FRA-OR&D-75-71)

In a study of 13 randomly selected cases, the National Highway Traffic Safety Administration reported that seven of the drivers reported failure to see the locomotive. (p. 1 May '75 Report #FRA-OR&D-75-71)

In addition to the large number of train-vehicle collisions, there is also a large number of fatalities from trains hitting pedestrians. These cases are typical: On April 12, 1976, a commuter train in Chicago struck and killed a woman on the tracks. The engineer was aware of the impending accident. The horn was sounding. On March 28, 1976, an Amtrak passenger train struck and killed a child standing near the track in Havre DeGrace, Maryland. The engineer was aware of the impending accident 1,400 feet from the collision. The horn was sounding. (Briefs of Accidents - National Transportation Safety Board)

In both of these cases, the train's horn did not provide enough warning to the victim. We will never know, but there is a good chance that a strobe light might have given the necessary warning.

My interest in improving Railroad safety was dramatically increased a little over a year ago, when 12 children were killed in a collision with a train in Beckemeyer, a town in my district. Whether this tragedy would have been prevented if the train had strobe lights will never be known; we know only that there is a good chance that the strobe lights would have made the difference.

Because trains at grade crossings are a relatively unexpected sight for many motorists, the FRA considers it "highly desirable that (the visual warning system on locomotives) maximize, within other constraints the degree to which the attention of motorists is drawn to the locomotive, even when preoccupied or inattentive." (May '75 Report #FRA-OR&D-75-71)

After hearing about the use of stroboscopic lights on locomotives as a safety feature, I decided to investigate the safety record of trains with such lights. When I found out that the FRA considered strobe lights to be an easy way to prevent accidents and to save lives, I wondered why the train that killed these 12 children in Beekmeyer was not equipped with strobes.

I have learned that as early as 1971, the Federal Railroad Administration published a report that gave strong support for the installation of strobe lights on train locomotives. Since then, at least two other studies from FRA have come out in strong support of strobes. A 1975 report recommended "a pair of clear xenon flash tube lights (strobes) flashing alternately, with a combined rate between 1½ and 3 flashes per second, should be mounted on the locomotive cab roof." (p. 45 May '75 Report #FRA-OR&D-75-71)

The Boston and Maine, Santa Fe, Chessie and Union Pacific lines are among those currently using strobe lights. By the end of the year, one-half of all Amtrak train locomotives will have strobes. All of these lines give enthusiastic support for strobe lights.

FRA says that "the conclusion drawn from thorough examination and evaluation of past studies is that the simplest, most practical and, potentially, most effective, active visual warning system is a combination of flashing lights (to alert the motorist) and outline lights (to inform)." (p. 19 May '75 Report #FRA-OR&D-75-71)

Not only does the FRA support the use of strobe lights, the people who are involved with the actual use of them also give their support to the use of strobes.

In a test carried out by the Bangor and Aroostook Railroad Company, in cooperation with the D.O.T.'s Transportation Systems Center, train crews were interviewed. The report said that "the flashing lights did not cause any difficulty for those walking beside the locomotive at night; in fact, the light of a small flashlight was adequate to mask out the strobe reflections effectively. The train crew reported no interference with their duties, although they noted that there was a continual awareness of the flashes." (pp. 3-2--3-5 Report #FRA-OR&D-75-54)

"During the day, the strobes were not detectable in the cab. At night, the hood, the bell and the handrails reflected highlights into the cab, but with no interference with crew duties. On looking back from the cab at night to check for hot boxes, one was very aware of the flashing light, but there was no interference with visual observations." (Ibid)

"The most annoying reflections occurred when the train passed a line of freight cars on an adjacent track; however, the crews reported and demonstrated that these reflections were effectively masked out by turning on the cab lights." (Ibid)

All of the interviewees "agreed that the strobes had no effect on climbing in or out of the cab, moving about on walkways, operating controls, reading materials, seeing out of the cab, reading wayside signals, judging speed or distance or performing other routine tasks.

None were blinded by the glare. None felt that the strobes caused them to misread instruments. None saw movements under the lights as jerky. One brakeman complained of mild headache and eye discomfort; none felt nausea. An engineer remarked that at night, with all the other lights off, the strobes annoy, but with one dome light on you don't even notice them." (Ibid)

More important are the train crew's comments on the positive effects of the strobe lights. "Crew members frequently commented to the effect that a particular car would not have stopped if they had not had the strobes. These observations are impossible to verify but are indicative of the enthusiastic acceptance of the lights by the crewmen." (p. 3-2--3-5 May '75 Report #FRA-OR&D-75-54)

"Fourteen crew members were interviewed: two conductors, six engineers, two firemen and four brakemen. All fourteen interviewees responded 'yes' to two key questions: 'Does the strobe make locomotives more noticeable at grade-crossings?' and 'Do you think the flashing strobe will cut down on the frequency of grade crossing accidents?' Twelve of the interviewees were asked to rate the acceptability of the strobes as a safety device. On a scale ranging from 'definitely desirable' to 'unacceptable,' all twelve selected 'definitely desirable.' Eleven crewmen stated that they had detected changes in driver behavior when the strobes were in use; they all noted a tendency for cars and trucks to slow down sooner and to stop farther back from the crossing than had been usual before the strobes were used. Typical comments included: 'Makes them look;' 'Definitely a plus;' 'Definitely will improve safety.' Typical of the attitude (of the crew) was the plan of the local union president to urge the company and the state D.O.T. to adopt the strobes for regular usage." (Ibid)

After learning that both the FRA and the crewmen familiar with the lights gave strong support for their use, I looked into the reasons for the FRA's hesitancy to require their use.

There was some concern that the use of strobes could cause epileptic seizures. I have contacted three of the nation's leading experts in the field of epilepsy to find out whether this would be a problem. Dr. Francis M. Forster, Chairman of the Department of Neurology at the University of Wisconsin Medical School, Dr. Reginald Bickford, Professor of Neurosciences at the University of California at San Diego and Dr. J. Kiffin Penry, Chief of the Epilepsy Branch of the National Institute of Neurological and Communicative Disorders and Stroke, all said that if the strobes are held to three cycles per second, they would not be dangerous to epileptics. They said that some epileptics are affected by strobe lights, but 16 cycles per second is generally the most dangerous rate. Dr. Penry said that anyone who might be affected by a strobe flashing at three cycles per second would be so sick that he should be at home in bed and not driving a car.

The FRA has not reported any case where an epileptic seizure has been caused by a strobe light on a train.

There was some concern that the strobes would adversely affect crewmen during fog. An FRA report said, however, that "Crews have reported no adverse effects, even when operating in fog or blowing snow." (p. 36 May '75 Report #FRA-OR&D-75-71)

There was also the concern that strobe lights would blind motorists traveling at night along roads running parallel to the tracks. However, the flashing lights on snow removal equipment is brighter than the strobes that would be used on locomotives.

A final concern about strobe lights is that they might not be reliable. Unreliable equipment is worse than no equipment at all, because people learn to depend on it. If people learned to assume that they would see a strobe light wherever there was a train, they would not even look for a train if they did not see a strobe. Fortunately, this concern would be unjustified if all trains were equipped with strobes because strobe lights are very reliable. Reports say: "Lifetimes of thousands of hours have routinely been obtained; empirically, xenon strobes have shown very good durability in related applications." (p. 32 Feb. '77 Report #FRA-OR&D-77-07 and p. 29 FRA-OR&D-75-71, respectively)

I also want to give my strong support to other recommended safety devices, such as outline lights for locomotives, a conspicuous paint scheme using reflective paints and flashing lights for currently unprotected grade crossings. I have singled out strobe lights for immediate action because they have proved to be effective, reliable, easy to install and inexpensive. The tests are conclusive on strobe lights.

Installation of strobe lights would cost about \$200 per locomotive. Labor costs would add a good deal less than \$250 per locomotive. The FRA found in 1975, "The annual expense associated with these devices, including both maintenance and amortization is estimated to be approximately \$50.00. Conservative estimates of system effectiveness yield a potential benefit-cost ratio greater than 10." (pp 31 & viii May '75 Report #FRA-OR&D-75-71)

The simple strobe light system might not be the best possible way to improve train safety. As the 1975 FRA report stated, however, "substantial further behavioral studies and tests would be necessary to establish the benefits (of other, perhaps better systems) and most would entail significantly higher costs." (p. 34 May '75 Report #FRA-OR&D-75-71)

Further studies might find a slightly better safety device. They might tell us how many lives can be saved by each different type of device. Nevertheless, studies take time--and results would be measured in lives lost. We know that strobe lights will save many lives, and we know that they are cost effective. Because there will be over 1,000 people killed by trains this year, we must act now. We have all of the information that we need; waiting for further studies is a luxury that we cannot afford.

PAUL SIMON

54th District, Illinois

COMMITTEES

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COMMISSION ON SECURITY AND  
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Congress of the United States  
House of Representatives  
Washington, D.C. 20515

June 3, 1977

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Mr. Bruce Flohr  
Acting Deputy Administrator  
Federal Railroad Administration  
400 Seventh Street, S. W.  
Washington, D. C. 20590

Dear Mr. Flohr:

The time has come for the FRA to require strobe lights on the locomotives of all trains in this country. To delay that action will unnecessarily cost many lives.

In the past three years alone, more than 3000 people in the U. S. have been killed at railroad highway crossings. Numerous studies show that the number of these accidents could be decreased significantly if all locomotives were equipped with an effective attention-getting device. The studies also show that the most effective of these devices is the strobe light.

For nearly 10 years, the FRA and DOT have been looking at this problem. There have been over 14 studies completed dealing with increasing the visual conspicuity of locomotives. Several of these studies center specifically on the use of strobe lights to increase visibility of locomotives approaching railroad highway crossings.

A detailed study, completed for your agency in May, 1971, "The Visibility and Audibility of Trains Approaching Rail-Highway Grade Crossings," came out strongly for the use of strobe lights on trains.

Since then, the Chessie System, Union Pacific, Boston & Maine and the Santa Fe have been involved in an actual use demonstration of strobe lights on trains. The results have been positive.

Since August, 1975, Amtrak has installed strobe lights on all new factory-built locomotives at a cost of over \$1000 per locomotive. By December of this year, Amtrak will have roughly one-half of their locomotive fleet equipped with strobe lights.

Engineers on both the Amtrak and Chessie System have reported positive reaction to locomotives equipped with strobe lights. They report that they feel much

more confident of being seen and that drivers do not contemplate pulling out across the crossing when they see this light.

According to the data from Amtrak, even at \$1000 per locomotive, these lights have been cost effective in preventing accidents.

The possibility that these lights could trigger epileptic seizures, a possibility that has slowed their greater use, should no longer be used as a basis for delay. Strobe lights are used extensively at airports, and studies completed for the FAA have shown no problems with low speed flashing strobes. Dr. Francis Forster of the University of Wisconsin, Department of Neurology and Dr. R. Bickford of San Diego Medical School--both leading neurosurgeons in the field of reflex epilepsy (epilepsy triggered by photosensitive means)--have done extensive work for the National Epilepsy Foundation. These two leading authorities are in complete agreement that as long as the strobe light flash is not faster than three per second, there is no significant danger of triggering seizures. Both agree the benefits of having strobe lights on locomotives would far exceed the possible problems.

It is always possible to raise more questions which additional studies might answer. But, at some point, further delay becomes unreasonable.

Given the data that FRA has now compiled, and considering the experience that Amtrak and other railroads have gained in this field, there is no justification for the lives that will be lost while action is delayed.

We strongly urge that you promptly issue the necessary regulations to equip all locomotives with strobe lights.

We look forward to your early response.

Cordially,

Alvin Baldus, M.C. Paul Sison, M.C.

Paul Findley, M.C. Herman Badillo, M.C. Marilyn Lloyd, M.C.

Farren Mitchell, M.C. Robert Nix, M.C. Richard L. Ottinger, M.C.

Lazar Gudger, M.C. Cliff Edwards, M.C. Nick Rahafi, M.C.

Fortney Stark, M.C. Bruce Vento, M.C. Abner Mikva, M.C.

Mr. ROONEY. Thank you Governor Simon.

With regard to the strobe lights, I note that the 1974 annual report to the Congress on the administration of the FRA Act of 1970 makes the following statement:

"Locomotives Visibility Improvements: New high intensity strobe lights are being evaluated in cooperation with the Santa Fe, Bangor, and Aroostook, and the Boston and Maine Railroads. Train crew acceptance, maintenance, durability, and conspicuity are being studied by the railroads. High-intensity strobe lights, mounted in pairs on locomotives have shown to be very effective in the enhancement of train visibility at grade crossings. Crew acceptance of these high intensity lights has been very good and maintenance appears to be low. If driver awareness tests are satisfactory and cost-benefit ratios are advantageous, promotional efforts will be made to incorporate this means of accident prevention."

As a consequence, Governor, I intend to question FRA as to the reasons why promotional efforts for strobe lights were not made. I commend you for your interest not only in safety but your deep concern about this very vital piece of equipment that will cut down the tremendous number of train accidents that have been occurring in recent years.

Mr. FLORIO. I would just like to echo the chairman's comments with regard to the helpfulness of your statement and your continuing interest in the whole question of safety and railroads in general.

Thank you.

Mr. SIMON. Thank you.

Let me just suggest one thing. I was not aware of that statement and I am pleased to hear of that. But I think we ought to ask of the FRA more than just promotional efforts. I think they ought to have a regulation requiring this of the trains. When you are talking about the evidence of their own studies, it shows that strobe lights pay off. We are not talking about great costs to the companies. There ought to be more than a pat on the back. There ought to be some muscle behind our efforts, I hope that we will push in that direction, and if the FRA will issue a regulation, we won't need a law. But if they don't do it by regulation, then I would like to have an amendment on a bill and have something in the law.

Mr. ROONEY. One final question.

What do strobe lights cost, and what does it cost to have them installed?

Mr. SIMON. The light costs \$250 plus approximately \$250 for labor. The labor generally is already working for the railroad. But assuming they would have to put in the facilities, it is \$500. Their studies show that it has an unusually long life span, and the FRA studies, and I am not an expert in strobe lights but I assume their figures are accurate, say you can amortize it out. So maintenance and replacement runs about \$50 per year per locomotive. You are talking about a very small cost that is unequivocally going to save lives.

Mr. ROONEY. Thank you very much, Governor.

Mr. SIMON. Thank you.

Mr. ROONEY. Our next witness is our distinguished colleague from the great State of New Jersey, Mr. Edward J. Patten. It was in

Congressman Patten's congressional district that the Metuchen train accident occurred. We very much appreciate your interest in this subject, and your appearance before this subcommittee today.

**STATEMENT OF HON. EDWARD J. PATTEN, A REPRESENTATIVE IN CONGRESS, FROM THE STATE OF NEW JERSEY**

Mr. PATTEN. Thank you, Mr. Chairman.

Mr. ROONEY. I am sure you don't need a microphone.

Mr. PATTEN. My good colleague, you know, all through the war, within 50 feet of my house, went all this ammunition that won World War II. I would be in bed and the railroad train would shake my house, and every time I heard those cars buckle, I said "Hail, Mary." I figured this is it. They told me what was in those cars would blow Perth Amboy and New Brunswick off the map. But that went right on. We delivered the goods and we helped win the war.

One of the problems in the Metuchen, N.J. derailment of June 22, 1977, as I talk to local, county, and State officials, was that nobody knew exactly where to go, or what to do. You start with somebody locally who thought we ought to evacuate the town. There was no precise system.

I've seen thousands of carloads of chlorine over the years. There are 500,000 working in the chemical industry. We have a tremendous record for carrying chemicals, explosives and everything else in trucks and on the railroads. There are millions of gas tanks in all the towns around the world. We have many gasoline tanks in our area.

Mr. Chairman, we have a fine record with all the gas and oil we handle. We have a good record for the containers as such.

This latest report to Congress by the National Transportation Safety Board revealed that in 1976 train accidents increased again from 8,041 in 1975 to 10,450, up almost 30 percent. This dangerous and disturbing trend must be reversed.

On June 22 of this year, 17 freight cars were derailed in Metuchen, New Jersey, including several which contained hazardous materials like chlorine gas. It was a miracle that no person was injured or killed.

I am submitting a 4-page statement for the record.

Mr. ROONEY. Without objection [see p. 81].

Mr. PATTEN. This includes three recommendations:

(1) Have all land and rail carriers give 24 hours advance notice when hazardous cargoes go through the State.

Yesterday I introduced a bill which would do this.

(2) Improve the design of tank cars and make them stronger so they will be more resistant to punctures.

(3) Have the United States Department of Transportation expedite the promulgation of regulation for transporting hazardous materials. The delay is disturbing.

I want to tell you something. This is my fourth point. I spoke to Mr. Florio about this. I do think, with all the money we are spending on Civil Defense in the State, that when they have something we don't know about, say a tank of chlorine gas, there ought to be some clearance.

I thought this was done, because we are in business as far as moving chemicals. I am not afraid of hydrochloric acid or anything. That is how we make our living. We don't want to hurt our industries. I do think though there ought to be some coordination so those who don't know will know whom to contact. I thought Civil Defense had this set up already. I was surprised at the lack of complete coordination.

I have a few other things, Mr. Chairman, that I would like put in the record along with my regular remarks and pictures.

Mr. ROONEY. Without objection. I don't think we can put the pictures in the record.

Mr. PATTEN. It is just as well.

[Discussion off the record.]

[Congressman Patton's prepared statement and attachments follow:]

**STATEMENT OF HON. EDWARD J. PATTEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY**

Mr. Chairman and Members of the Transportation and Commerce Subcommittee, I'm appearing here today with the hope and conviction that these hearings will result in a rail system which will be safer for both passenger and freight service.

I'm very concerned about the serious increase in railroad accidents in this country and strongly feel that it's the responsibility of Congress to help make certain that this disturbing and dangerous trend is reversed.

It's no exaggeration to use the words "disturbing and dangerous."

On Page 28 of its 1976 Report to Congress, the National Transportation Safety Board (NTSB) reported that in 1976, "the number of train accidents increased again, rising from 8,041 in 1975 to 10,450 (up almost 30%). In addition, the accident rate per million train miles rose from 10.6 in 1975 to 13.3 in 1976 (over 25% higher).

Statistics and reports seldom make a strong human impact, and that's unfortunate at times, because they do involve people. However, when an accident takes place in your community, statistics and reports suddenly have more significance and the impact is really felt.

On June 22nd, 1977, a serious derailment occurred in Metuchen, N.J., which is part of the congressional district I represent. Seventeen freight cars were derailed, including several which contained hazardous materials. One of the freight cars landed on the street below and it was a miracle that no persons were injured or killed in the accident.

According to press reports, the unofficial cause of the accident was a broken axle "brought on by the leaking of lubricating oil from a journal box on one of the axles of the tank car, causing the axle to heat up and break." Until the investigation is completed, we will not know the official cause, but will be in a better position <sup>later</sup> to make recommendations to help prevent future accidents. We were very lucky on June 22nd, even though damage was extensive and thousands of commuters also suffered. How long will that luck last? Next time, lives could be lost.

One of the tank cars derailed in Metuchen contained chlorine gas and although the exterior was dented, there was no puncture. However, the potential danger was there and consideration was given to order an evacuation of the immediate area. Fortunately, that order was not issued, but it was "a close call." Other hazardous materials were also involved.

Mr. Chairman, I strongly believe that action should be taken now before a catastrophe occurs. Congress has the legal and moral right to expect and demand the nation's passenger and freight systems to be the safest in the world.

The interest and concern of Congress was shown last year when \$2.1 billion was appropriated for ConRail, and \$1.6 billion for Amtrak for reconstruction of the Northeast Corridor, including an estimated \$279.5 million to improve New Jersey's rail system. Even this substantial amount will not really be sufficient to solve the serious problems of our railroads, but it would help.

Yet, despite this relatively modest amount, I was disappointed to read in the Home News, of New Brunswick, N.J., of July 8, 1977, that, "... major deletions will be made" in the amount funded to rebuild the Northeast Corridor by U.S. Transportation Secretary Brock Adams. I hope these deletions are not made, because the improvements are necessary.

The Home News article, a copy of which I am submitting with my statement, pointed out, "This represents a major downgrading of the entire system, according to several observers ..." Mr. Chairman, the rail system needs to be upgraded, not downgraded, and if more funds are needed, Congress should provide them. As a Member of the House Appropriations Committee, I will support increased funding, for the safety of the people must be paramount.

A solution must be found for the mounting accident rate, which concerns not only me but many of my colleagues and millions of Americans as well. I recommend that the following steps be taken to help find a solution:

. Enactment of a bill I introduced yesterday which would require all land and rail carriers to give states 24 hours advance notice when hazardous cargoes are scheduled to go through a state. This would enable such vital groups as the Department of Transportation, the Department of Environmental Protection, the Department of Health, and various local organizations such as fire, police and health personnel, to be in a better position to cope with potential accidents with greater coordination. Presently, a state is not informed when hazardous materials like chlorine gas are scheduled to go through a state. In New Jersey, when the Metuchen accident occurred, the state was informed only after leaks or spillages took place. This system must be changed and improved.

. The U.S. Dept. of Transportation should expedite promulgation of regulations for transportation of hazardous materials - regulations required by the Federal Railroad Safety Authorization Act of 1976.

. Firms which design tank cars, should take whatever practical steps are necessary to have them built stronger and more resistant to punctures. It's my understanding that tank cars now constructed are strong and generally have a good record. One can never be certain, though, because on July 12, 1977,

in Rockwood, Tennessee, a tank truck crash released lethal gas, causing over 5,000 persons to be evacuated. The news article from the Washington Star of July 13, 1977, is accompanying this statement and contains details.

Mr. Chairman, I'm a realist and know that there are no panaceas for problems in this world. Plenty of hard work will be required before real solutions will be found. I believe we will find them, though, if there is good cooperation between industry, government, and the public. There have been rail and truck accidents in the past and they will occur in the future, but we can learn from past mistakes and help prevent some accidents and improve safety.

Because of the continued increase in the accident rate, the American people expect Congress to take strong and responsible action, and to show vigorous leadership in this area. I believe we will succeed, because we must succeed. Not only are the lives of people involved, but employment, property, and indeed our pride as a Nation dedicated to the best in everything that is right and good.

I am also including for the record articles and photos of the Metuchen, New Jersey rail accident from the Home News of June 23rd and the 24th. Thank you.

# Commuters derailed by wreck

By GEORGE DAWSON  
and RUDY LARINI  
Home News staff writers

**METUCHEN**—Rail officials are probing the cause through central New Jersey will not be restored until late

Released photos on page 23 tonight as a result of last night's freight train derailment here.

Joseph Harvey, a ConRail spokesman in Philadelphia, said that travelers are being advised to seek alternative service until through the evening rush hour.

ConRail is operating shuttle buses

Continued from page one

the path this morning, routing traffic northbound by way of Hilly Street. Last night, however, the force of the impact was so great that one post office remained open, however, and some poststations were being allowed through.

ConRail spokesmen said they still lack an official explanation for the cause of the crash, although railroad men at the scene said they thought the crash was caused by a broken axle on the fifth car.

The derailed car, which was tilted beneath the car, a hopper car, five feet behind it, plowed into one another, tearing the tracks and ripping down overhead power lines.

At one point between the Main Street overpass and the railroad station, the cars were piled three high. The bottom car, the tank car loaded with caustic soda, ruptured and spilled some of its contents down the tracks.

Neither of the other two tank cars ruptured. A DuPont representative was called to the scene to supervise the handling of the fuel component product.

from downtown New Brunswick and the Metropark station in Woodbridge to Jersey City. The latter can still be taken to Jersey City.

Amtrak service between New York and Philadelphia has been canceled for the duration of the difficulty.

Metro-North service has also been stopped, although Amtrak is continuing to run through trains from Florida and the Midwest by way of Jantetong and South Amboy.

The derailed freight train, which consisted of 17 cars, was traveling northbound from the borough train station on Main Street. One of the cars derailed to the street below.

ConRail officials said the freight train, which was enroute from Philadelphia, N.Y., to New York City, was traveling about 20 miles an hour and in the process of changing from one track to another when the derailment occurred.

Est Geyer was dispatching cars at the Independent Tard Co. on Pennsylvania Avenue in front of the railroad station when she saw the freight train derailed.

"The next thing I knew there was this cloud of smoke," she said, describing how the hopper overturned and dumped its white, powdery contents on the track.

"It was something to see. I'll tell you, my Geyer yelled, repeating what she called the thinking the smoke might be poisonous.

The dispatcher said she had just sent a new car driver, who started only three seconds ago, to take the cars to him under the Main Street railroad overpass only moments before the crash occurred.

"He just went under that bridge when the hopper came down," Mrs. Geyer said. The cable told her later.

Neither the train's crew nor any bystanders were injured, although the nearby Independent Tard Co. said the freight train had derailed a passing car.

The derailed freight train was carrying tank cars containing potentially hazardous chemicals, including one with liquid chlorine. Local police, however, said they believed there was no danger to local residents and to homes or businesses had been evacuated.

Officials on the scene said the derailed freight car would be repaired. "The tank car would be repaired," ConRail spokesman said. The other two tank cars contained a chemical described as a "DuPont material and antichlor compound" and a chemical described as potash. The

"He said the car derailed," she said, and after a pause added, "he wouldn't be here now."

Removing the toppled hopper, which lay on Main Street with one end leaning up against the overpass, could present the biggest problem for the railroad crews.

A small ConRail crane truck arrived at the railroad station about three hours after the derailment and was used shortly thereafter by a wreck train with a derrick-like crane mounted on a derrick.

It was not until well after 11 a.m. this morning that the two wrecking cars had been ordered to lift the car and transfer onto a set of train wheels to be pulled away.

Like most of the damaged cars behind it, the tank car was to be taken to ConRail's Westbury Yard outside Newark, according to a ConRail spokesman.

Although one of the wrecked cars came to rest within six feet of the rambunctious Metuchen station, the building itself was not damaged. Wheels, tracks, twisted metal and other debris were strewn about the

chemical had been incorrectly described last night as sodium hydroxide, or caustic soda. Potash, a chemical used in the manufacture of soap, is also

A fourth chemical, appearing as a fine white dust, spilled from two hopper cars to the derailment and covered part of the track.

ConRail officials on the scene said this product was silica, or "hydrochloric acid," and posed on hazmat to residents.

Police had roped off the scene from the railroad plaza area on the north side of the tracks to Ambly Avenue on

See TRAIN, page 24

station because, led by early morning workers, had had about 100 workers up to the broken track while other maintenance workers brought in from around the state assisted in the mammoth task of clearing the wrecked freight cars from the tracks.

The job was complicated by the nature of overturned powerlines, which hindered the mobility of the crane. All workers had to be removed immediately after the crash and diesel locomotives were being used to clear the wreckage.

By early this morning, ConRail officials had yet to identify the four crewmen on the derailed freight train. Police said the crew had taken the wrecked freight cars away from the scene.

ConRail officials said no estimate of the amount of damage would be available until the contents of the derailed cars could be examined.

Most were filled and several of the tank cars carried an inspection board known as a "hot box."

Railroad officials also believed the Main Street overpass would have to be examined for structural damage before freight trains could resume crossing it. Part of the overpass's concrete abutment was cracked by the derailed hopper cars.

FRIDAY, JUNE 24, 1977

# Rail commuters remain in a jam

By GEORGE DAWSON  
Home News staff writer

**METUCHEN** — Train service through this busy commuter town still had not returned to normal today in the wake of a spectacular 17-car freight

More photos of derailment scene on page 21

derailment Wednesday night. Two tracks were open during the morning rush.

All four tracks were expected to be back in service later today, but initially, only two were available, one to New York, the other to Philadelphia.

ConRail and Antrak crews worked at a rapid pace throughout yesterday to remove most of the wreckage — including tank cars containing hazardous cargoes of chlorine, a lead fuel additive compound, and potassium hydroxide. The first trains moved through at 3 p.m.

Full commuter service for all New Jersey stops but Metuchen, normally the busiest on the line, was restored at 4:55 p.m., although the trains were running late and crowded.

Shuttle buses from Metuchen to the Metropark station in Woodbridge, which was in full use, were provided by ConRail until the Metuchen station reopened.

The train wreck, which one resident called the most exciting thing to happen locally since the St. Louis Cardinals came to town for an exhibition baseball game in 1938, brought out a certain spirit of festivity, in spite of the elements of disaster.

Crowds thronged the streets during the day, bringing local business owners an unexpected bonanza. The Cottage Restaurant on Main Street said it served 400 meals and 40 gallons of ice cream.

Police, however, kept the onlookers well back from the wreck site, and moved them several blocks further away when the repair crews began the sensitive task of rerailing the tank car containing pressurized chlorine gas.

An emergency hazard-control team from the Diamond Shamrock Co., owners of the chlorine and several other cargoes, were on hand through the day to supervise the movement and ultimate removal of the tank car.

The DuPont Co., owners of the lead fuel compound cargo, bound for Bayway Refinery, was also represented with hazard specialists on the scene. The cargo, identified only as "antiknock compound, lead," was presumed by local officials to be tetraethyl lead, an extremely toxic compound.

Half of a 16,000-gallon cargo of liquid potassium hydroxide solution, also owned by Diamond Shamrock, was lost through the shearing of a valve in the pipcup.

Firemen of the Metuchen Volunteer Fire Co., on the scene for 21 hours, watered down the potassium hydroxide flow, already 50 per cent diluted, and directed it into the borough storm drains.

Michael Pettio, an emergency response officer from the nearby federal Environmental Protection Agency laboratories in Edison, said that acid from decaying leaves in the storm basins would have a further buffering effect, on the solution, a caustic product used in the manufacture of soap, and that the discharge poses no risk to downstream waterways.

The storm drains in that section flow north, toward Dismal Swamp in South Plainfield.

Metuchen Fire Chief James Wallace, among the first on the scene, said that fire-company members had had prior training in the handling of hazardous materials and had a good understanding of what to do.

He said that for a time he and other emergency rescue personnel present had talked of the possibility of evacuating nearby residences, but decided it was not necessary. Frank Pennington said that arrangements had been made to house evacuees at Middlesex County College, should such a move had in fact been undertaken.

ConRail spokesmen last night said they still have no official explanation for the accident, which caused more damage to the freight cars than to the track.

Pettio said, however, that he had been told the accident had been brought on by the leaking of lubricating oil from a journal box on one of the axles of the tank car containing the lead compound, causing the axle to heat up and break. The tank, among the last on the 67-car freight train, then suddenly dropped to the track, piling up 15 other cars behind it.

ConRail said the train was traveling at about 27 miles per hour, moving north from Virginia to New York.

An investigator from the National Transportation Safety Board, working out of New York, was also on the scene.

A box car, fifth in line behind the first tank car, lunged forward in the pipcup, landing on top of the tanker carrying the potassium hydroxide (also called potash.) This tanker turned over and started to leak.

A box car two cars further back tumbled, from the overpass crossing Main Street onto the street below. No traffic was passing at the time, although a dispatcher at the nearby Metuchen Taxi terminal said one of its cabs had passed moments before.

The tank car containing the chlorine, just ahead of the car with the potash cargo, was jolted off its track, but remained upright.

Two hopper cars, positioned between the chlorine car and first tank car, were also derailed, spilling cargoes of prilline, white silica and polyvinyl chloride beads onto the track.

Pettio said there was no air pollution hazard in either of these spills. One observer said the white sandy material made Metuchen look "like Miami Beach."

Most of the stores on Main Street were closed when the 8:30 p.m. accident occurred, and there was little downtown traffic.

Donald Mirman, a pharmacist at the Boy's Drug Store a block from the scene, said he heard a noise "like thunder," but thought little of it. He went outside a few minutes later, however, and saw a fire truck and several police cars rushing up.

Donna Garrett, who was working at Roberto's Pizza restaurant, closer to the tracks, said she heard a noise like "two trains passing, only louder." Then the windows started vibrating, and an upstairs boarder came down to say there had been a train wreck.

The police came by a few minutes later, she said, and told her to close up and leave the store.

The desk officer at police headquarters said that residents had flooded the switchboard with calls almost as soon as the wreck occurred. He logged the first call at 8:21 p.m., and sounded the fire alarm.

Chief Wallace said that a few firemen were in the station when the alarm went off, and the first truck was at the scene "within moments."

Wallace said he arrived shortly afterward, and began going over the cargo wrecks on each car with the train conductor. He said he realized he was faced with a potentially hazardous situation almost immediately, and took steps to control it.

FRIDAY, JULY 8, 1977

## Rail repair allocation falls short

By HOWARD ABRAMSON  
New Jersey News Service

WASHINGTON — The \$1.75 billion Congress appropriated to rebuild the Northeast Corridor railroad system isn't enough to pay for all the planned and promised improvements, according to Transportation Secretary Brock Adams.

Adams, in a brief interview this week, said the Department of Transportation (DOT) will meet the minimum mandates of the legislation which authorized the project, but that major deletions will be made.

The first things to go will apparently be the planned reconstruction of 15 passenger terminals between Boston and Washington, safety fencing along the route, as well as the massive program to repair and replace bridges and tunnels.

The proposed new electrification and signal systems will also apparently be replaced by cheaper versions.

Three New Jersey terminals would be affected. DOT had planned a \$22.5-million rebuilding of Newark station, a \$21-million renovation in Truston and a new \$14.5-million station at Metropark in Iselin.

This represents a major downgrading of the entire system, according to several observers, and follows a recent report that Adams has decided to remake every major decision affecting the corridor.

Adams this week said he decided to review all the previous plans "because there's not enough money to go around." He said he asked his DOT staff to draw up "working papers" presenting the various options on each project, with a cost breakdown for each alternative.

Cutting out the stations and fencing would save DOT some \$265 million of the \$1.75 billion, and would save the eight states and the District of Columbia \$150 million in matching money.

But, based on previous local interest in rebuilding the decaying passenger terminals, deleting that work may lead to loud protests.

Meanwhile, Adams said "We'll get those times in" as specified in the legislation which was enacted in early 1976. After the money is spent by early 1981, travel time between Boston and New York is to be three hours and 40 minutes; New York-to-Washington is to take two hours and 40 minutes.

Adams said "We'll get the roadbed in shape" by installing new rail and ties, and making all related safety improvements.

"And I think we'll get the electrification done," he said. This leaves the \$945 million bridge improvement program, \$36 million for tunnel work, \$130 million in service facilities, as well as the station work and fencing.

In late 1973, Congress agreed to provide \$2.4 billion for the Northeast Corridor reconstruction, but pared it down to avoid a threatened veto by then-President Ford.

The final package provided \$1.6 billion for the road work, with another \$150 million for terminal repairs and fencing, with the states required to match that money.

Adams said he has been disappointed with the states' response, and that only Massachusetts had agreed to provide the matching money.

He said he will make the final decisions on what will and won't get built "this summer" and pledged to avoid delaying the work by his review of all the alternatives.

Asked if he expected to go back to Congress for more money and a decision on any work that can't be paid for now, Adams said, "Sure. I think that's the way it's supposed to work."

In all, \$279.5 million was to have been spent rebuilding New Jersey's share of the Northeast Corridor, including the state's matching money.

An earlier DOT cost breakdown shows the value of the projects in New Jersey Adams is apparently about to scrap is more than \$113 million.

Deleted projects would include \$41.4 million in bridge reconstruction; \$3 million in service facilities; \$54 million in terminal work; and \$12.3 million for the safety fencing.

# Tank Truck Crash Releases Lethal Gas; Town Evacuated

By Matt Yancey  
Associated Press

ROCKWOOD, Tenn. — Officials said they hoped the 5,259 evacuated residents of this steel mill town could return home today as the danger declined from the spill of 900 gallons of potentially deadly chemical from a wrecked tank truck.

As crews turned the truck upright today, it sprang a small new leak of liquid bromine, but officials said residents should be able to return after the truck is removed and state air quality officials take samples to make sure the area was safe.

National Guardsmen finished evacuating the last of Rockwood's residents early this morning, including 55 patients in a hospital. Some 1,500 people had refused to move and had to be forcibly evacuated.

**OFFICIALS SAID** most of the noxious fumes spilled in the crash — which killed the driver — had been dispersed by morning breezes and that there should be no toxic residue in the town.

"I can't overemphasize the danger involved in breathing this chemical," said Col. Russell Newman of the National Guard, when the fumes were at their strongest. Forty persons were treated at area hospitals and released following the spill yesterday.

The new leak developed in the damaged portion of the truck's 30-foot-long tank as it was being placed on another trailer to be taken to a more remote area of the county, Newman said.

"It's just coming out in droplets now," he said. "We're applying ammonia to the leaking bromine to neutralize the chemical."

W. A. Barnes, national sales manager for Dow Chemical Co., which owns the tanker, said it would be

moved to an isolated area at the Rockwood airport, sealed, and the remaining liquid bromine would be transferred to another truck.

**BARNES SAID** the original leak was through a valve sheared off in the wreck. He said the truck's tank had been bent into the shape of a banana but did not rupture in the crash.

"Once we've got it over there and we have all the safeties on it, I'd say you could bring the town back," Barnes said.

Steve Webster, a Civil Defense officer from Knoxville who helped coordinate the evacuation, said the "bromine can be fatal when it vaporizes, and it vaporizes under normal atmospheric conditions. The liquid will burn and the vapor can kill you."

By early morning, Civil Defense officials said, the gas was rising to the upper atmosphere and dispersing. The cloud that had covered the entire town late yesterday diminished during the night into several small pockets.

**THE TRUCK** crashed yesterday afternoon during a thunderstorm on Interstate 40 overlooking the town. Its driver, Sue Simms Thompson, 43, was killed. Her husband, Robert, 42, was in the intensive care unit at a Knoxville hospital suffering from acute respiratory problems as a result of inhaling the fumes.

The truck was bound from a Dow Chemical Co. plant in Magnolia, Ark., to the Hexcel Corp. in Sayerville, N.J.

Barnes said the bromine was being transported in liquid form but vaporized when it escaped into the air.

"One part in a million is noxious," Barnes said. "You can smell it at a concentration much less than that. Usually, if you can smell it, you could get out of an area before it affected you."

Mr. ROONEY. Thank you very much, Mr. Patten. We certainly do appreciate your comments, and the suggestions you have made to prevent the recurrence of an accident that happened in your congressional district in Metuchen, New Jersey. I do appreciate very much your interest and the very significant contributions you have made to this committee during the past 6 weeks.

I recognize the gentleman from New Jersey, Mr. Florio.

Mr. FLORIO. I would just like to thank the Congressman and his office for providing me with assistance to obtain information at the time of this accident. Obviously you and your staff are on top of the situation and helped me in coming to some conclusions that we needed to make a determination to have these hearings.

Of course the Congressman is a very active proponent and advocate for the industries in his district, and, of course they rely upon railroads to a great extent. So you are to be commended for the active part you have played in making these hearings come to pass, and hopefully something will come out of it that will protect, to a great extent, the residents of your congressional district.

Thank you.

Mr. ROONEY. Thank you, Mr. Patten. We appreciate your appearance and statement.

Mr. PATTEN. Thank you.

Mr. ROONEY. Without objection, the chair wishes to place in the record, as though read, statements submitted by Congressmen Mark Andrews of North Dakota, Abner J. Mikva of Illinois, and Alvin Baldus of Wisconsin.

#### STATEMENT OF HON. MARK ANDREWS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH DAKOTA

Mr. ANDREWS. Mr. Chairman, it is a pleasure to present this statement in support of H.R. 8017, a bill that amends the Federal Railway Safety Act to require strobe lights on railroad locomotives. I feel this is good and necessary legislation and I commend my colleague, the Honorable Paul Simon of Illinois, for his leadership towards achieving this necessary safety improvement.

In my native State of North Dakota we have over 5,600 unguarded railroad crossings. Many of these are in sparsely populated areas or on rural roads which have low traffic density. Our farmers and ranchers use these rural roads to check on the crops, move machinery, transport to grain market, and for a host of other reasons. Quite understandably, in the course of their busy day, they sometimes do not check for trains as carefully as they might. During summer, vegetation makes it difficult to see an approaching locomotive. Mr. Chairman, in 1976 we had 86 North Dakota railroad crossing accidents which resulted in 13 deaths and 27 injuries. As we move increased coal tonnage through our State to midwestern and eastern markets, this tragic loss of life and property damage will surely grow.

I am convinced that the strobe light would significantly reduce these accidents. Studies show this. On several occasions Amtrack trains with their strobe lights have approached as I was about to make a crossing. I have found the strobe light to be a most effective warning device.

Mr. Chairman, I am grateful for the opportunity to present this statement and I deeply appreciate your efforts on behalf of improved railroad crossing safety.

**STATEMENT OF HON. ABNER J. MIKVA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS**

Mr. MIKVA. Mr. Chairman, I would like to express my support for H.R. 8017, a bill introduced by Congressman Paul Simon, to require the installation and use of stroboscopic lights on all train locomotives.

Train-vehicle collisions occur approximately 12,000 times each year. Fatalities resulting from these collisions exceed 1,000 every year, and countless more suffer disabling injuries. Moreover, a large number of fatalities result from trains hitting pedestrians.

I strongly support the installation of both flashing lights and outline lights on trains to draw the attention of the motorist or pedestrian. Congressman Simon's bill is a significant first step in reducing the number of accidents involving trains. Stroboscopic lights substantially help to attract the attention of drivers, bicyclists, and pedestrians. This relatively small improvement will drastically reduce the number of accidents—possibly by 40 to 60 percent.

Six years ago a Federal Railroad Administration publication favored the installation of strobe lights. Those railroads which have installed the lights support their safety benefits. Many train crewmen have enthusiastically reported significant changes in driver behavior, including quicker slowdowns and stops.

Funds for installing the strobe lights would come out of the Highway Trust Fund. It is entirely appropriate that the fund be used as a source for this program. Safe highways are as important a goal as more highways. Unfortunately, the latter goal is often more visible.

As important as this bill is for increasing safe travel, I think the Highway Trust Fund should also fund railroad grade crossing improvements at a more substantial level. There are approximately 220,000 public grade crossings, and only 1,000-1,200 safety improvements are made per year. This is a wholly inadequate effort. In light of the large number of accidents and the resulting deaths and injuries, the rate of improvements must be intensified.

I urge this subcommittee to take prompt and favorable action on H.R. 8017, as the first step of a comprehensive effort to improve rail-auto safety.

Thank you, Mr. Chairman.

**STATEMENT OF HON. ALVIN BALDUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN**

Mr. BALDUS. Mr. Chairman: Thank you for providing me the opportunity comment on the need for strobe lights on train locomotives.

We've all read and heard about train/vehicle accidents and train/passenger accidents. In 1976, there were approximately 12,000

collisions. Of those collisions, 1,126 occurred at grade crossings and were fatal. Repeated studies have shown that many of these accidents could have been prevented if an effective attention getting device, such as a strobe light, was in use. Six years ago the Federal Railroad Administration recommended the installation of strobe lights on all train locomotives, and yet the FRA has failed to make this mandatory. I have urged FRA officials to implement this requirement, but my words and those of other Congressman have gone unheeded.

While there are several ways a train can warn of its approach, either by way of a horn or lights, a report in 1971 on The Visibility and Audibility of Trains Approaching Rail-Highway Grade Crossings concluded that the simplest, most practical and potentially most effective active visual warning system is a combination of flashing lights and outline lights.

The Chessie System, Union Pacific, Boston & Maine and the Santa Fe Railroads have in recent years taken the initiative to install strobe lights on their locomotives. In interviews conducted among the crew members operating strobe-equipped trains, all responded positively when asked whether the strobe makes the locomotives more noticeable at grade crossings and whether the flashing strobe will reduce the frequency of grade crossing accidents. The crew members stated that the flashing strobe was not a distraction, nor did it interfere with the performance of their duties. All felt the flashing strobe was a definite improvement.

The basic cost for installing the strobe has been placed at approximately \$500, including hardware and labor. Annual maintenance should be approximately \$50. I believe that this is a small price to pay to reduce the number of fatal railway collisions. Further study is not needed. What is needed is prompt action by Congress.

Thank you, Mr. Chairman.

Mr. ROONEY. Our next witness is the Administrator of the Federal Railroad Administration, Mr. John Sullivan. He has only recently taken over the job. I know of no one who has traveled the corridor in the past 6 months as often as Jack Sullivan has from Jenkintown, Pennsylvania to Washington.

I know that this is your first appearance before the committee. Let me tell you, I know of no one in government today, Mr. Sullivan, that has more responsibility for saving the railroads as you have. You have a tremendous task ahead, I want to assure you that the members of this subcommittee and I are here today to assure you of our full cooperation.

You may proceed.

**STATEMENT OF HON. JOHN M. SULLIVAN, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION, DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY DONALD W. BENNETT, ASSOCIATE ADMINISTRATOR FOR SAFETY, FRA; KENNETH T. SAWYER, DIRECTOR, NORTHEAST CORRIDOR PROJECT, FRA; ROBERT H. WRIGHT, DEPUTY ASSOCIATE ADMINISTRATOR FOR SAFETY,**

**FRA; ROLF MOWATT-LARSEN, DIRECTOR, OFFICE OF STANDARDS AND PROCEDURES, FRA; WILLIAM F. BLACK, CHIEF, HAZARDOUS MATERIALS DIVISION, FRA; AND ED ENGLISH, TRACK ENGINEER, FRA**

Mr. SULLIVAN. Thank you, Mr. Chairman.

I appreciate the opportunity to come before your subcommittee to discuss the important subject of ConRail and Amtrak derailments in the Northeast Corridor. With the chairman's permission, I would like to submit a prepared statement for the record and touch on the highlights of that statement here.

Mr. ROONEY. Without objection [see p. 103].

Mr. SULLIVAN. The Federal Railroad Administration (FRA) administers the Federal railroad safety program authorized by the Federal Railroad Safety Act of 1970 and other related laws. Today, I would like to discuss the FRA Northeast Corridor project and the safety program of the corridor. I might point out, that I travel the Northeast Corridor home every weekend, as you mentioned, from Washington to Philadelphia so that I have both a professional and a personal interest in assuring the safety of the Northeast Corridor, its track, the equipment which operates over it and the operation itself.

At the present time the safety picture on the corridor—in terms of safety related incidents—is comparable to that on the U.S. railroads generally. But the extremely heavy traffic density on the corridor—especially passenger density—means that we must make a special effort to eliminate safety problems on this important line of railroad.

I plan to make such a special effort by assuring that the current improvement program for the Northeast Corridor leads to a significant improvement in safety.

The Congress recently enacted a \$1.75 billion Federal improvement program for the corridor which will take 5 years to complete between Boston and Washington, D.C. FRA is managing the Northeast Corridor project in cooperation with Amtrak, which owns the right-of-way and operates rail passenger service on the corridor.

The bulk of these improvements will have a direct impact on safety.

A major cause of accidents on the corridor is defective track and we are spending over \$950 million on an ambitious track improvement program which will include curve realignments, bridge and tunnel work, the laying of continuous welded rail, replacement of ties, and reworking of the roadbed.

In addition, we are spending \$205 million to vastly improve the signal and communication system on the corridor—a system which should virtually eliminate train collisions.

We are also spending—with the Federal Highway Administration—\$70 million to eliminate public grade crossings and another \$53 million to fence areas of the corridor where there are potential safety hazards.

The Congress and the FRA have reason to be concerned about safety on the Northeast Corridor.

During the last 2-1/2 years FRA has made field investigations of 26 NEC accidents. We determined that 10 of these were due to improper train handling by engine crews, 6 due to track problems, 4 due to equipment failures, 3 due to vandalism, 2 due to human factor problems, and 1 caused by a train collision with a truck at a grade crossing.

The average number of ConRail accidents in the NEC for the 2-year period 1975 through 1976 was 94 per year. Of these 94 accidents, 15 were collisions, 55 were derailments, and 24 were from other causes. The major causes of the accidents are track defects 34 percent, equipment defects 24 percent, train operation (human factors) 22 percent, and other causes 20 percent.

In the calendar years 1975 through 1976, no employees or passengers were killed in the NEC. An average of 13 employees and passengers were injured each year.

A review of reportable train derailments submitted by Amtrak in the NEC for the first 5 months of 1977 indicate there were a total of 20 passenger and freight train derailments. Of these 20 derailments, 6 were passenger and 14 were freight.

These derailments cause special concern in view of the unusually heavy traffic density on the corridor. This includes a unique traffic mix of 105 Amtrak passenger trains, 28 Amtrak Metroliners, 74 MBTA commuters, 179 New Jersey DOT commuters, 396 SEPTA commuters, 4 Maryland DOT commuters and many freight trains.

Another reason for special concern is that the Northeast Corridor runs through an area of great population density. This raises questions about trains carrying hazardous materials.

In 1976 there were no hazardous materials accidents on that trackage. But on June 22, 1977, at Metuchen, New Jersey, a tank car of "caustic potash" was derailed and lost approximately one half of its contents through a damaged fitting. Tank cars containing liquid chlorine and motor fuel and anti-knock compound were derailed but there was no leakage.

The tank car of chlorine was a DOT Specification 105 W 500, an extremely strong and heavily built car. This car, in addition to having a heavy steel shell, is covered with 4 inches of insulation under an outer steel jacket. Chlorine has been moved safely by rail in this type car at a rate of over 10,000 such shipments per year. These cars have been involved in derailments before without there ever being a rupture or serious leak.

Since April 1975, the entire NEC has been inspected semiannually by the FRA automated track inspection vehicles. The last of such inspections was completed in February 1977. The information generated by these vehicles supports the on-the-ground activities of the FRA track inspectors.

Over the last 2 years, 318 FRA inspections have been made, covering 1,900 miles of track. These inspections show the following:

1. The track structure is in general compliance with FRA track safety standards.
2. Problem areas are in turnouts, interlockings, road crossings, and track between station platforms.
3. Heavy tie renewals will be needed within the next 3 or 4 years.

4. Generally the continuous welded rail portions in the corridor are in good condition. The jointed rail portions are not in as good condition. Welded rail comprises about 40 percent of the NEC main track.

5. Quality of day-to-day maintenance needs improvement.

6. Major structural work is required on many bridges between Washington and Boston.

The NEC project will incorporate all large scale improvements found necessary in these inspections.

The FRA has recommended that the number of hot box detectors in the corridor be increased and Amtrak has been given authority to initiate such a program. There are presently 18 detectors in the corridor with plans to add an additional 36 by 1981. This will comprise 20 locations with an average spacing of 30 miles between detectors.

In conclusion, Mr. Chairman, I should like to state that you may be assured the safety of railroad operations in the Northeast Corridor is of utmost concern to the Federal Railroad Administration and to me personally. We shall continue our surveillance and monitoring of the corridor track structure, equipment and operating practices. The corridor improvement program, working closely with the managements of Amtrak and ConRail, will make the Northeast Corridor one of the best and safest sections of railroad in the country.

I have with me Donald W. Bennett, Associate Administrator for Safety, and Kenneth T. Sawyer, Director, Northeast Corridor Project. Also from our staff we have Mr. Robert H. Wright, Deputy Associate Administrator for Safety; Rolf Mowatt-Larssen, Director, Office of Standards and Procedures; William F. Black, Chief, Hazardous Materials Division; and Ed English, Track Engineer.

We will be happy to answer any questions you may have.

[Mr. Sullivan's prepared statement follows:]

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STATEMENT OF JOHN M. SULLIVAN  
ADMINISTRATOR  
FEDERAL RAILROAD ADMINISTRATION  
HEARINGS BEFORE THE  
TRANSPORTATION AND COMMERCE SUBCOMMITTEE  
OF THE  
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE  
U.S. HOUSE OF REPRESENTATIVES

July 19, 1977

Mr. Chairman, I am pleased to be before your Subcommittee to discuss the important subject of railroad safety, Conrail and Amtrak derailments in the Northeast Corridor. I am John M. Sullivan, the Federal Railroad Administrator, Department of Transportation. I have with me today Donald W. Bennett, Associate Administrator for Safety.

The Federal Railroad Administration (FRA) administers the Federal railroad safety program authorized by the Federal Railroad Safety Act of 1970 and other related laws.

Today, I would like to discuss data that indicates the number and type of derailments on the Northeast Corridor (NEC) and the FRA's railroad safety program for the Corridor.

Northeast Corridor

Until late 1976, the Corridor was a part of Conrail and Penn Central and accidents were reported as a part of the total carrier accident data. Since January 1, 1977, the NEC has reported as a part of the total carrier accident data. Since January 1, 1977, the NEC has reported to FRA as a separate railroad.

FRA has assembled the following data concerning accidents on the NEC which we feel would be of interest to the Committee in today's discussion.

1. NTSB investigations of accidents in the NEC.
2. Accidents investigated by FRA since 1975.

3. Data obtained from Conrail concerning NEC accidents for 1975 and 1976.
  4. Accident data submitted by Amtrak for the period of September 1, 1976, (when Amtrak assumed control of the NEC operations) through May 1977.
1. NTSB investigations of accidents in the NEC.

From January 1, 1969, to April 1, 1976, the National Transportation Safety Board (NTSB) investigated seven major accidents in the NEC. As a result of these seven investigations, the NTSB directed 26 safety recommendations in whole, or in part, to the Federal Railroad Administration. In broad categories, these 26 recommendations addressed the following topics:

- a. passenger car safety
- b. car design
- c. operating procedures
- d. locomotive design and safety
- e. track and rail design
- f. miscellaneous

In response to these safety recommendations, FRA concurred on 23, dissented with suggested alternative action on two and dissented on one.

Since April 1, 1976, when the NTSB field force became active, the NTSB has initiated 26 field investigations in the NEC. In total, then, NTSB has investigated or is investigating 33 NEC accidents to date. A breakdown by general category follows.

a. Freight train derailment	9
b. Train collision	4
c. Collision-train/derailed equipment	3
d. Collision-train/highway vehicle	1
e. Trespasser fatality	13
f. On-duty employee fatality	2
g. On-board fire	1

2. Accidents investigated by FRA since 1975.

During the last two and one-half years (January 1975-June 1977) FRA made field investigations of 26 accidents. Of the 26 accidents investigated by FRA, it was found that 10 were due to improper train handling by engine crews, six due to track problems, four due to equipment failures, three due to vandalism, two due to human factor problems and one caused by a train collision with a truck at a grade crossing.

3. Data obtained from Conrail concerning NEC accidents for 1975 through 1976.

The average number of Conrail accidents in the NEC for the two-year period 1975 through 1976 was 94 per year. Of these 94 accidents, 15 were collisions, 55 were derailments and 24 were from other causes. Of the 15 collisions, eight were passenger trains and seven were freight trains. Of the 55 derailments, seven were passenger trains and 48 were freight trains. The majority of derailments, 59 percent, occurred on main line track.

The major causes of the accidents are track defects 34 percent, equipment defects 24 percent, train operation (human factors) 22 percent and other causes 20 percent.

In the calendar years 1975 through 1976, no employees or passengers were killed in the NEC. An average of 13 employees and passengers were injured each year.

4. Accident data submitted by Amtrak for the September 1, 1976, (when Amtrak assumed control of the NEC operation) through May 1977.

A review of reportable train derailments in the NEC for the first five months of 1977 indicates there was a total of 20 passenger and freight train derailments. Of these 20 derailments six were passenger and 14 were freight.

On the basis of these statistics, we project that the total number of derailments in 1977 will be 48. This compares with 55 derailments per year for the prior two calendar years.

The NEC handles about 926 trains per day. This includes 105 Amtrak passenger trains, 28 Amtrak metroliners, 74 MBTA commuters, 179 New Jersey DOT commuters, 396 SEPTA commuters, four Maryland DOT commuters and 140 freight trains. The 140 freight trains include 80 through-freights, 45 local freights and 15 extra freights. The NEC handles about 16,500 freight cars per day.

Considering the heavy traffic density in the NEC, an average of 55 derailments each year in the NEC constitutes less than one percent (0.8) of all derailments in the nation.

Safety in the Northeast Corridor (NEC), its track, the equipment which operates over it and the operation itself has always been a prime consideration of the Federal Railroad Administration (FRA). Prior to 1975, walking inspections had been made of the main trackage quarterly. Starting in April 1975, the entire system has been inspected semi-annually by the automated track inspection vehicles. The last of such inspections was completed in February 1977. The information generated by these vehicles supports the routine activities of the FRA Track Inspectors. This assures necessary remedial action to comply with Federal standards.

Over the last two years, 318 FRA inspections have been made, covering 1,900 miles of track. As a result of these inspections, we have made the following determinations:

1. The track structure is in overall compliance with FRA Track Safety Standards.
2. Problem areas are in turnouts, interlockings, road crossings and track between station platforms.

3. Heavy tie renewals will be needed within the next three or four years.
4. Generally the continuous welded rail portions in the Corridor are in good condition. The jointed rail portions are not in as good condition. Welded rail comprises about 40 percent of the NEC main track.
5. Quality of day-to-day maintenance needs improvement.
6. Major structural work is required on many bridges between Washington and Boston.

These problems have routinely, as found by inspection, been called to the attention of Amtrak's management. The NEC project will incorporate all large scale improvements found necessary in these inspections.

The \$1.75 billion federal improvement program for the Corridor will take five years to complete between Boston and Washington, D.C. FRA is managing the Northeast Corridor project in cooperation with Amtrak, the quasi-government corporation that owns the right-of-way and operates rail passenger service on the corridor as part of a nationwide system.

Track improvements, curve realignments, and bridge and tunnel work account for more than half the total program cost. New continuous welded rail will be laid; ties replaced; roadbed reworked; curves modified; tunnels improved and bridges reinforced or replaced as needed.

The legislation authorizing the Northeast Corridor improvements is the Railroad Revitalization and Regulatory Reform Act of 1976.

The Final System Plan suggested that the Corridor be restricted to passenger traffic only; all freight was to be diverted to other lines. However, an analysis of the safety of combined operation on the Corridor has indicated that it is not necessary at this time to implement this type of system.

A risk analysis performed by FRA on the advantages of removing freight traffic from the Corridor helped form the basis for this determination.

The FRA has recommended that the number of hot box detectors in the Corridor be increased and Amtrak has been given authority to initiate such a program. There are presently 18 detectors in the Corridor with plans to an additional 36 by 1981. This will comprise 20 locations with an average spacing of 30 miles between detectors.

Automated track and rail inspection equipment is essential to assure compliance of operational trackage with FRA Track Safety Standards, and the collected inspection data also provides an economical means for assessing performance of Federally assisted railroad rehabilitation projects and is also available to railroads to facilitate their maintenance of way plans.

In Fiscal Year 1978, FRA plans to operate and maintain a fleet of four large track survey vehicles, including the prototype production vehicle which will be capable of inspecting approximately 120,000 track miles per year. We will also install the latest improvements in rail flaw detection in an existing vehicle and will operate and maintain two highway-rail vehicles, evaluate the operational alternatives for conducting the National Track Inspection Program and provide recommendations regarding the technical feasibility and cost-effectiveness of each option.

FRA investigated this accident and determined that there was a dragging equipment detector 3.2 miles west of the derailment site which showed no problem with the train there. A hot box detector was located about 39.4 miles west of the site which indicated no bearing problems when the train passed it. Our inspector checked out the trackside equipment and found it to be functioning properly.

Records on B&O car 631405 showed bearing repack (lubrication) to be well within the required time limit.

A brief review of car bearing and axle statistics indicates out of 8,041 train accidents in 1975, the industry experienced only 297 derailments due to journal failure while in 1976, there were 310 out of 10,423 accidents. Of these totals, only 61 roller bearings were involved in 1975 and 69 in 1976. The majority of the problems were caused by plain bearings similar to the Metuchen sand car. About 66 percent of the active car fleet in the nation is now equipped with roller bearings, which contributes to a far safer operation and within the next few years should reduce derailments due to journal burn-offs by a factor of four. "Hot boxes" are not a major cause of derailments.

#### General Trends In Railroad Safety

Track and roadbed, car equipment, and human factors cause 86 percent of today's train accidents. Federal track standards and freight car safety standards have been in effect approximately three years, while regulations covering certain railroad operating practices have been in effect less than one year, not long enough to evaluate their affect on the train accident picture.

Total train accidents showed a continued increase in 1975, and preliminary 1976 and 1977 accident statistics reveal a continuation of the upward trend shown by train accidents for the past two decades. A comparison of 1975 with 1976 statistics reveals that the number of train accidents increased from 8,041 in 1975 to 10,423 in 1976. Fatalities to employees on duty show a decrease from 110 in 1975 to 95 in 1976. Grade crossing fatalities increased in 1976 to 1,123 compared to 978 in 1975 and 1,220 in 1974.

The incidence of casualties (personal injury) on railroads compares favorably with the industry average. The latest published statistics by the Department of Labor indicate that the all-industry index for 1974 was 10.4 incidents per 100 man years. Comparable data developed by FRA on Class I and Class II carriers show that it was 9.22 in 1975, slightly below this average and 1976 should approximate the average with a rate of 10.93.

Track Cauaed Accidenta In 1975 By Track Type and Speed Range

Of the 8,041 train accidents reported in 1975, defecta in the track structure were the largest single cauae. This category accounted for 3,165 accidents or 39.5 percent of the total number. However, the higher speed accidents with the high risk potential are decreasing. A comparison of the train accidenta in 1969 and 1975 indicates that in all but one category the number of train accidenta at speeds greater than 10 mph decreased between 28 and 56 percent.

Analysis of the 1975 track caused accidenta reveals that 69 percent, 2,178, occurred at speeda 25 mph or less. Of the remaining 10 percent 7 percent occurred at speeds between 26 and 40 mph. The percentage diatribution of track caused accidenta as to track type followa the distribution for the total number of reportable train accidents.

Train Accidenta In 1975 By Track Type

In 1975 there were a total of 8,041 train accidents reported to the Federal Railroad Adminiatration. Of this total number, 53 percent occurred on main tracks, 38 percent on yard tracks and 8 percent on siding and industry tracks.

Track Type	Number of Accidents	Percent Of Total
Main	4,267	53
Yard	3,077	38
Siding	353	4
Industry	291	4
Unknown	53	1
Totals	8,041	100

Hazardous Materials

United States railroad accidents involving rail transportation of hazardous materials during 1975 and 1976 showed a slight decline in the number of accidental releases of hazardous products. The following table summarizes this accident record nationwide:

	1975	1976
Total Reported <u>Accidents</u> Involving		
Release of Hazardous Materials	189	173
Number of Persons Killed	0	2
Number of Persons Injured	9	21
Number of Evacuations	15	11
Number of Persons Evacuated (Due to		
Release of Hazardous Materials)	6,200	3,500

During 1975, two railroad accidents occurred on Northeast Corridor (NEC) trackage. Both involved derailment of chemical tank cars. No deaths, no injuries and no evacuations resulted and only in one accident was there a "potentially" hazardous leakage of product. In 1976 data indicates that there were no hazardous materials accidents on that trackage. Preliminary information covering January through June 1977, indicates that only one hazardous materials accident occurred. At Metuchen, New Jersey, a tank car of "caustic potash" was derailed and lost approximately one-half of its contents through a damaged fitting. Tank cars containing liquid chlorine and motor fuel and anti-knock compound were derailed but there was no leakage nor did any public hazard result.

FRA Enforcement Efforts

During Fiscal Year 1976, Federal and state inspectors made 5,251 inspections of 127,743 miles of track; 5,868 inspections were made under the Freight Car Safety Standards, 3,852 locomotive inspections were made under the Locomotive Inspection Act and 3,948 hazardous materials inspections were made. Safety appliance inspections were made representing approximately 67.1 percent of the total locomotive fleet and 20.9 percent of the car fleet.

During Fiscal Year 1976 (including the three month transition period), FRA transmitted to railroads 9,393 claims for alleged rail safety violations. A total of \$1,741,753 was collected during this period of time for penalties assessed railroads. The figures for claims transmitted during the first half of Fiscal Year 1977 are not yet available.

FRA recently delegated additional enforcement powers to its inspectors and certified state inspectors. These powers enable FRA and participating state inspectors to (1) control certain serious hazards by requiring that proper repairs be made before unsafe railroad cars are returned to service, and (2) reduce risks created by operation at excessive speed over deficient track by reducing that track in class.

While the magnitude of the rail safety problem is such that the FRA field force cannot in and of itself solve the problem, we believe the rate of track-caused accidents would have been higher had we not issued regulations which gave Federal and state inspectors discretionary powers to reduce track speeds in areas where our inspections revealed inadequate track maintenance. These inspections also brought about track upgrading in many areas.

It should be recognized that the carriers are primarily responsible for assuring the safety of their own facilities and operation.

Motive power and equipment inspection is an on-going effort, directed toward all carriers, over which FRA has jurisdiction. FRA has required the industry to initiate programs for inspection, maintenance and repairs to locomotives and cars. Inspectors were given authority to remove unsafe equipment from trains. Similarly, FRA enforces regulations concerning signals and related equipment. FRA also enforces regulations in the human factors area and over various operating rules.

The causes of train accidents and casualties to carrier personnel have been analyzed closely and our inspection efforts focus on areas which are the prime causes of safety problems. By focusing our efforts specifically in this way, the carriers' attention can be directed to these critical areas, leading ultimately to an improved safety posture.

#### State Participation Program

Under continuing development in the Federal Railroad Administration's (FRA) safety enforcement program is the State Participation Program. There are now 18 States participating in the rail safety program under Section 206 of the Federal Railroad Safety Act. In all, the States have a total of 51 inspectors and trainees augmenting the Federal inspection forces. In addition, FRA has had discussions with representatives of five additional States, which have expressed an intent to participate in this program.

The FRA views the state participation program and the potential it offers for augmenting the Federal inspection force, a vital contribution to the railroad safety program. We are working closely with the National Association of Regulatory Utility Commissioners (NARUC) to encourage more states to join the FRA in its effort to promote rail safety. Our Inspector Training Program, conducted at the Department's Transportation Safety Institute in Oklahoma City, has been made available to all states and many states not yet participating have attended.

Automated Track Inspection Program

During 1976, a single Federal Railroad Administration (FRA) automated track inspection unit was utilized, almost exclusively, to support the Office of Safety's efforts in the enforcement of the Federal Track Safety Standards. This unit inspected approximately 18,000 miles of track. This is 1,500 miles more than was inspected in 1975 and 13,000 more than in 1974. Thus far, in 1977, this unit has surveyed about 9,000 miles of track. This does not take into account the six weeks the unit was involved in extensive testing of the six axle SDP-40 locomotive.

The inspection capabilities of the program will be greatly expanded in 1977 with the addition of two more track geometry measuring units. Both units, which will use the latest developments in track geometry measuring techniques, will be in operation by October 1977.

The Northeast Corridor (NEC) track between Washington and Boston has been included in the Automated Track Inspection Program (ATIP) for a number of years.

The information generated by these vehicles supports the on-the-ground activities of the FRA Track Inspector. Many spot observations made by the field force are a direct result of the vehicle operation. These field observations verify conditions found by the vehicle and also determine if the carrier is taking the proper remedial action to comply with requirements of the standards.

Automated track and rail inspection equipment is essential to assure compliance of operational trackage with FRA Track Safety Standards, and the collected inspection data also provides an economical means for assessing performance of Federally assisted railroad rehabilitation projects.

In Fiscal Year 1978, FRA plans to operate and maintain a fleet of four large track survey vehicles, including the prototype production vehicle which will be capable of inspecting approximately 120,000 track miles per year. We will also install the latest improvements in rail flaw detection in an existing vehicle and will operate and maintain two highway-rail vehicles, evaluate the operational alternatives for conducting the National Track Inspection Program and provide recommendations regarding the technical feasibility and cost-effectiveness of each option.

#### Safety Law Seminars and Conferences

During 1976, the Federal Railroad Administration (FRA) continued its industry education program by conducting a series of 12 Safety Law Seminars. These seminars, jointly sponsored with the railroad industry were conducted at selected locations throughout the country. Like the 12 seminars conducted in 1975 in conjunction with the railway labor organizations these meetings were designed to bring to local railroad officials and employees a more thorough understanding of the existing Federal safety laws, standards and regulations. These Seminars registered approximately 2,600 attendees.

Conferences have also been conducted for carrier safety personnel in the area of accident/incident reporting and blue signal protection rule interpretation. Currently, the FRA is participating in regional conferences of a labor organization to discuss locomotive inspection procedures and hours of service interpretations.

#### Regulations

The Federal Railroad Administration (FRA) has undertaken a number of regulatory and enforcement actions during the past year as part of a continuing effort to improve the level of railroad safety. Several new Federal railroad safety rules were issued and became effective since January 1, 1977. These included the following:

Radio Standards and Procedures governing the use of radio communications in connection with the conduct of railroad operations.

Railroad operating procedures governing the conduct of railroad operations on a main track within designated Yard Limits.

Flag Protection which identified the circumstances in which protective flagging of trains was required and the manner in which such flag protection was to be provided.

Railroad Accident/Incident Rules increased to \$2,300, the monetary threshold governing the reporting of accidents.

Railroad Accident/Incident Rules establishing monetary penalties for specific violations of the Accidents Reports Act.

Railroad Accident/Incident Rules amending the reporting forms in connection with the Accidents Reports Act to include an additional class of employees.

In addition, Notices of Proposed Rulemaking (NPRM) were published which proposed additional railroad safety standards and requested public comment on the merits of each. Each of these proceedings is in the process of finalization or being reviewed by the FRA in relation to the input received through public comments and hearings. These included the following:

Hazardous Materials Rules which would require retrofitting of uninsulated pressure tank cars to reduce the severity of derailment accidents, NPRM published November 29, 1976.

Railroad Noise Emission Compliance Regulations which establish limits on the noise emissions generated by railroad locomotives, under both stationary and moving conditions, NPRM published November 8, 1976.

Locomotive Inspection Wheel/Slip/Slide Rules to provide that whenever an engine is shut down or isolated thereby nullifying the operation of a locomotive wheel slip/slide indicator, the locomotive unit may not be moved beyond a facility where the necessary repairs may be made. NPRM published January 14, 1977. Comments are being analyzed.

FRA also issued Advance Notices of Proposed Rulemaking which identified areas of concern to FRA and requested public comment on the need for regulation as well as possible methods of regulation. The publication of these Notices was in keeping with the Department of Transportation (DOT) policy of involving the public in the rulemaking process at an early stage to assure full public participation in agency regulatory decisions. These advance notices included:

Minimum Safety Requirements for Railroad Caboose Cars which would require minimum design specifications and standards for railroad cabooses, including bulletproof safety glass and cushion underframe.

Improve Glazing Material in Windows of Locomotive Cabs, Railroad Passenger and Commuter Cars, Rapid Transit Cars and Cabooses which would be free from distortion and would protect railroad employees and passengers from the affects of broken glass caused by vandalism or railroad accidents.

#### Concluding Statement

This, Mr. Chairman, concludes my statement. I should like to state, however, that you may be assured the safety of railroad operations in the Northeast Corridor is of utmost importance to the Federal Railroad Administration and to me personally. We shall continue our surveillance and monitoring of the Corridor track structure, equipment and operating practices, working closely with the managements of Amtrak and Conrail towards making the Northeast Corridor one of the safest sections of railroad in the country.

Now I will be happy to answer any questions you or the Committee may have on railroad safety.

Mr. ROONEY. Thank you very much.

I want to commend you for your fine statement. It is certainly reassuring to this subcommittee and to me personally that you are going to work continuously to improve the Northeast Corridor. This has been a bone of contention for this subcommittee for many years, and I am happy to know under your able leadership something will be done.

You talk about the bulk of improvements that will have a direct impact on safety, and you then point out how much you are going to spend on various parts of the corridor.

When do you think this corridor will be completed?

Mr. SULLIVAN. We should have the bulk of the work completed by 1981, Mr. Chairman. There will probably be some continuing follow-on work, but we certainly will be meeting the trip time goals by that time. So the track work itself will be pretty much done then.

Mr. ROONEY. Do you think that the moneys that Congress authorized and appropriated will be able to carry out this work? Do you think you will be back here asking for any additional moneys?

Mr. SULLIVAN. Well, sir, Secretary Adams just recently reviewed the implementation plan presented by General Sawyer, and found it necessary to cut back some \$500 million of anticipated work. However, the trip time related goals will be met, and we have had to cut back on certain amounts of fencing and offtrack work, but in the 2-year plan, I believe the Secretary will present in a priority fashion those items which he feels might need additional funding.

Mr. ROONEY. What is "offtrack" work?

Mr. SULLIVAN. Station work, fencing.

Mr. ROONEY. You mentioned fencing.

Mr. SULLIVAN. Yes, sir. We have only included \$53 million as that amount of fencing which is in the areas subject to the greatest amount of vandalism. We did not include all that could be spent on fencing. In fact, other than the State of Massachusetts, we have not seen the funds raised by the various States who could provide matching funds for that work, so we had to cut back in that area.

Mr. ROONEY. Yesterday we heard testimony on behalf of the National Association of Regulatory Utility Commissioners as to the small number of State regulatory inspectors. I would appreciate it if you could indicate what you believe to be the reasons why the State participation program is not more widely accepted. I feel that with the cooperation between the State utility commissions and the Federal Government, we could have an ongoing safety program that would certainly eliminate many of these accidents.

Do you anticipate working with the NARAC people with respect to State participation?

Mr. SULLIVAN. Yes, sir, this is an area of great interest to me. I would like Mr. Bennett, our Associate Administrator for Safety, to respond to that.

Mr. Bennett.

Mr. BENNETT. Mr. Chairman, the State participation program is an important program to FRA. It is growing, albeit slowly. We now indicate that there are 18 States that are partners with FRA in investigation and surveillance of safety activities. They are authorized 80 inspectors. At the moment they have in our program 51

inspectors. That includes 7 trainees. Eighteen States are doing track work for us and freight car work.

I am sorry, 8 States are doing only freight car inspections for us. Eighteen States are doing track work for us.

We do want to increase the program. I think the major problem, however, revolves around the qualification standards that need be considered here. Our basic principle is that the State inspectors should be as qualified as the Federal inspectors. We know, from a special study that we have done, that the States are having difficulty obtaining qualified inspectors, particularly in these technical areas of track.

As we open up the State participation program to other areas, we anticipate many more States coming in.

Mr. ROONEY. Have the States that have been participating in this program increased this number of inspectors during the past couple of years?

The witnesses we heard testify yesterday indicated you almost had to have a degree and a phi beta kappa key to become an inspector to meet the Federal standards.

Mr. BENNETT. That would be very nice, sir, but that is not what we require. We know that many States have had difficulty finding qualified track inspectors. That has been the primary problem.

Mr. ROONEY. Yesterday we heard testimony on behalf of the Railway Labor Executives' Association, and I will quote what was stated: "The only effective method of implementing the clear intent of Congress in the field of railroad safety would be the enactment of specific, detailed legislation directing the employment by number and by State or region of FRA inspectors necessary to accomplish that end."

I have also been informed that the number of safety inspectors decreased during the past year, and is considerably below the 500 inspectors authorized by this committee.

Mr. Sullivan, would you agree that the only way we can correct this problem is to actually mandate the number of inspectors?

Mr. SULLIVAN. Sir, we have, as I understand it, 500 positions authorized. We have been trying to get increases in that, and I believe for fiscal year 1978 we have gained an additional 15 positions. It is an area that I certainly want to study very carefully because I intend to try to make safety a very real thing and not a numbers game so that I would like to come back to you with an answer on that, if I may, after I have had a chance to look at it.

Mr. ROONEY. I would appreciate it because this subcommittee would like to admonish you to get as many of these inspectors as possible out on the tracks. I think there is something like 350,000 miles of railroad tracks in this country, and we have less than 376 inspectors.

Yesterday we heard testimony from the National Transportation Safety Board that the Federal Railroad Administration regulations do not require approval of a new design of locomotive or car, except for specific requirements such as safety appliance or power brakes before the unit is placed in service.

I wonder whether or not you or your colleagues could explain why the FRA does not have procedures or regulations for qualifying

new equipment before it is put on the line similar to the FAA requirements for the new airline equipment.

Mr. BENNETT. Mr. Chairman, that has never been FRA's philosophy of regulation. We do not certify the equipment either individual or prototype equipment, or new equipment. We as yet have not found that that has been necessary.

The industry itself, of course, has a large body of committees that work on this, and iron out a lot of technical matters.

Where we have found it necessary to issue regulations on specific matters, that is where we have gone into it, with our freight car standards, for example, or the safety appliances that you mentioned.

There is one area where we are more involved, and that is in the passenger equipment that Amtrak is operating.

Mr. ROONEY. Isn't the freight equipment just as important as passenger equipment?

Mr. BENNETT. Yes, sir, it is.

Mr. ROONEY. Why wouldn't you be as interested in the freight equipment?

Mr. BENNETT. We are just as interested in it, Mr. Chairman, but we don't feel as yet that there is a necessity that FRA develop the large kind of activity that FAA has, where there are certifiers, inspectors in the aircraft builder's plant, and that whole type of arrangement. It is a different philosophy of regulation, if you will, sir.

Mr. ROONEY. Mr. Florio.

Mr. FLORIO. Just following up on that, I am not sure I understand that. I understand what you are saying, that it is a different philosophy. It seems to be a philosophy which puts less emphasis on the structural integrity of the machine, whether it be an airplane or passenger car. You are saying somehow you don't have the monitoring for railroad equipment that you have to have for aviation equipment in process of manufacturing?

Mr. BENNETT. No, sir, we have not found that necessary in the process of manufacturing or the design. Now we look at the operating characteristics of a freight car, for example. If there are wheel problems, we have standards that indicate allowable wear on wheels, for example.

Mr. FLORIO. Where do you make that determination; out in the field?

Mr. BENNETT. No, sir, that is in our regulations.

Mr. FLORIO. With regard to inspections?

Mr. BENNETT. Our regulations set the allowable tolerances, and then our field inspectors will monitor for that.

Mr. FLORIO. What I am suggesting, and I think this follows Chairman Rooney's point, wouldn't it be wise to ascertain the allowable deviations at the point of departure from the manufacturing process as is apparently the case in the aviation industry?

Mr. BENNETT. As I indicated, sir, we have not found that kind of detailed, deep involvement in railroad cars and/or locomotives necessary. Our standards have gone to allowable safety factors as we consider them for maintenance, wear, tolerances, that kind of thing.

Mr. FLORIO. Mr. Sullivan, with regard to the hot box detectors, are they considered offtrack materials that would be expendable under some of your reevaluations?

Mr. SULLIVAN. No, sir, they would be a high priority argument. We consider that to be.

Mr. FLORIO. And when you shoot for one every 30 miles in the Northeast Corridor by 1981, do you feel that you have got the financing to accomplish that?

Mr. SULLIVAN. Yes, sir.

Mr. FLORIO. And that will be a high priority item.

Mr. SULLIVAN. That is a high priority item.

Mr. FLORIO. Yesterday one of the witnesses, in talking about fencing, indicated that he wasn't as enthused about fencing as an anti-vandalism measure as he could be and felt as an alternative that if the money was to be saved by not going to a massive fencing project, that helicopters might be an appropriate alternative to policing the tracks.

Has this been brought to your attention and have you given it any consideration?

Mr. SULLIVAN. I would like General Sawyer to respond.

Mr. SAWYER. Yes, we heard this from Mr. Bertrand. It was his suggestion and I think there is a lot of merit in that suggestion. There is also, as you know, a lot of difficulty in maintaining a fence once constructed along the corridor, and I think the Congress has had committee meetings with respect to the problem of vandalism on the corridor, tearing down fences once they have been completed, and littering the right-of-way.

Mr. FLORIO. The last point I want to bring to your attention is one that I think is most startling that came out of the whole 2 days of hearings. This is the question with regard to hazardous wastes and hazardous substances. You may have heard Mr. Patten make reference to this this morning, that there was literally chaos at the Metuchen site, that people weren't aware of what it was that was being carried around, contrary to some of the representations that were made, and that there seems to be much to be desired in the existing system of notification, the existing system of coding.

We had one of the witnesses yesterday say that there was an elaborate new system of coding that is just being distributed within the industry. That is fine, but it doesn't help the Civil Defense people or local officials.

What, if anything, are you doing to deal with this whole question of the transportation of hazardous wastes, and the notification to State or local officials with regard to the nature of the hazardous waste? Because as was indicated yesterday, there are different ways of containing different substances, and to merely notify people that hazardous wastes are being transported in a derailment that takes place is not really sufficient because we have to have specific information provided to the appropriate officials so that they can deal with different times in the different ways necessary.

What, if anything, are you doing with hazardous wastes in notification of the people?

Mr. SULLIVAN. First, may I say, Congressman Florio, that immediately at the time of that particular accident, I had asked Mr.

Bennett to review all of our procedures on reaction to accidents, which he is in the process of doing. We have discussed it since in the vein of your inquiry, and one of the things that he mentioned to me is that we have, in the past, distributed a publication put out by the Department, which is "Hazardous Materials Emergency Action Guide."

I think one certain thing that we will do is along high density areas, population areas, we would see to it that Civil Defense officials, municipal officials, et cetera, have adequate supplies of this booklet, which gets very specific as to type of material, so that if, for instance, there were notification after a derailment of the type of material that is possibly leaking or could leak or could result in damage, the local authorities will have very specific answers to what needs to be done.

So I would defer to Mr. Bennett to answer any further, if he will, as to where he stands on the progress of these actions.

Mr. BENNETT. I might indicate, sir, that the hazardous materials regulations contain a whole body of requirements placed both on the shipper and the carrier of hazardous materials. The shipper is required to identify the material as a hazardous material, make sure that it is put in the proper container, that it is labeled properly, that the rail car, if it is a rail car that is used, is placarded properly, and that the shipping papers indicate the nature of that substance. And in the Metuchen accident all of that had been done.

The crew did know the material that was involved and where it was located in the train, and the cars themselves were placarded, and in addition to being placarded, there was 4-inch lettering on each of the cars, and there was a statement as to what kind of material was carried in that car.

The railroad in that instance has then the responsibility to notify the emergency response people that they have that information, and that information is available, and what precautions should be taken in the event of a leakage or a spillage.

To supplement that, as the Administrator has indicated, we have had a number of educational seminars in various locations, including the State of New Jersey. I asked our people to try and determine how many of these booklets had been distributed in New Jersey, and the best estimate they could give me was literally thousands. We are making a concerted effort to insure that the emergency response people are aware of where to get the required information, and what kind of action should be taken in the event of a spill or leakage of a hazardous material.

This is a large subject in itself, and we can supplement this to whatever extent you would like, sir.

Mr. FLORIO. Hypothetically what would have happened if the chlorine car had burst when it fell over? I mean there is no advance notice, and you are saying that on the car is a placard—

Mr. BENNETT. Yes.

Mr. FLORIO. —telling you what it is, and the instructions say to evacuate within 2,500 feet or something of that sort. All I am suggesting is this, and I think Mr. Patten touched on this this morning, is there a need for some advance notification? You are presupposing that the crew knows what is there.

Mr. BENNETT. Yes.

Mr. FLORIO. Let's assume something happens to the crew in an accident of this sort. Your regulations provide that we have to notify the Coast Guard. They seem to be the main people of initial notification. They then contact the local officials.

We are very lucky that nothing happened at this accident. I can conceive of a scenario where this could have been. You put together the things where you have an Amtrak train going by at the same time you have a derailment. You have got chlorine gas, and conceivably this could have been a major disaster. I just feel very uncomfortable that everyone that comes before us so far has spelled out this elaborate set of details as to what is supposed to be done, and yet I didn't see too terribly much if it happened. There was no impact because nothing really happened. Conceivably something could have.

I made some inquiries initially, right at the outset of the happening of the accident, asking what was on the train, by way of hazardous materials. One of the people that we contacted said they couldn't tell because they couldn't understand what the letters stood for on the manifest. There were apparently three letters, MSL or something, and no one in a position of authority there knew what that stood for.

It is fine to say well, it is on the manifest and it is on the placard, but if people in authority on the site, whether it be fire people or Civil Defense people, don't know what all these elaborate codes stand for, then there is some question as to the justification of the elaborate codes.

All I am suggesting is that maybe we should be doing something, and a suggestion as to where we should be doing something is with regard to the Hazardous Materials Transportation Act that was passed by the Congress. It is my understanding that regulations were supposed to be published earlier this year. The period for comment has been extended now two times. The regulations have not been put out. I would hope that those regulations go to addressing some of the points that I have raised today with regard to the administrative or maybe legislative efficiency.

Could I conclude by asking what the projected new timetable for the publication of these new regulations is?

Mr. BENNETT. Mr. Florio, I am not exactly sure what new regulations you are referring to. There is under consideration and review in the Department, in the final stages of review now, some additional regulations on tank cars, not the type of tank cars involved in this accident however but uninsulated pressure tank cars.

Mr. FLORIO. That is just for—

Mr. BENNETT. LPG, sir. As I indicated, those are going through a final review now, and sometime within the near future they should be finalized within the Department. Those regulations, of course, address protection that will be added to those types of tank cars. They will not address those other issues which you raise.

Mr. FLORIO. Are there any attempts to have a more comprehensive approach to hazardous waste regulation going on in house by any of your agencies?

Mr. BENNETT. Yes, sir. Last year the head of the Hazardous Materials Bureau, which is the Bureau within the Department which coordinates all of these activities, extensively revised and rearranged all of the hazardous materials regulations so that it would be easier to refer to, easier to look at.

There also is further work going on, on what is called a hazardous identification system. Now that is what I think you refer to as talked about yesterday by one of the witnesses. That is something that at the moment at any rate is not meant to be directed to emergency response people but only to the railroad officials so they will know in more detail exactly what kind of material is being carried and what the immediate response should be for that material.

Mr. FLORIO. There is some obvious rationale for letting that go outside of the industry as well?

Mr. BENNETT. Oh, yes, sir, but my only point was that the system which was referred to yesterday was not meant to go outside. The Department at one time had a proposal to consider a hazardous information system to be required on all placards. It was an extremely controversial proposal because there are many competing types of hazard identification systems.

The Department is relooking at that whole problem. So to that extent, sir, yes, sir, there are ongoing activities within the Department on that activity.

Mr. FLORIO. Thank you, Mr. Chairman.

Mr. ROONEY. Thank you.

Mr. Bennett, in your position as Associate Administrator for Safety, I wonder if you can tell the subcommittee whether or not in your opinion there is any overlap between the FRA and the National Transportation Safety Board with regard to accident investigations.

Mr. BENNETT. In my opinion, sir, there is a very small amount of overlap there. The National Transportation Safety Board has statutory authority to investigate certain kinds of accidents that Mr. Todd indicated yesterday. We also have general authority, under the Accident Reports Act, to investigate accidents.

We do investigate accidents, and in some instances we jointly investigate with the National Transportation Safety Board. The Department does have a memorandum of an agreement with the National Transportation Safety Board. If we are making a joint investigation, there is not a dual request for information from the carriers, it is clear that the NTSB is the investigator in charge.

We will only make joint investigations where we need to develop some information quickly and cannot wait until the NTSB report is issued.

Mr. ROONEY. I notice in exhibit A of the NTSB statement, submitted yesterday there are some statistics that don't actually agree with the statistics given by Mr. Sullivan on page 3. According to exhibit A—and I don't know whether or not you have seen it, but I will be very happy to turn it over to you—they said that last year in the Northeast Corridor eight accidents were caused by equipment defects, two passenger and four freight, or six freight trains, whereas Mr. Sullivan says there were only four accidents caused by equipment defects.

Mr. BENNETT. We might be talking about different things, sir. I did not see Mr. Todd's exhibit. I thought he was referring to only those accidents which NTSB investigated?

Mr. ROONEY. You might want to comment on that. I do think there ought to be a little more correlation between NTSB and also with the FRA.

Mr. BENNETT. I think the difficulty here is the period of time, sir. Last year of course there was some transition on the corridor. It went from Penn Central to ConRail and then to Amtrak. Mr. Todd's exhibit goes from April 1, 1976 when ConRail came into existence. Mr. Sullivan was talking about 1977 when Amtrak, Northeast Corridor was operating the corridor. That is the difference, the time period, sir.

Mr. ROONEY. Thank you very much, gentlemen, and we do appreciate your appearance today.

Thank you, Mr. Sullivan.

Our next witness is Mr. Edward G. Jordan, President, Consolidated Rail Corporation, Philadelphia, Pennsylvania.

You may proceed, Mr. Jordan.

**STATEMENT OF EDWARD G. JORDAN, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, CONSOLIDATED RAIL CORPORATION (CONRAIL), ACCOMPANIED BY JOHN L. SWEENEY, VICE PRESIDENT, GOVERNMENT AFFAIRS; AND R. B. HASSELMAN, SENIOR VICE PRESIDENT, OPERATIONS**

Mr. JORDAN. Thank you, Mr. Chairman.

For the record, may I make one modest change in the introduction. In the interest of the President of our company in being confused for his part, my title is called chairman. May I also introduce Mr. Richard Hasselman, the Senior Vice President for Operations, who is appearing with me today?

I would like to begin my comment by expressing my thanks to the members of this subcommittee for the opportunity to be here today and to testify on the subject of train accidents in the Northeast Corridor.

As you are very much aware, ownership of the corridor, which we generally define as running from Washington to Boston, plus a line from Philadelphia to Harrisburg and a line from New Haven to Springfield, was conveyed to Amtrak by ConRail on April 1, 1976, conveyance day. Amtrak now has the total responsibility for scheduling all railroad movements over this trackage including the freight and local commuter trains the Consolidated Rail Corporation operates.

Our crews man these ConRail trains, but I should point out that under this form of arrangement, our employees perform their jobs following Amtrak operating rules, and under Amtrak supervision. This means that our relationship to Amtrak regarding corridor operations is simply that of being a tenant of their trackage, and for which we pay a user charge.

Therefore, what I will be talking about today will concern primarily ConRail's use of the corridor. Mr. Charles Bertrand of Amtrak has testified about Amtrak's larger role as full owner-operator.

As you know, the accident at Metuchen, New Jersey, last month which precipitated this hearing involved a ConRail freight train. Let me say that our goal, and the goal of every railroad, is the achievement of the lowest possible accident rate. We take this subject very seriously. We work very hard at it, and spend a lot of time and money in this area. While we are not perfect by any means, my opinion is that on the whole we do a pretty good job. I will go into detail on some of the kinds of things we are doing that impact on safety in a minute or two.

First, however, in order to put the occurrence at Metuchen in proper perspective I would like to go over some of the background as far as predecessor railroad and more recent ownership and maintenance of the plant and equipment involved in this case are concerned.

Six bankrupt railroads made up the property that was conveyed to ConRail April 1, 1976, including the giant Penn Central, which constituted about 90 percent of the total plant. Penn Central operated the entire corridor as of that date, and had the responsibility for maintaining the tracks and equipment and providing the work crews. Before the Penn Central merger, the New Haven Railroad had been responsible for the corridor system between New York and Boston, a role the Penn Central assumed after the New Haven's demise.

Historically, the corridor has always been heavily used by intercity and local commuter passenger trains. And it has always shared this trackage with freight trains, including those in through service. Considerable local operations are required to serve the extensive industry located adjacent to the corridor. I might particularly add that is in New Jersey. Because it is so heavily used, the corridor has always received a high degree of maintenance. And when the U.S. Department of Transportation began its Northeast Corridor high speed demonstration project in the 1960's which produced the Metroliner system that still exists, the track was upgraded further. Between January 1, 1966, and March 18, 1973, for example, the railroad spent approximately \$53 million on the 225-mile section between New York and Washington including the installation of 303 miles of 140-pound welded rail and 276 miles of new overhead catenary wire.

As Penn Central's financial troubles mounted track maintenance fell off, and deterioration began to set in. To stem this decay, during 1975 and 1976, prior to the startup of ConRail, Congress supplied subsidies and loans under the section 213 and 215 programs of the Rail Act. Six million dollars of these funds went for corridor work. While these sums were substantial, they represented only a holding operation.

When ConRail came into existence on April 1, 1976, the title to the corridor property was conveyed immediately to Amtrak. ConRail briefly retained responsibility for maintenance until May 19, 1976, and for operations until August 1, 1976. During the 2-month April through May period, when it was responsible for the track work, \$1.3 million was expended.

During the preparation of the final system plan there as some discussion of creating separate freight and passenger corridors.

However, this did not come to pass. At the present time ConRail operates, on the average, a total of 121 freight trains daily over various portions of the corridor. Although we have described the corridor as Washington to Boston, all but two of those freight trains, if I remember correctly, operate south of New York. So we are talking about the heavy traffic for freight purposes between Washington and New York. These comprise only 12.9 percent of the total trains operated. In addition, ConRail also operates 594 trains per day, for local commutation authorities wholly or partly over corridor trackage. Cooperation between Amtrak and ConRail has been excellent, with very little interference or delay being experienced between the two classes of service.

Because of its basically sound engineering and generally good maintenance, the corridor has long had an excellent safety record. For example, in the last 27 months of Penn Central ownership there were only 34 reportable train accidents on the corridor. Let me explain: Reportable accidents are those which the Federal Railroad Administration defines as having incurred at least \$750 in damage during the period prior to January 1, 1976, and at last \$1,750 through December 31, 1976. On January 1 of this year, to account for the effects of inflation, the minimum was lifted to \$2,300.

The 34 accidents reported during the 27 months just before ConRail's startup compare to 2,005 such accidents during the same period over the entire Penn Central system. Twenty two of the 34 total involved freight trains—12 were passenger trains. One grade crossing accident resulted in one lost life. There were no injuries from passenger train accidents, and only one as a result a freight train accident. While even one accident is one too many I think, overall, the good safety record on the corridor, which continues today, is quite remarkable.

Since April of last year, as I have said, Amtrak has owned the corridor, and as such is responsible for the submission of the formal accident reports to the FRA. Our own records do show however, as far as ConRail operations are concerned, including Metuchen, we have had only 27 reportable accidents on the corridor during the 15 months we have been in business.

The reason for the overall excellent record of corridor operation, as I have said, is based on use of what is a soundly engineered system which has received priority maintenance even during the last several years of the Penn Central, when their financial problems were severe.

Off the corridor the record is not quite as good. Rail industry figures do show that the number of reportable accidents nationwide has been going up. We share this same profile.

Let me give you some specifics about the numbers of accidents we are experiencing: In the period from April 1976 through May 1977 we reported 1,611 accidents to the FRA. Almost half of these were due to track problems—with equipment, negligence, and miscellaneous, in that order, making up the remainder. We are taking a number of steps to counter this, including not only rebuilding track and modernizing our rolling stock but also installing several millions of dollars worth of new detection equipment to pinpoint such

problem areas as overheated journals and dragging equipment to warn us of developing trouble.

I have included for the record statistics on the large number of installations of new hot box and dragging equipment detectors that we are making.

Upon conveyance, April 1, 1976, 238 hot box detectors were in place. During 1976, ConRail installed 27 more at a cost of \$53,000 each for a total capital expenditure of \$1,431,000. During 1977, our plans call for installing an additional 26, at a capital cost of \$1,378,000. For the foreseeable future, 1978 and beyond, 50 more are planned.

For dragging equipment detectors there were 667 in place at the end of 1976. During 1977 plans call for installing an additional 280 at a cost of \$3,571 each, for a capital expenditure of about \$1 million. During 1978 our plans call for the installation of another 280.

Although broken track or equipment create accident situations, railroads are encountering some new phenomena these days involving good facilities. We know, for example, that certain track and train dynamic forces that develop on good track even with first rate equipment cause derailments, also. There is now intensive industry and FRA work underway to pinpoint the causes of this.

At the high speed test track in Pueblo, Colorado, for example, a specially equipped 76-car train is circling an oval at an average speed of 42 miles per hour 16 hours a day, 5 days a week, testing fatigue and life of the track structure, locomotive and car components. The facility will enable experts to compress a normal 10 years worth of service experience into one. And from this work railroads expect to determine better and safer, ways to operate their rail systems. While this work is directed toward the dynamics inherent in high speed operations, we must keep in mind that at the other end of the spectrum an increasing number of derailments occur from operation over the kind of marginal track—and even in some yards—on which ConRail and its predecessors have posted slow orders. However, these derailments are inconvenient rather than hazardous when a car derails at 6, 8, or 10 miles an hour; and damage also can be fairly insignificant, although in aggregate expensive.

As this committee already knows, the track and equipment that was conveyed to ConRail from the predecessor railroads a year ago April was in very poor condition. One of the mandates of the law which established ConRail is to rebuild the railroad. We have been at this for just over 15 months, a fairly brief period of time. Nevertheless, we already have behind us a record of first year achievements of which we are quite proud. We are not only rebuilding the property, but we have also consolidated operations and management. We are improving service. And we are running the business as Congress directed in the Rail Act, as a private sector, for profit corporation. With your continued help and support I believe we can move ahead to achieve our short term goals and objectives as planned.

I must say at this point—if I can digress for a moment—that the eventual achievement of our long range goal of full self-sustainability still depends on resolving a large number of public

policy issues over which we basically have little or no control. The way these are decided will really determine our eventual fate—as well, if I may offer the thought, the future of the Nation's total transportation system.

But at the moment our mandate is clear: Rebuild the railroad. ConRail has access to \$2,026 billion in Federal investment funds to be used to cover these costs as well as early years' operating losses. In addition, we will plow back about \$4.6 billion of our internally generated funds in what is the largest railroad rebuilding program in the history of the industry.

This program is now well underway. During the last 9 months we operated in 1976 we laid 727 miles of continuous welded rail, and put down 4.1 million new ties. On the equipment side an expanded work force completed heavy repairs to almost 12,000 freight cars, and 779 diesel locomotives. Our target this year is for 1,000 miles of rail and 5 million ties, and heavy repairs on almost 1,000 locomotives and some 16,000 freight cars. To pay for this work we are budgeting in excess of a half billion dollars this year.

I should also point out that it is being carefully planned so that it will do the most good. This too has an important bearing on safety. Ninety percent of the track dollars spent last year, for example, went for work on high density routes, our main core system. This has to have an important bearing on the safety records of these routes, where the potential for extensive damage is the greatest.

We are also making sure that we get quality materials and quality work for the money being spent. For example, during 1976 our new quality control program resulted in the rejection of sub-standard material valued at \$4 million. During the first quarter of this year, in the mechanical area alone, new material rejected and warranty material returned amounted to more than \$557,000. While some of this material might have no direct impact on road safety, the total list does include such critical components as wheels, axles, air brake equipment, rails, ties, and spikes.

I have to point out that while these dollars have been, I feel, well spent, that we have not been able to show much overall impact on accident rates. As I have already said, many accidents occur on the less used, less maintained track, and rehabilitation of these is still some way off. We can show for our work, however, a leveling off in the disturbing rate of increase in accident rates in recent years.

For example, while the industry rate of accidents has more than doubled over the last 10 years, or about a 7-percent increase each year, ConRail's month-to-month rate for 1977 compared to a year ago is holding even. More time is required in rehabilitation to show a sharp reversal of the pattern built up over the years; however, I do feel that we are now containing the buildup in derailments and that this money now being spent by ConRail to improve the plant will soon begin to start paying real dividends as far as increased safety of operations is concerned.

I would like to take a final minute to talk about the handling of hazardous materials, since this is a matter of considerable concern not only to you and to us, but to those communities through which we haul these materials.

First of all, I would like to point out that we handle such materials as a common carrier, that is, because we are required by the ICC to do so. Second, I should point, out, that rail is often the preferred mode of transportation for hazardous materials because we are considered to be the safest way to move them, and these are, in many cases essential materials. Few cities can exist, for example, without chlorine gas to purify their water supplies. Railroads haul much of it.

The safety record on these materials is very good. For example, for the 5-year period, 1971 through 1975, the Penn Central experienced only 65 derailments in which hazardous materials were involved, only about one a month over its entire system. Of the number of total "incidents" reported, and this figure, in addition to derailments, also includes such categories as yard accidents, leaking tank cars or drums, and fire, there were no fatalities, and only 11 reported injuries. In the 9 months of 1976 during which ConRail operated there were 14 reported derailments of cars carrying hazardous materials, and this year, through June there were 5. As I have said, one is too many. But given the 17,000 route miles system ConRail operates, 19 is not a very large number in 14 months.

In closing, I would like to summarize the points I have tried to make today.

After decades of use the corridor remains an essential transportation link in the populous Northeast, is still basically a safe, well-engineered track system for both passenger and freight operations.

Sharing it between passenger and freight modes continues to work satisfactorily.

Accident rates in the industry have increased over the past decade but seem to be leveling off on ConRail as our new multimillion dollar track work and rolling stock programs begin to take effect.

The transportation of hazardous materials does not appear to be creating substantial risk, looking at the historical figures, to citizens or property in the areas in which we operate.

Certainly this railroad will continue to strive towards the lowest possible accident rate.

We are available for any of your questions, Mr. Chairman.

Mr. ROONEY. Thank you very much, Mr. Jordan.

I want to personally thank you for appearing before this subcommittee today. I understand that you insisted on appearing before this subcommittee personally. To me that indicates your dedication to your position as chief executive officer of ConRail.

Mr. JORDAN. Thank you.

Mr. ROONEY. I want to commend you for the excellent record ConRail has had for 15 months. I have heard nothing but fine, laudatory comments, both from your competitors and also from the shippers throughout the entire system under your able leadership, and the leadership of the ConRail executives.

I want to take this opportunity to publicly commend you. I know that there were a lot of pessimists with respect to ConRail when we were trying to start up this Northeast operation, I am very happy that it came out as well as it has, and I am hopeful that we will see that blue mark within the next few years.

Mr. JORDAN. You are most kind.

Mr. ROONEY. Mr. Jordan, as you are aware, the primary purpose of these hearings is to determine what action Congress can take to improve railroad safety, not only in the ConRail system, but throughout the country. Yesterday we received testimony from the union which agreed with our previous actions, namely, that the number of inspectors by FRA should be increased to at least 500.

What do you believe the role of Congress should be in attempting to improve the railroad safety record?

Mr. JORDAN. Mr. Chairman, that is a very broad question.

—Mr. ROONEY. Aside from another couple of billion dollars.

Mr. JORDAN. If I sound as if I am taking some issue with the statement which you quoted earlier to the previous witness with regard to creating very detailed legislation, I suppose I am. It has seemed to me that the strongest advances in the industry come about as a result of cooperative efforts between management and labor, certainly including the input of the Federal Railroad Administration, oftentimes on the presumption that they will administer such cooperation.

We have had a safety committee, composed of labor-management representatives, in place for about 18 months, and while not too much has emerged as yet, the work to date, as I understand it has been very encouraging.

By working in such an atmosphere, where the people who live on the railroad, work on it each day, who understand the nature of the problems, attempt to develop answers to those problems in an atmosphere where they can recognize the exigencies of difficult day-to-day kinds of business, we feel progress can best be made. I think it would be most difficult for Congress to pass laws providing for explicit regulation of precise things which occur in an imprecise way. An accident of the sort that occurred at Metuchen, Mr. Florio was commenting on trying to get information about the nature of the consist on that train.

I made the same inquiry. As a matter of fact, you questioned me about it at a hearing here just a couple of weeks ago. I had instant information. My sense of what was happening is that we knew what was going on and we knew what to do about it, even though we as a railroad were not directly responsible for the operation. So to me, at least, this indicates that, Congress must examine the larger sense of the issues, and create the environment and the mechanism by which change can take place to improve safety, but to reach out and try to create explicit answers may be totally cost ineffective, and more importantly, may create situations on where both the railroad and labor are constrained from getting the job done together.

I think we can do it well together, and I think that there is a lot of evidence to support that.

Mr. ROONEY. You talked about the cooperation you were receiving from Amtrak, and I take it that it is excellent. You talk about the tremendous amount of track rehabilitation that you have completed in the ConRail system.

How does this compare to Amtrak in the Northeast? Do you think they are keeping up to your pace?

Mr. JORDAN. No, but there are certainly different circumstances involved.

First, as you are well aware, there was, virtually a year after the passage of the Rail Revitalization and Regulatory Reform Act, during which time the Department of Transportation and Amtrak had to arrive at some mutual arrangement as to how the funds were going to be spent. They also operate in an operating condition, in which I think Mr. Hasselman will agree, was very difficult to complete work due to the tendency of traffic on the corridor. So we operate during different circumstances.

We also were fortunate enough to have a period of time prior to April 1 to get some thinking done to order some materials.

You may remember that there was an amendment to the Railway Reorganization Act called 211(h) which allowed us to borrow money and buy supplies in advance of April 1. We were able to hit the ground running, and we were in place. We had the people, and we were able to move off. Amtrak had to do much of that as they started.

I will observe as a personal matter, if I may, that coming down on the train last night I believe the ride is considerably smoother than it was 12 months ago.

Mr. Hasselman, do you think I am imagining it?

Mr. HASSELMAN. No, I think you are correct and I think it should be pointed out that when Amtrak's program is completed, the project will probably be on the average in better condition than ConRail's total system.

Mr. JORDAN. That is a good point. We are obviously not building the railroad to 120 mile an hour passenger speed.

Mr. HASSELMAN. Right.

Mr. ROONEY. I might say my recent trips on Amtrak indicate it is still very difficult to read fine print.

Mr. Jordan, I recognize that there are certain limitations in the amount of track rehabilitation that can be accomplished within a particular time frame with respect to ConRail. I wonder, however, if you could tell the committee what is the criteria or the priority system for your track rehabilitation work during the first 15 months of operations, and do you contemplate any changes in the future?

Mr. JORDAN. The priority are twofold that we have applied in the first 15 months. One emanates from the Final System Plan direction, if you will, which was to fix the high density defined as those with more than 10 million gross ton-miles of traffic per annum first.

The reason for that I think is eminently clear. Two thirds of the tonnage of the railroad moves over those lines, regardless of from where it starts and where it stops. Thus, as you fix those, you are getting the maximum value in service to your customers.

The second rule, in terms of the selection of individual projects, has been the return on the investment that we could get. We evaluated, for example, this year about 2,700 individual projects in order to come up with our program of about 1,600 individual projects. We have had as a goal this year two things: first, to eliminate slow orders over any of the main course system of the railroad so that we could demonstrate to our customers and to the public that the thrust of our effort is to put the railroad back in shape where it provides dependable service in the main; and,

second, and I should say this is a consideration in terms of selection of individual programs, to eliminate safety hazards which must be corrected now, even though there is no return on investment. Such projects did get priority attention this year.

I think that our goal for the end of this year, 21 months out, will have been to fix those 10 million gross tons and more lines to a point where they are in a state of utility. As you go forward from there, clearly you start moving down into secondary and branch line operations in order to continue the rehabilitation efforts, and I think it would be fair to say that our priorities are changing.

Last year, for example, about 90 percent of our money went into those kinds of projects. This year the number is down closer to 60 or 70 percent, as I recall, because we are getting it fixed.

Mr. ROONEY. And my final question is this: It was stated yesterday that the Metuchen accident was caused by a non-ConRail car. I believe it was a B&O car.

Mr. JORDAN. Loaded with sand, as I remember it.

Mr. ROONEY. Right.

ConRail accepted it at the interchange point.

In your opinion, Mr. Jordan, do you believe that it is necessary to improve the car inspection procedures by the railroad at the interchange points so situations similar to this will not occur again? And are you attempting to improve the inspections at the interchange point?

Mr. JORDAN. I think Mr. Hasselman should answer. But I will say in principle at least I do not think that the procedures need to be changed. I think it is the management of the procedures that may have been at fault in this case.

Mr. Hasselman.

Mr. HASSELMAN. Exactly what I was going to say. I think the procedures are adequate. I think it was the compliance with the procedures in this particular instance that may have fallen short.

Mr. ROONEY. Explain that.

Mr. HASSELMAN. Well, if our procedures require a car inspector to inspect the cars, lift the journal box lids, check the condition of the journals and the brass and the pads and the extent of lubrication in the box, if the inspector takes a shortcut and fails to do that, then we may have a wonderful system, but we have noncompliance with that system.

Mr. ROONEY. Are you implying this is what happened at Metuchen?

Mr. HASSELMAN. We are investigating. We are conducting a disciplinary investigation to determine what happened.

Mr. JORDAN. I think it would be premature for us to state what the cause of the accident is until that investigation is complete, Mr. Chairman.

Mr. ROONEY. Mr. Florio.

Mr. FLORIO. Thank you very much.

Who has the responsibility for the cleanup of Metuchen? Was it ConRail that took the responsibility for getting things back in order, or Amtrak?

Mr. JORDAN. Amtrak has the responsibility, Mr. Florio.

Mr. Hasselman, would you like to comment on the number of wreck trains that we brought in there?

Mr. HASSELMAN. I don't really remember how many wreck trains we brought in there. We brought several of our trains in there and there was some offtrack equipment brought in there and I just don't remember.

Mr. JORDAN. But they are responsible for the operation of that track, and they would take the responsibility for the management.

Mr. FLORIO. Do they bill you for the costs entailed? Clearly it took time and effort and equipment.

Mr. JORDAN. Yes. My recollection of the accounting procedures involved in that is that this is included in our car mileage rate.

Mr. FLORIO. If in fact there had been loss of life or greater damage to the surrounding community, whose liability is that?

Mr. JORDAN. I cannot answer that question, Mr. Florio. I will be glad to make a determination.

Mr. FLORIO. Yesterday the representative from Amtrak seemed to imply that it was yours. When I inquired as to whether B&O had any responsibility, if it was their car that was the direct proximate cause of the accident, he stated it was not, that once you accept their car, ConRail becomes responsible for anything that flows from the defective equipment.

Mr. JORDAN. That has been the general rule in the industry. However, that is being tested in court cases right now in which that has been overturned in the case involving the Burlington Northern and I think TP&W, if I am not mistaken, out in the Middle West. I don't think it would be appropriate to comment here on the legal liability involved.

Mr. FLORIO. With regard to a total bill, has anybody worked up a total bill, as to what this whole thing cost?

Mr. JORDAN. I have not seen one, sir.

Mr. FLORIO. Who is in the process of doing so, if anyone?

Mr. JORDAN. I would think Amtrak. From our viewpoint there is no reason to do so.

Mr. FLORIO. And really a point that the chairman made. The inspection procedure.

Do you have regular inspectors who look at these cars, or is this a corollary function of your normal crews?

Mr. JORDAN. No, sir, there are car inspectors whose responsibility it is to inspect these cars. This train passed a hot box detector as well prior to the accident, as I recall, about 40 miles.

Mr. HASSELMAN. It was 40-odd miles prior to the accident, which is a little bit too far to be effective in reading the condition at the time of the accident.

Mr. JORDAN. But the car inspection procedures, as far as we are concerned, and that is what we are trying to say here, is the primary place to go look, we cannot depend entirely upon that equipment.

Mr. FLORIO. You have satisfied yourself that a 30-mile distance between hot box detectors would be more appropriate?

Mr. JORDAN. We have a program, as I had in my testimony, spending about \$1.5 million this year and next year to expand the number of hot box detectors over the high density lines of the railroad which will provide hot box detectors on the basis, as I

recall, Mr. Hasselman, closer to 20 miles than 30, but this isn't over the whole railroad but over those densely traveled parts.

Mr. FLORIO. Just a last generalized question.

Do you feel there is any correlation between the use of larger and heavier trains and the increase nationwide in accidents?

Representations have been made before this committee that that is the thing that is causing the most damage to tracks, and as a result of that, we are having an increase in accidents.

Mr. JORDAN. I think some of the work that is going on at Pueblo may be more illustrative of answers to that than my very uninformed opinion.

Mr. FLORIO. Is there something you wanted to say?

Mr. HASSELMAN. No.

Mr. FLORIO. Thank you very much.

Mr. ROONEY. Mr. Jordan, how many freight cars do you have in your entire system?

Mr. JORDAN. About 147,000 or 148,000 right now, 148,779 out of a U.S. fleet of 1.9 million. We have about 10 percent of the railroad owned fleet. Our out-of-service is about 22,000 cars at the moment, does that sound right to you? About 15 percent?

Mr. ROONEY. I know that the investigation is still going on, but it is obvious that the accident at Metuchen was caused by one of the bearings; is that correct?

Mr. HASSELMAN. That is correct.

Mr. ROONEY. Let's assume that, and I think the B&O car had a brass bearing on it; is that correct?

Mr. HASSELMAN. Yes, sir.

Mr. ROONEY. And you found out brass bearings aren't as effective as the new bearings.

Mr. HASSELMAN. Yes, sir.

Mr. ROONEY. In your entire inventory, how many brass bearings do you have compared to the new bearings?

Mr. HASSELMAN. Our fleet is about 55 percent equipped with roller bearings, about 45 percent friction bearings.

Mr. ROONEY. Friction bearings being brass bearings.

Mr. HASSELMAN. Yes, sir.

Mr. ROONEY. Are you making any effort to convert these to roller bearings?

Mr. HASSELMAN. Yes, we are. As a matter of fact, we converted 3,007 cars since the advent of ConRail at a cost of about \$1,500 a car.

Mr. ROONEY. Thank you very much. We appreciate your appearance here today, and thank you for your testimony.

Our next witness will be Mr. James E. Martin, Vice President-Operations, Association of American Railroads.

**STATEMENT OF JAMES E. MARTIN, VICE PRESIDENT, OPERATIONS AND MAINTENANCE DEPARTMENT, ASSOCIATION OF AMERICAN RAILROADS, ACCOMPANIED BY JOHN A. RISENDAL, DIRECTOR, SAFETY AND SPECIAL SERVICES; AND ROBERT M. GRAZIANO, DIRECTOR, BUREAU OF EXPLOSIVES**

Mr. MARTIN. I have two of my colleagues, Mr. Graziano from the

Bureau of Explosives, Association of American Railroad; and Mr. John Risendal, our Director of Safety and Special Services.

Mr. ROONEY. You may proceed.

Mr. MARTIN. Mr. Chairman, members of the Subcommittee on Transportation and Commerce:

We appreciate the opportunity to testify before this committee today, and with your permission, I would like to summarize some of the highlights of my prepared testimony, and request that that statement be entered into the record.

Mr. ROONEY. Without objection [see p. 140].

Mr. MARTIN. Historically, railroad safety has been the No. 1 consideration of railroad operating personnel. Railroad safety is an important part of my duties at the Association of American Railroads, and certainly an important part of the activities of American railroads.

I would like to make a brief comment about what we are looking at in terms of operations in today's real world in the railroad industry. Railroad freight traffic has increased in 1976 by more than 5 percent over 1975. Freight revenues increased 14 percent over 1975. Operating expenses in 1976 were up 13 percent over the year of 1975. Of those increased operating expenses, a substantial dollar increase in expenditure was directed towards the maintenance of roadway and equipment.

In 1976 approximately \$6.2 billion, or a figure 17 percent higher than the amount spent in 1975 for maintenance of roadway and equipment. This stepped-up program resulted in a 6 percent increase in maintenance-of-way employees, and we have seen, in the past few years, some very impressive changes in the railroad industry. There has been an increased emphasis on in-depth research, in accident causes and prevention, and it is reflected in a substantial increase in the financial commitment by the railroad industry in the past 5 years, as well as marked growth in research activities of the Federal Government and railroad suppliers.

In the past 5 years, over 100 million ties have been installed in the Nation's railroads, compared to 83 million in the previous 5 years. Welded rail in main line track is continuing at the rate of approximately 4,000 miles annually. The average age of railroad owned freight car equipment is 14.6 years compared to 18.4 years in the early 1960's.

There are more than 30 track cars being operated over the systems for detection of rail flaws, and there is a great amount of activity by many railroads in emphasizing the need to discover new ways to prevent accidents.

Railroad task forces are investigating operating practices, equipment condition, and compliance with safety and operating rules. Employee training is being emphasized in the industry to a larger degree than ever before. Education in the industry includes basic operating and safety rule instruction, welding, electrical courses, mechanical maintenance and maintenance-of-way practices. The largest safety related project undertaken by private companies has been one involving tank cars.

There was a cooperative program between the AAR, the RPI and the Federal Railroad Administration, and it has led to recommenda-

tions for the modification of tank cars which will prevent the disastrous type accidents.

Those recommendations include:

1. Development of shelf-type couplers for use on tank cars which are designed to prevent cars from disengaging during derailments, and preventing the couplers of one car puncturing an adjacent car.
2. The development of a head shield, a metal shield, at the end of the tank; also to prevent potential puncture.
3. Development of thermal shield or jacketing to prevent overheating of tank cars during fires.

The result of this research hopefully will be in the form of a Federal regulation during 1977.

I would like to point out some results of railroad safety efforts, and I think that one of the most important achievements of any safety program is a reduction of fatal injuries to employees and to the general public.

Fatalities in railroad accidents for the past 3 years, and in fact over the last decade, have trended downward. 1976 was the lowest total in any year since record keeping was initiated for deaths to employees and passengers. It is also significant to note that between 1966 and 1976, railroad employment dropped 23.4 percent, from 631,000 employees to 483,000 employees, but fatalities decreased by 38.9 percent, 159 employee fatalities down to 97 fatalities in 1976.

The statistics for 1975 and 1976 reflected in the FRA preliminary report on accidents for the period ending December 1976 deserves further comment.

In the category employee on duty, 97 fatalities, 21 fatalities were the result of train accidents, which includes collisions, derailments, fire, explosions or Act of God. Forty of those fatalities were the result of train incidents, an event arising from the movement of equipment consist, an example of that type of an accident being an employee struck and run over, and 36 fatalities of the 97 of employees in non-train incidents, events arising from the operation of a railroad, but not from the movement of equipment, generally in the category of falls from bridges, standing equipment, accidents on highways.

Passenger fatalities in that same period decreased to 5 in 1976 as compared to 8 in 1975. Trespassers and others, others including highway grade crossing fatalities for 1975 totaled 1,442, the two categories, trespassers and others, versus 1,549 for 1976.

I would like to point out that it is my belief that the crossing accident fatality rate seems to have followed the same pattern as highway accident fatalities; highway fatalities increased in 1976 after we had experienced several years of steady decline, likewise the number of fatalities at highway grade crossings increased in 1976.

Now turning to employee injuries, it should be noted that there was an increase in the reported accidents of 23 percent in 1976 versus 1975. It also should be pointed out that beginning January 1, 1975, reporting rules were revised, which resulted in substantially more reported injuries, and since January 1, 1975, any injury requiring medical treatment is now reportable.

I would like to give you a couple of examples.

Any injury requiring a physician to use an instrument is now reportable. Any treatment by a physician which results in dispensing of a prescription drug is now reportable. And prior to January 1, 1975, employee injuries were reportable only if the injury prevented the employee from performance of his normal duty for a period in excess of 24 hours during the 10 days immediately following the occurrence. Naturally the railroads are submitting more reports than in the years prior to 1975.

Now for comparison purposes, a report of the Bureau of Labor Statistics, U.S. Department of Labor, compares railroads with other forms of activity, and based on incident rates per 100 full-time workers in 1975, it indicates that employees in railroad transportation had an incident rate of 8.3 cases per 100 full-time workers, and this compares with an incident rate of 9.2 cases for all other transportation in the public utility sector, a rate of 14.6 cases for trucking and warehouse, water transportation and transportation by air. Contract construction incident rate was 15.7 cases per 100 full-time workers, and the manufacturing sector 12.5.

This report would show that the railroad transportation industry compared very favorably with virtually all other industry grouping. In regard to train accidents, there is a recognized sharp increase. In 1976 versus 1975 it was about 32 percent. Track related accidents as previously testified to continue to be a major cause category, and one in which this industry wants to do something about it, and reduce it.

We believe that the cooperative research efforts at Pueblo involving a variety of variables in track structure, will provide some of the answers to those causes of track related derailments.

The AAR has expanded its capabilities in the area of accidents through the Bureau of Explosives, to work with railroads and shippers to promote safe transportation of hazardous materials. The development of a series 49 code by the railroad industry, to provide more specific identification of hazardous materials being handled in rail transportation has been a giant stride forward in the normal handling of hazardous material as well as the handling in the event of an accident.

Known as a standard transportation commodity code, it was developed by the AAR Bureau of Explosives in conjunction with our member roads starting late in 1974, and implementation began in the industry on January 1, 1976. This standard transportation commodity code identifies by numerical code on the freight waybill, No. 1, major hazardous material groupings; No. 2, major hazards, whether explosives, flammables, poisonous or corrosive; and, No. 3, identifies the commodity by name.

We believe there are benefits to be derived from this information system.

No. 1, we believe that we will be able to have accurate identification of hazardous materials to facilitate switching and over-the-road movements.

No. 2, not only identifies the commodity but classifies it as well into such categories as flammables, nonflammables, compressed gas, explosives, and corrosives.

No. 3, is adaptable to the computer systems in the industry.

No. 4, it indicates primary and secondary hazards which can be used in the event of a derailment.

I think the record of moving hazardous materials—and Mr. Jordan mentioned it—in this industry is reasonably good, and I would like to quote a couple of statistics.

In 1975 the railroads moved over 23 million revenue carloads of freight; 1.7 million carloads contained chemicals or petroleum products; and 135 cars of hazardous materials had cargo released as a result of a mishap. Those range from minor leaks to major derailment type, a puncture of a car. Between 1971 and 1976, 11 employees—a 5-year period—plus 15 other persons were killed in hazardous material accidents involving railroad equipment.

I would like to summarize briefly the employee deaths, 7 occurred at Decatur, Illinois in 1974 in a switching accident; 1 at Wenatchee, Washington in 1974 as a result of a switching accident; 1 in Houston, Texas in 1974 in a switching accident; and 2 at Ventura, California in 1973 as a result of vandalism, when a switch was operated and a car was allowed to move out of a siding into the face of a locomotive.

In the 15 non-employee deaths in this same period, 1 occurred at Houston, Texas in 1971 when a member of a local fire company was fatally injured; 9 at Kingman, Arizona in 1973 when an explosion following a fire during unloading process—incidentally that car had been on the siding for approximately a month, and there had been no train movement involved. There were no railroad personnel involved in that movement. One at Herod, Ohio in 1973 when a derailling train struck a small propane tank, and 1 at Borger, Texas when a contractor was fatally injured in the unloading of a hazardous material car; and a trespasser at Wenatchee, Washington in 1974 in the same accident that I mentioned, where an employee was killed; 2 at Belt, Montana when 2 employees of an elevator were killed when a train derailed.

Now none of these are acceptable to the railroad industry, but we do believe that there has been meaningful headway made in the railroad safety activity. There is a lot to be done.

We are not home free by any stretch of the imagination. We believe that through research, cooperative efforts on the part of the Federal Railroad Administration, the Association of American Railroads, labor unions, improvement in the roadway and equipment, training and education are all ingredients for improved safety in the railroad industry. Thank you.

[Mr. Martin's prepared statement and attachment follows:]

## Statement of

James E. Martin  
Vice President, Operations and Maintenance Department  
Association of American Railroads

My name is James E. Martin and I am Vice President of the Operations and Maintenance Department of the Association of American Railroads (the AAR). The AAR is a voluntary, non-incorporated non-profit organization composed of member railroads operating in the United States, Canada and Mexico. Its members operate 97 percent of the railroad mileage and produce about 97 percent of the revenues of all United States railroads.

I am pleased to be able to appear before the Subcommittee today and to participate in these hearings to provide an overview of the railroad safety picture. Railroad safety is an important part of my duties at the AAR and, indeed, an important part of the activities of America's railroads. To even begin to be comprehensible, railroad safety must be seen within the total context of railroad operations.

A very brief overview of railroad operations today -- In line with the pace of national economic recovery in 1976, railroad freight traffic increased by more than 5 percent over 1975 and last year the railroads moved 795 billion revenue ton miles of freight.

After 1975, the worst year financially for the railroad industry since World War II, freight revenues for 1976 totalled almost \$17 1/2 billion, an increase of 14 percent over 1975. Operating expenses were also up, but by a 13 percent margin over 1975.

Despite a sluggish economy and lower than hoped for earnings, the roads increased their expenditure for maintenance of roadways and equipment by some 17 percent over 1975, to about \$6.2 billion -- the highest in railroad history. Cash expenditures for maintenance of way were up by 27 percent, reaching nearly \$2.8 billion, while those for equipment maintenance advanced to about \$2.5 billion.

The step-up in roadway maintenance was reflected by a six percent increase in maintenance-of-way employees -- from an average of more than 81,000 per month in 1975 to an average of more than 86,000 per month in 1976.

A survey of railroad safety -- The past few years have seen impressive changes in the railroad industry -- changes which will improve railroad safety and contribute to the quality of rail transportation service provided in the United States. The heightened emphasis upon in-depth research in various aspects of accident causes and prevention is reflected in a 5-fold increase in the financial commitment of the railroad industry over the past five years, as well as a marked growth in research activities of the Federal Government and railroad suppliers.

Expanding on the figures given for maintenance-of-way expenditures earlier, in the past five years railroads have laid 6.6 million tons of new and relay rail, compared with 5.4 million tons in the five years previous to that. They have replaced 100,350,394 ties compared to 83,090,965 in the previous five years.

The trend toward welded rail in mainline service provides both a smoother ride and greater safety. By the end of 1976, over 50,000 miles of welded rail were in service (about half the main line in the industry) with installations continuing at a rate of approximately 4,000 miles annually.

A turnaround in the government approach to railroads is also taking place. First manifested in the Regional Rail Reorganization Act of 1973, which provided financial assistance for the bankrupt railroads in the Northeast and Midwest, it was furthered by enactment of the Railroad Revitalization and Regulatory Reform Act of 1976. This Act offers financial assistance and a series of long-sought regulatory reforms that are expected to contribute toward a more prosperous railroad industry, better able to maintain equipment and facilities in first-rate condition and thus control risk and improve safety.

The industry has also stepped up spending for equipment maintenance -- in addition to bringing about a marked reduction in the average age of cars through new car purchases and the retirement of old cars. Although the Federal Railroad Administration permits the use of rail cars up to 50 years old, the average age of cars in the railroad-owned fleet is currently 14.6 years compared with 18.4 years in the early 1960s. The AAR established standards in 1970 calling for a systematic reduction of the age maximum for freight cars used in interchange service; by 1981, the maximum age will be reduced to 40 years.

In their continuing fight against inflation, the railroads seek to put their money where it will do the most good. The industry currently has in use more than 30 cars operated for the detection of rail flaws and, in addition, a score of these cars are under lease from the supply industry. According to recent data, about 22,000 flawed or failed rails are detected each year before they reach a state at which they would cause an accident.

Many railroads, emphasizing the need to discover ways to prevent accidents before they can occur, are conducting safety audits in which task forces thoroughly survey housekeeping practices, equipment conditions and compliance with safety rules and operating rules.

Employee training is being emphasized throughout the industry to a larger degree than ever before. This training involves the use of highly sophisticated locomotive simulators and other test and demonstration equipment. It has included the construction of training centers where railroaders can supplement the traditional on-the-job instruction with time spent in a more concentrated classroom and practical laboratory setting. The railroads also are seeking, through training efforts, to open up their ranks to anyone who can qualify, regardless of a lack of previous experience in the industry. Railroads train entry-level employees in the basic skills required to perform the duties of a signalman, brakeman or switchman -- and the "man" portion of these job titles does not mean that women are excluded: from the central offices to locomotive cabs and from the computer rooms to the backshops -- more and more jobs in railroading are being performed by employees of either sex. Education within the railroad industry includes basic operating and safety rules instruction, electricity, welding, the mechanical maintenance of equipment, and computer operations as they are specifically geared to our special needs. The "student trips" with an experienced engineer are still vital before an employee is given responsibility for the life of a train crew and several million dollars worth of equipment but today's railroader often starts in a classroom where the components of, for example, the locomotive brake control valve are disassembled onto a board so that the how and why can be explained and demonstrated in a series of "hands-on" schooling sessions.

Railroad operations -- and the governmental regulations that affect them -- have in many ways gotten so complex that industry educational efforts have also grown in sophistication. AAR's members have produced movies, slide shows and videotaped demonstrations to aid training; computer simulations of the events leading to accidents has helped in many cases to pinpoint the cause and this means that the employees can be given specific instructions to prevent

future occurrences.

As good as these efforts have been, the railroads would welcome increased help from the FRA in the creation and implementation of even better training methods.

The AAR has expanded the capabilities of its Bureau of Explosives to work with the railroads and shippers to promote the safe transportation of hazardous materials. The Bureau has developed a "Series-49" code which can provide more specific identification of the hazardous materials being handled in rail transportation and thus enable more precise care in handling -- both in normal operations and when accidents occur.

In addition, the industry is also scrutinizing its operating rules and working to develop recommended physical standards for employees.

The vast majority of the research efforts of the railroad industry involve activities and programs which have a direct bearing on safety. I am proud to say that these programs involve a large degree of cooperation among the AAR, individual railroads, rail suppliers, rail unions and the Federal Government. An important example of that cooperation is the recently established Railroad Safety Research Board, which includes representatives of these groups. The Board is engaged in studies of trends in safety, based on present sources of accident reports and investigation findings, and is expected to provide insight and guidance from every perspective, for the future direction of rail safety research programs.

The major safety related project of the railroad industry -- in fact, the largest freight safety study ever undertaken by private companies -- has been one involving tank cars. A cooperative program between the AAR and the supplier-supported Railway Progress Institute, with the participation of the FRA, has already led to a number of recommendations intended to prevent disastrous accidents. An important result of the tank car safety research effort

was the development of "shelf-type" couplers for use on tank cars. These couplers are designed to prevent tank cars from disengaging during derailments and thus to stop the coupler of one car from running into the head of an adjacent tank car. Detailed recommendations for regulations requiring these couplers on certain classes of tank cars carrying hazardous materials were made in 1972 and, finally, after exhaustive re-evaluation of the data, FRA is expected to propose regulations on the new couplers this year.

Another tank car safety development is the head shield, a metal plate attached to the car to guard the tank from punctures from the coupler of the adjacent car. A series of extensive tests has been conducted in the industry's tank car study to evaluate the effectiveness of various types of head shields and the proper method of securing these shields to the car. While the FRA has ordered shields to be included on cars carrying certain commodities, further tests continue in an effort to progress this idea.

Other developments in tank car safety include the consideration of methods of protecting bottom fittings on tank cars carrying certain commodities. Tests involving tank car steels, the improvement of valves, the effects of switchyard impacts and the development of a thermal shield to prevent the overheating of tank cars during fires have also been undertaken.

The Track-Train Dynamics program is the most comprehensive study now under way in the railroad industry. The study of track-train dynamics covers virtually all of the interacting forces that come into play in the operation of a train and this 10-year program is expected to have a major impact on safety. We expect that it will lead to improved operating practices, improved equipment and track structures and, as a consequence, to safer and more effective railroad service.

Many new procedures have been adopted in the continuing drive to provide a greater environment of safety in railroad operations. Ultrasonic

testing, with a history of use to detect hidden flaws in rails, is now part of the AAR's specifications for new wheels and axles on railroad equipment intended for interchange service. Magnetic particle inspection is also required for all new wheel plates and axles. Beyond this, some railroads are experimenting with an ultrasonic scanning system which will inspect wheel rims on moving trains and the industry is working to develop sonic scanning devices to detect roller bearing defects more quickly and less expensively than the disassembly procedures now in use.

Bearing research, in fact, is a continual process which intensified in the late 50s and early 60s. In those years, the railroads launched a multiple attack on the problem of overheated journal bearings ("hot boxes") which were one of the principal causes of derailments. Lubricating methods were improved, roller bearings were introduced and wayside hot box and dragging equipment detectors were developed to spot overheated journals before they reach the critical stage. Between 1969 and today, better than a 93 percent reduction in train accidents caused by broken axles -- a common result of the hot box -- has been recorded.

The results of railroad safety efforts -- The most important achievement of any safety program is a reduction in the fatal injuries to employees and to the general public. I am happy to be able to report that casualties from railroad accidents of all kinds have trended downward during the past decade. In Table 1, below, I have listed the numbers of fatalities in railway accidents for the past three years and, for comparison, for 1966. In terms of deaths to employees and passengers, 1976 shows the lowest total in any year since recordkeeping was initiated; the drop in employee fatalities is not just due to a drop in the number of people working for railroads: between 1966 and 1976 employment dropped by 23.4 percent (from 630,895 to 482,882) but fatalities decreased by 38.9 percent.

Fatalities in Railroad Accidents

<u>Categories</u>	<u>1966</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Employees	159	140	110	97
Passengers	23	7	8	5
Trespassers	678	565	524	456
Others	<u>1,824</u>	<u>1,192</u>	<u>918</u>	<u>1,093</u>
TOTAL	2,684	1,908	1,560	1,651

As good as the record is, any avoidable fatality means that some failure in the safety effort has occurred -- whether through equipment failure, inadequate employee training and safety rules or employee carelessness -- and the railroads intend to continue unabated their efforts at reducing fatalities.

While the number of fatalities does not depend upon the regulations under which the statistics are gathered, the same is not true of employee injuries. Beginning January 1, 1975, the FRA revised its reporting rules to provide consistency with OSHA recordkeeping requirements applicable to almost all other industries. These changes result in the necessity to report substantially more incidents. For example, unlike in previous years, any injury which requires any medical treatment is now reportable; any injury which requires a physician to use any instrument (such as a pair of tweezers to remove a splinter) is now reportable, as is any treatment by a physician which results in the dispensing of a prescription drug. Formerly, for example, employee injury was reportable only if it relieved the individual from the performance of his normal duties for a period in excess of 24 hours during the ten days immediately following the occurrence; under the current rules, no loss of time is necessary to require the filing of an accident report. Naturally, the new reporting requirements mean that, in raw numbers, the railroads are submitting a great deal more accident reports than for the years prior to 1975. However, because the railroad industry accident reporting rules now parallel those for other industries, a look at the reports of the Bureau of Labor Statistics,

U.S. Department of Labor, will enable a comparison of railroads with other forms of employment.

The BLS reports in terms of "incidence rates per 100 full-time workers" and its reports show that, in 1975, employees in railroad transportation had an incidence rate of 8.3 cases per 100 full-time workers. This compares with an incidence rate of 9.2 cases for all of the transportation and public utility sector and with a rate of 14.6 for trucking and warehousing, water transportation and transportation by air. The contract construction industry had a 1975 incidence rate of 15.7 and the manufacturing sector, a rate of 12.5. Indeed, a look at the chart attached as Appendix A, taken from the Occupational and Safety Health Reporter published by the Bureau of National Affairs, Inc., shows that the railroad transportation industry compared very favorably with virtually all industry groupings.

Unfortunately, at the same time that casualty rates were dropping and the incidence of injury was maintaining its low rate, the number of reported railroad accidents increased, as did property damage losses. The apparent paradox is a result, to some extent, of the kinds of accidents which railroads have, the way these accidents are reported and the standards by which they are viewed. Although railroad accidents are a serious problem by any standard, the degree of seriousness depends upon the vantage point from which they are measured. Because railroad accidents may disrupt vital transportation services, and occasionally are spectacular, they frequently are reported and viewed in terms that tend to maximize their impact.

Track related accidents continue to be a major cause category and one which the industry is working to reduce. One of the important facilities for the Track-Train Dynamics program was a special section of track at the Transportation Test Center in Pueblo, Colorado, which could be altered to introduce a variety of inputs to an experimental train. This track section

was incorporated into FAST Loop 1. It is hoped that this test loop, and other research work under way, will aid in the effort to reduce track caused accidents. The railroad industry shares congressional concern over the fact that, despite the existence of track standards for more than four years, derailments have not been reduced. In 1976, the Research and Test Department of AAR published an Analysis of Nine Years of Railroad Accident Data: 1966-1974. This analysis showed, among other things, that the bankrupt railroads in the Northeast and Midwest did not have a significantly different incidence of track caused derailments than did the solvent roads. With maintenance money thus not an issue, what remains?

The work being done independently by FRA to examine track safety standards and to introduce appropriate revisions in them, based on a better technical understanding of their role in safety, is of vital importance. However, since the work is being done independently of the railroad industry, there may well need to be careful, joint review of the findings before revisions in the regulations are made because of past experience in the adoption of regulations that, in fact, contribute little to safety. One possible area of investigation is the drawing of track standards based on dynamic, rather than static, factors. This may be especially important in view of the increase, over the past several years, of the use of heavier cars in unit-train service.

The number of major train accidents -- those that resulted in more than \$50,000 damage -- accounted for less than 10 percent of the total throughout the last decade and did not increase markedly, indicating that the trend upward in the number of train accidents has been caused primarily by increases in less severe accidents. These, too, must be eliminated but, when viewed from a reasonable perspective, the figures present less than a condition of crisis.

I wish I could announce to you today that the industry has found the way to eliminate track caused accidents, but I can't. It is a troublesome problem and one that doesn't seem to respond to simple solutions. What I can tell you is that many dedicated people are devoting lots of time and spending lots of money to find an answer. The Congress can help by using its power, perhaps exercised through oversight, to see that the railroads don't have to spend dollars complying with regulations that aren't cost-effective when those dollars could be better spent on improvements. Too often, our members want to make improvements X and Y and find themselves only able to afford part of X.

The transportation of hazardous materials -- The record of the railroads in moving hazardous materials is quite good. In 1975, the railroads moved 23,217,158 revenue carloads of freight; of these, approximately 1.7 million carloads contained either chemicals or petroleum products. Despite the fact that the first good data on the movement of hazardous materials -- derived from the use of the new discrete 49-Series Standard Transportation Commodity Code -- is not expected until later this year, it can be reliably estimated that more than half of the traffic in chemicals and petroleum products is classified as hazardous materials under the Department of Transportation regulations.

FRA accident reporting regulations require that each consist of cars which contains hazardous materials and which is involved in an accident must be reported; this means that the collision of two trains, each carrying at least one car of hazardous materials, will be the subject of two separate accident reports. In 1975, 736 consists with at least one car of hazardous materials were involved in accidents. These 736 consists totaled 54,000

cars, of which 5668 contained hazardous materials. Only 135 of these hazardous materials laden cars released any of their cargo. Whether one considers that only 135 of the total of more than 23 million cars moved by the railroads in 1975 sustained an accidental release of hazardous materials or whether one compares the number of cars accidentally releasing products to the nearly one million cars of hazardous materials which the railroads moved in that year, the safety record is one of which the industry is proud and, yet, it is one which the industry is constantly seeking to improve.

Between 1970 and 1976, 11 employees and 15 other persons were killed in hazardous materials accidents. Of the employee deaths, seven occurred at Decatur, Illinois, in 1974; one each happened in Wenatchee, Washington, and Houston, Texas, in that year and two employees were killed in Ventura, California, in 1973 when vandals released the brakes on a pressurized tank car containing liquefied petroleum gas, allowing the car to roll onto the main line and strike a locomotive.

In the 15 non-employee deaths, one resulted from the 1971 accident in Houston, Texas, in which a member of the local fire company was killed fighting a blaze which resulted from the derailment of a train which contained a tank car loaded with vinyl chloride; nine members of the Kingman, Arizona, fire company were killed in 1973 in an explosion which occurred following a fire during the unloading process of a parked tank car of LPG; one citizen of Herod, Ohio, was killed in 1973 when a derailling train struck a propane "nurse" tank; a contractor's employee was killed in Borger, Texas, in 1973 during unloading operations being performed on a tank car; one trespasser was killed at Wenatchee, Washington, in 1974, and two employees of a local industry were killed at Belt, Montana, in 1976.

Despite cynical statements by others to the contrary, absolutely none of these deaths are "acceptable" to the railroad industry in their performance of their common carrier duties to transport hazardous materials; however, it should be noted that no railroad operations were involved in half (13 of 26) of the total fatalities:

- The death in Houston in 1971 occurred while firemen were attempting to fight a blaze in a vinyl chloride tank car despite the statements of the Chief of that fire department that the conflagration involved chemicals over which they had no control and was so big that there was nothing effective which they could do about it;
- The two deaths in Ventura, California, in 1973 occurred as the result of actions by vandals;
- The Borger, Texas, fatality, also in 1973, occurred during an unloading process after rail transportation had been completed; and
- The 9 deaths in 1973 in Kingman, Arizona, occurred during fire fighting operations as a result of an unloading mishap which occurred after the tank car had been parked on a private siding for almost a month.

Despite a complete revision of the Hazardous Materials Regulations in 1976, the Materials Transportation Bureau has failed to adopt a hazard information system, developed through a cooperative railroad effort spearheaded by the AAR's Bureau of Explosives, which this industry believes could materially assist in the post-accident handling of derailments involving dangerous commodities. The railroad system, presented to MTB as a part of their Docket HM-126 proceeding, places primary reliance upon the exact identification of commodities on shipping papers. Within the logic of the Standard Transportation Commodity Code, a discrete "49-Series" Commodity Identifier has been established

which not only accommodates all existing commodities, but which makes provision for the inclusion of new commodities whether they are identified as hazardous by the Materials Transportation Bureau, the Occupational Safety and Health Administration, the Environmental Protection Agency, or any other arm of the government.

It is the firm belief of the railroad industry that if such a hazard identification system were adopted by the Department of Transportation, it would enable local emergency response personnel to receive the help they need in dealing with accidents involving hazardous materials. Through industry action, the 7-digit STCC numbers are now being included on railroad shipping papers but the effort to achieve 100 percent compliance would be materially aided if the DOT regulations required that shippers include such numbers in the papers they tender to carriers in all modes and if shippers were required to include, on these same documents, a 24-hour emergency response telephone number from which information could be gotten in the event that the particular load to which those shipping papers applied was involved in a mishap.

Because the railroad industry continues to believe that the detailed and specific implementations of statutes should be handled by administrative agencies, they have not yet sought legislation to implement their hazard information system and it is for this reason that the full, detailed description of this system, presented to MTB in AAR's comments on Docket RM-126, has not been included in my statement. I raise the issue only to illustrate the degree and intensity of the railroad industry's effort to continue to improve its already good record in the transportation of hazardous materials.

Other efforts to improve railroad safety -- While continuous attention is being given to the hardware involved in railroad accidents -- track, equipment, machinery and signals -- railroads are now beginning to place a greater emphasis than before upon the role which human factors play in such

accidents. Efforts are being made to more accurately assess the demands of various occupations including the mental aspects, physical requirements, and the environment in which tasks must be performed. As my earlier statements on training demonstrated, education is being used as another tool for better, safer railroads.

Many companies within the industry have established an employee systems program to deal with the problems which result from alcohol and drug abuse; in these programs labor representatives play an important role.

Recognizing the value of experienced employees, increased efforts are being made to rehabilitate those workers who suffer permanent disabilities as a result of injuries or illness; to the extent practicable employees are rehabilitated so that they may return to their regular occupation but, if not, through medical care and vocational testing and guidance, efforts are made to place them elsewhere in the organization where their talents can be utilized to advantage.

One element of the safety problem which appears to be increasing in scope is that of vandalism. Much has been written and said in recent months about missiles being thrown, and shot, by vandals against railroad equipment, and these incidents have led to the consideration of means by which train and enginemen could possibly be better protected. Moreover, the vandalistic acts also encompass interference with signals and other such thoughtless or criminal activities. Railroads have for years conducted programs in schools, before civic and fraternal organizations and in other forums in an effort to educate juveniles (who appear to be the prime offenders) concerning the potential results of their actions. These programs have been accelerated but the numbers of occurrences appear to be increasing. The 4,500 members of the railroad police forces throughout the United States and Canada strive valiantly

to stem this tide but with seemingly limited success. We recognize this as a societal problem, one with which the nation as a whole is confronted, but it is significant in the consideration of railroad safety.

I am pleased to have had this opportunity to appear before this Subcommittee and I will be happy to answer your questions.

James E. Martin

## OCCUPATIONAL SAFETY &amp; HEALTH REPORTER

Table 3. Occupational injury incidence rates in the private sector, by industry, United States, 1974 and 1975

Industry <sup>1/</sup>	BIC code <sup>2/</sup>	1975 annual average employment (in thousands) <sup>3/</sup>	Incidence rates per 100 full-time workers <sup>4/</sup>							
			Total cases <sup>5/</sup>		Lost workday cases		Disabling cases without lost workdays		Lost workdays	
			1974	1975	1974	1975	1974	1975	1974	1975
<b>Private sector</b> .....		61,651.0	32.0	31.2	3.1	3.0*	6.4	5.4	23.1	21.4
<b>Agriculture, forestry, and fisheries</b> .....		1,588.0	8.1	7.9	4.2	3.5	6.4	6.4	71.2	61.1
Agricultural production.....	01	n.e.	8.4	7.4	4.0	3.3	4.4	4.0	67.3	57.3
Agricultural services and hunting.....	07	n.e.	11.4	6.7	3.0	4.3	6.4	3.4	81.0	64.9
Forestry.....	08	n.e.	16.4	18.9	6.0	6.6	10.3	11.3	97.2	126.3
<b>Mining</b> .....		765.0	10.0	10.0	3.1	3.6	6.9	7.2	84.4	111.6
<b>Oil and gas extraction</b> .....	13	325.7	11.8	13.7	3.4	4.3	8.3	7.4	117.1	151.6
<b>Contract construction</b> .....		3,627.0	17.6	15.7	3.3	3.6	12.1	10.3	98.0	99.2
General building contractors.....	15	2,067.9	18.7	23.8	3.8	3.0	13.1	10.7	51.3	90.7
Heavy construction contractors.....	18	862.3	17.2	16.2	3.8	3.6	11.8	10.3	111.2	145.2
Special trade contractors.....	17	1,716.8	17.4	13.4	3.9	3.1	11.5	10.0	94.0	97.8
<b>Manufacturing</b> .....		18,357.0	14.0	12.3	6.5	4.3	9.3	8.3	70.2	75.2
<b>Durable goods</b> .....		10,678.6	19.2	13.3	4.8	4.6	10.3	8.9	74.2	77.3
Furniture and accessories.....	19	178.4	4.6	3.7	1.6	2.0	4.4	3.7	33.2	26.4
Lumber and wood products.....	24	328.9	21.8	20.1	6.3	6.4	12.5	11.4	154.4	138.0
Furniture and fixtures.....	23	430.7	17.4	13.6	3.7	3.0	13.2	10.4	77.0	60.8
Rubber, clay, and glass products.....	32	813.3	17.3	13.9	6.1	5.0	11.4	8.2	104.2	109.2
Primary metal industries.....	33	1,179.7	18.0	18.7	6.6	6.7	12.4	10.3	109.8	112.9
Fabricated metal products.....	34	1,319.8	23.4	16.3	6.6	6.4	11.8	13.1	94.1	143.3
Machinery, except electrical.....	35	3,686.0	18.1	15.4	4.6	4.4	11.3	9.6	63.9	67.2
Electrical equipment and supplies.....	36	1,760.6	9.4	7.9	2.4	2.9	8.9	3.8	29.4	37.8
Transportation equipment.....	37	1,848.1	14.4	12.6	2.3	4.6	9.9	4.3	67.1	74.7
Instruments and related products.....	38	488.8	7.4	6.6	1.1	2.0	3.3	4.6	19.3	33.7
Miscellaneous manufacturing industries.....	28	646.4	11.6	10.4	3.9	3.3	8.3	2.4	36.7	34.9
<b>Non-durable goods</b> .....		2,687.8	12.0	10.8	4.3	3.9	8.0	2.0	63.3	68.8
Food and kindred products.....	20	1,474.4	18.8	17.3	7.1	7.0	11.7	10.3	123.3	108.8
Tobacco manufactures.....	21	73.3	8.4	10.8	2.3	3.9	9.4	6.6	27.4	35.4
Textile mill products.....	22	901.3	20.8	9.8	2.3	3.4	8.7	2.4	64.6	48.8
Apparel and other textile products.....	23	1,213.1	6.4	3.6	1.8	1.8	3.1	4.2	28.3	37.1
Paper and allied products.....	24	642.7	12.7	13.0	4.3	4.0	10.0	9.0	61.4	64.8
Printing and publishing.....	27	1,079.3	7.5	6.3	3.9	2.6	4.9	4.1	35.4	37.2
Chemical and allied products.....	28	1,012.3	8.3	7.3	3.4	2.4	3.8	2.4	43.7	43.4
Petroleum and coal products.....	29	377.4	4.4	6.7	7.9	3.0	6.0	3.7	37.3	41.0
Rubber and plastic products, n.e.c.....	30	347.4	17.1	13.2	6.3	6.0	10.2	8.4	117.7	112.1
Leather and leather products.....	31	256.8	10.6	10.3	3.4	3.3	7.3	6.4	44.2	32.8
<b>Transportation and public utilities</b> .....		6,458.0	10.3	8.2	6.7	4.6	5.6	4.4	38.5	37.2
<b>Railroad transportation</b> .....	40	337.4	8.4	6.3	3.9	4.0	4.4	3.3	99.3	77.8
<b>Local and interurban passenger transit</b> .....	41	270.2	6.0	8.3	4.2	4.3	3.4	4.3	77.0	61.7
<b>Trucking and warehousing</b> .....	42	1,043.3	17.7	16.6	8.3	7.4	9.3	2.1	137.6	144.0
<b>Water transportation</b> .....	44	189.8	13.0	14.4	7.2	2.4	7.3	7.0	182.3	274.3
<b>Transportation by air</b> .....	43	341.4	15.0	16.6	6.6	2.7	7.1	7.4	23.0	31.1
<b>Pipeline transportation</b> .....	45	18.9	4.4	4.6	1.6	1.3	3.2	3.0	37.0	75.3
<b>Transportation services</b> .....	47	138.0	6.2	6.1	3.8	2.6	3.4	3.3	34.6	32.6
<b>Communication</b> .....	48	1,163.3	3.9	2.9	1.3	1.3	1.4	1.4	25.4	31.6
<b>Electric, gas, and sanitary services</b> .....	49	732.3	6.7	9.1	3.4	3.7	8.9	3.4	33.3	69.3
<b>Wholesale and retail trade</b> .....		18,917.0	6.3	7.2	2.7	2.4	3.3	4.4	26.4	30.9
<b>Wholesale trade</b> .....	50	4,377.8	9.1	2.6	3.3	3.1	3.8	6.7	49.4	47.7
<b>Building materials and lawn equipment</b> .....	51	681.8	10.9	9.3	3.3	3.3	7.3	6.0	33.4	37.3
<b>Retail general merchandise</b> .....	53	2,489.3	6.4	7.3	2.9	2.3	3.6	4.4	31.4	23.4
<b>Food stores</b> .....	54	1,935.1	11.3	10.1	3.6	3.3	7.8	6.4	31.2	31.3
<b>Automotive dealers and service stations</b> .....	55	1,442.4	8.8	6.0	2.9	2.4	8.3	3.4	33.4	36.2
<b>Apparel and accessories stores</b> .....	56	711.1	2.0	1.9	1.2	1.1	1.3	1.4	4.4	13.0
<b>Furniture and home furnishings stores</b> .....	57	310.0	3.3	4.7	3.1	1.9	3.7	2.8	28.2	39.2
<b>Shoe and clothing stores</b> .....	58	1,249.4	7.3	6.7	2.3	2.2	3.3	4.3	26.3	28.2
<b>Miscellaneous retail stores</b> .....	59	1,432.3	4.0	3.3	1.2	1.4	2.1	2.1	31.1	24.4

See footnotes at end of table.

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Table 3. Occupational injury incidence rates in the private sector, by industry, United States, 1975 and 1976—Continued

Industry <sup>1/</sup>	1975 cases <sup>2/</sup>	1976 cases <sup>2/</sup>	Incidence rates per 100 full-time workers <sup>3/</sup>							
			Total cases <sup>4/</sup>		Lost workday cases		Beneficial cases without lost workdays		Lost workdays	
			1975	1976	1975	1976	1975	1976	1975	1976
Finance, insurance, and real estate.....	4,221.0	7.3	7.2	.8	.8	1.6	1.4	9.9	11.1	
Banking, secondary business, and services.....	1,379.5	1.4	1.5	.5	.4	2.1	1.2	4.4	9.0	
Security, secondary business, and services.....	179.4	1.0	2.0	.3	.4	.6	.6	9.6	3.9	
Insurance carriers.....	1,193.9	1.4	1.4	.4	.4	1.1	1.1	8.9	9.4	
Real estate.....	186.7	4.5	5.2	2.0	2.0	9.2	3.9	17.9	26.7	
Services.....	13,700.9	5.4	5.1	1.8	1.8	3.4	2.7	22.1	21.0	
Public and other utility services.....	475.4	4.0	7.4	7.5	2.4	4.6	9.4	36.7	41.9	
Personal services.....	934.0	9.3	3.7	3.3	1.9	3.0	2.9	29.4	10.1	
Hotel, restaurant, and recreation services.....	1,915.0	3.4	3.0	1.8	2.0	2.4	2.9	29.2	32.7	
Auto repair, services, and other services.....	94.4	10.3	4.6	6.2	3.2	4.9	3.5	31.1	19.7	
Miscellaneous repair services.....	217.3	11.9	3.9	3.9	5.0	6.0	8.0	58.4	43.1	
Woolen products.....	207.0	3.6	2.3	1.0	1.0	2.7	2.6	29.9	25.7	
Amusement and recreation services, other.....	94.4	4.0	3.4	6.2	4.4	3.2	3.3	34.6	38.2	
Medical and other health services.....	4,193.3	1.0	4.4	2.7	1.4	4.4	4.0	11.1	14.1	
Educational services.....	1,214.1	3.9	3.4	1.1	1.5	4.3	3.4	13.3	19.1	
Research, technical, and engineering.....	64.4	9.7	4.0	2.1	2.9	5.4	9.4	36.8	43.7	
Miscellaneous services.....	877.9	2.1	2.0	.7	.9	1.0	1.4	9.3	3.3	

<sup>1/</sup> Industry division totals include data for industries not shown separately.  
<sup>2/</sup> Standard Industrial Classification Manual, 1967 edition.  
<sup>3/</sup> Annual average employment for nonagricultural industries is based on the establishment survey conducted by the U.S. Department of Labor's Bureau of Labor Statistics, in cooperation with State departments. Annual average employment for the agriculture, forestry, and fisheries division is a composite of estimates from the BLS survey and estimates provided by the Statistical Reporting Service, U.S. Department of Agriculture.  
<sup>4/</sup> The incidence rates represent the number of injuries or lost workdays per 100 full-time workers and were calculated as: (1975) 100,000 cases / (1975) 1,000,000 workers = number of injuries or lost workdays per 100 full-time workers during calendar year  
 100,000 = base for 100 full-time equivalent workers (working 40 hours per week, 52 weeks per year)  
<sup>5/</sup> Includes fatalities. Because of rounding, the difference between the total and the sum of the rates for lost workday cases and beneficial cases without lost workdays may not reflect the fatality rate.  
 NOTES: n.a. = employment estimates are not available.  
 o.n.e. = not elsewhere classified.  
 SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

Table 4. Occupational injury rates, private sector, by employee class and industry division, United States, 1975 and 1976

Number of employees	Incidence rates per 100 full-time workers <sup>1/</sup>																	
	Private sector		Agriculture, forestry, and fisheries		Finance		Construction		Manufacturing		Transportation and public utilities		Wholesale and retail trade		Finance, insurance, and real estate		Services	
	1975	1976	1975	1976	1975	1976	1975	1976	1975	1976	1975	1976	1975	1976	1975	1976	1975	1976
All cases	10.9	9.8	9.1	7.9	10.0	10.9	17.9	19.7	14.0	12.3	13.5	9.7	4.3	9.3	3.2	2.8	5.9	5.2
1-19	3.9	4.3	9.3	4.7	4.7	33.4	10.1	11.0	4.0	7.0	4.5	2.4	3.4	1.0	1.9	1.9	2.9	2.0
20-49	9.5	8.4	10.7	9.1	10.9	32.0	10.7	10.1	13.7	13.4	12.1	10.1	4.4	7.1	2.1	1.0	3.0	3.7
50-99	17.5	11.7	11.9	11.3	11.4	15.4	21.0	20.1	14.1	10.3	11.0	10.9	10.0	3.4	2.4	2.1	7.1	3.9
100-149	13.7	12.7	13.5	12.1	12.2	13.2	12.3	12.9	13.7	11.6	9.4	11.4	10.9	3.0	3.4	2.7	7.4	7.4
150-199	11.9	11.4	13.5	10.4	9.2	10.2	10.1	19.6	10.4	11.1	9.3	9.8	11.4	13.5	2.8	2.7	6.1	7.3
200-299	11.2	10.0	19.4	14.1	9.4	7.4	19.3	19.7	13.1	11.7	9.4	9.4	11.0	10.5	1.4	2.4	6.3	9.0
300-1,000	9.8	8.7	13.1	10.8	9.5	4.4	11.4	14.4	11.0	9.3	8.9	8.0	10.4	12.4	2.4	2.4	7.9	7.4
1,000 and over	8.4	7.5	-	-	9.4	2.7	4.1	3.9	9.0	7.9	6.1	8.5	9.4	6.7	1.6	1.0	3.0	3.4

<sup>1/</sup> The incidence rates represent the number of injuries per 100 full-time workers, and were calculated as: (1975) 100,000 cases / 1,000,000 workers = number of injuries per 100 full-time workers during calendar year  
 100,000 = base for 100 full-time equivalent workers (working 40 hours per week, 52 weeks per year)  
 NOTES: Dashes indicate no data reported.  
 SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

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Mr. ROONEY. Thank you, Mr. Martin.

On page 11 of your statement you state that "The Congress can help the safety program by using its power to see that railroads don't have to spend dollars complying with regulations that are not cost effective when those dollars could be spent on improvements."

I wonder if you could explain for the subcommittee and elaborate on this statement, by giving a few examples of regulations which you believe are not cost effective.

Mr. MARTIN. Yes. It is difficult to say that a regulation is not cost effective because I am not confident there has been that much developed in terms of—you know the analysis has not been made. I believe though there is a need to evaluate just what regulation has done in terms of preventing accidents, and what legislation has done in terms of preventing accidents.

Let me try to summarize one that I am quite familiar with, after spending 33 years in the railroad industry and having been involved in a lot of terminal operation. I can tell you that one of the rules that for some reason to me has gotten completely out of focus to some extent is a time-honored, blue flag rule.

Mr. ROONEY. I was going to get to that in my next question.

Mr. MARTIN. The railroad industry traditionally has been concerned with the blue flag regulation. I can recall in my early days of general yard master and train master one of the first things I learned about was the blue flag regulation which was contained in the operating rules of the railroad. It seemed to be very effective, but over the years we have had regulation promulgated, subsequently legislation amendment to the Safety Act of 1970 to the blue flag regulation, and we now have a blue flag regulation which to me is very cumbersome, and I question whether or not the people on the ground—I think we understand it—I question whether or not there is any good understanding of that rule in its present form for the people who are actually involved in the work.

Now I can't say, because it really hasn't been in effect that long, that it has not been cost effective, but there has been a lot of time and effort put into that particular rule, and we now have a rule that you know it is just my own personal feeling, that we really haven't gained much in terms of safety, and I believe there is a great opportunity here to direct our attention towards activities that will improve safety; and I am sold solid on the idea of the continuing research into causes of accidents. I am also concerned about the training and education of the employees.

We live in quite a different society today, and we do need to shore up the activity, education and training, and I think some of our activity could be directed that way, to improve safety in the railroad industry.

Mr. ROONEY. I noticed in your statement toward the end you talked about fatalities, and I believe you named three or four incidents where employees were killed at switching sites. You gave some statistics.

Mr. MARTIN. Oh, yes, in connection with hazardous material accidents, Decatur, Illinois; Wenatchee, Washington; Ventura, California.

Mr. ROONEY. You also mentioned the fact that the AAR is getting together to more or less get all other railroads to be more efficient with respect to car identity.

Mr. MARTIN. Yes, sir.

Mr. ROONEY. And yet at the same time in the Metuchen incident, one of the great problems was trying to evaluate what was in that car. I believe Mr. Florio brought that out.

Mr. MARTIN. Yes.

Mr. ROONEY. The manifest indicated—well, they couldn't determine what the contents of the car were.

Let me ask you a question.

Is the B&O a member of your Association?

Mr. MARTIN. The Chessie System, yes.

Mr. ROONEY. Was it a B&O car?

Mr. MARTIN. To my knowledge it was, yes.

Mr. ROONEY. What happened to this identification factor you talked about?

Mr. MARTIN. I did not investigate the accident at Metuchen, but I would like to say this, and from my very brief knowledge of it, I believe that the proper mechanics were there for identification of this material. I wasn't on the scene, but I do know that in the case of ConRail and every railroad in the country, they have a system internally to identify shipments, either on the manifest or the waybill, and in addition to that, the regulations require that information be given to the crew members on hazardous materials in their train.

It doesn't go into a lot of detail. It just tells them that they have X number of cars that have hazardous materials in the train, and the location in the train, but they do have in their possession a waybill from which they can refer to determine what the material is in the car.

You know I am telling you again, from my own personal experience, and I have been at a lot of derailments. I personally have never had any problem determining what the material is, either from the waybill or the consist.

While it is true that perhaps that information was not given or relayed to public authorities, that could happen. I think that could happen, but I think the railroad people, responsible supervisory people, do know and can get the information on the materials in the cars.

Mr. ROONEY. I am not going to ask you for the information because I think it would be presumptuous on my part, but I think for the benefit of the AAR, I would admonish you to take a look at that manifest, and see whether or not there might have been a mistake with respect to the identification of the contents of that car.

Mr. Florio.

Mr. FLORIO. Just following up on that last point, to convey to the crew and to the railroad officials there the contents of a car, does it follow then that they know what to do to deal with the possibility of a derailment of a car of that sort?

Mr. MARTIN. I would have to answer that this way: Not necessarily. However, there is information available to them. Let's try to approach it in a little different way.

When the accident occurs, and the crewmen determine what is involved in the derailment, what type of lading, they immediately, as quickly as they can, communicate with the dispatcher. The dispatcher in turn, who has access to information on the consist of the train, will then refer to the appropriate people, Bureau of Explosives, for example, or Chemtrak, or even the shipper to determine what precautions ought to be taken in connection with that material.

Additionally we prepare, AAR does for distribution in the industry, a manual, which gives very brief information. It is designed for employees. That doesn't mean that we know that there is completely wide circulation of that, but we also distribute a book which covers some emergency responses and some things that ought to be done in connection with hazardous material.

We have encouraged the railroads to obtain these books from us, and distribute them to local enforcement and police and fire. In fact, there is one railroad that has distributed about 4,000 copies of this to the State police in that particular State so that there is information available on emergency handling of hazardous materials. And from the standpoint of the crew member, he may not have that information at his fingertips, but as soon as he reports the incident, the machinery is put into motion for everybody to contact the people who are the experts to receive the technical advice.

Perhaps that is not a good answer but that is the way it works.

Mr. FLORIO. Shifting the subject for a moment, Title V of the 4R Act provides more moneys for railroads to upgrade track and upgrade equipment.

Have you had any constituent railroads come to you with regard to how that program is operating? Is the money getting out into the field for the purposes of upgrading as rapidly as it should?

Mr. MARTIN. There haven't been any railroads who have come directly to me, but there has been involvement with other officers of our Association, and I do know that railroads have made requests. I don't know to what extent. I also know that there have been some problems in obtaining those funds. There seems to have been.

Mr. FLORIO. If you could, Mr. Chairman, would it be appropriate to request, perhaps as a result of the hearing, if you might provide the committee with any information that you have, any way of complaints or points that have been brought to your attention?

It has been raised with me by a number of railroads that in fact the moneys aren't flowing, that applications have been submitted, and that the applications are not being processed as expeditiously as possible, and this is hampering the ability of the railroad to use those moneys that Congress provided for the improvement of equipment and the upgrading of rails. Anything that you may have in that direction, or in opposition to that viewpoint, we would appreciate.

Mr. MARTIN. Yes, sir.

Mr. ROONEY. Thank you very much. We appreciate your appearance here today.

Mr. MARTIN. Thank you.

Mr. FLORIO [presiding]. Mr. William Barwis, Manager of Rail Passenger Operations, Michigan Department of State Highways and Transportation.

Will you proceed, please?

**STATEMENT OF WILLIAM BARWIS, MANAGER, RAIL PASSENGER OPERATIONS, MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION**

Mr. BARWIS. We appreciate this chance to testify.

My testimony is brief, just two pages, so let me read it please.

The State of Michigan, Department of State Highways and Transportation, respectfully submits this testimony to indicate the current condition of Consolidated Rail Corporation trackage in the heavily used Detroit-Chicago corridor.

I might say heavily used not as compared to the Northeast.

A major segment of this trackage has been allowed to deteriorate from Federal Railroad Administration Class 3—60 mph for passenger trains—to Class 2—30 mph for passenger trains—standards and if work is not performed in the near future, we believe that certain segments may become unsafe for passenger train operations.

Michigan has made a major commitment to rail freight and passenger service during the past 3 years. In the freight program, approximately 900 miles of railroad have been acquired or are under lease, including virtually the entire Ann Arbor Railroad, and millions of dollars are being spent to remove slow orders and safety waivers. Our rail passenger program includes operating subsidies totaling \$2 million annually for three Amtrak trains operating about 1,250 miles each day. In addition, \$5 million has been spent to upgrade track and facilities to improve Amtrak schedules and increase ridership.

The largest Amtrak-State track upgrading project is in Michigan—this is a joint program and not strictly Amtrak funding—where \$9 million is being spent to remove slow orders and raise passenger train speeds to 79 mph on Amtrak-owned railroad between Kalamazoo, Michigan and Michigan City, Indiana, a distance of 90 miles. Amtrak operates eight daily trains over this trackage that was conveyed from Penn Central, two of which are State subsidized. Michigan is committed to making rail passenger service viable and expanding its role in Michigan's transportation network. The Michigan Legislature has passed a resolution requesting Amtrak to designate Detroit-Chicago as a high speed corridor with between 6 and 12 daily round trips and operating at from 79 to 110 miles per hour. The legislature has also indicated that it will seriously consider appropriating the money for the State's share of such a service. Amtrak is interested in this corridor as well, and a joint task force has been set up to study the feasibility of high speed service.

However, ConRail has been less than cooperative in maintaining its part of the Detroit-Chicago corridor. The most heavily used portion, between Detroit and Jackson, has been reasonably well maintained. New ties and ballast have been added as needed and the track resurfaced, although no new rail has been installed.

On the other hand, the railroad between Jackson and Kalamazoo has been seriously neglected in recent years. There are 68 double-track miles, of which fewer than 10 miles have been upgraded on the eastbound track since April 1976, and no work has been performed on the westbound track. The result has been steadily deteriorating conditions, with 28 miles of the westward track and 5 miles of the eastward track reduced to 30 mph. If some new ties are not installed soon, some segments may have to be reduced to 10 mph, or possibly less than that. The estimate to restore track speeds to FRA Class 3 standards is less than \$2 million.

The effect of ConRail's neglect has been devastating to Amtrak in Michigan. From the summer of 1974 to the same period in 1975, ridership in the Detroit-Chicago corridor showed spectacular growth, increasing by 80 percent. Such a large increase resulted from new equipment, heavy advertising, and a third daily round trip train. Ridership from 1975 to 1976 was down very slightly because advertising was reduced, but the figures from the spring of 1977 have dropped nearly 20 percent as compared to 1976.

The primary reason for this decrease has been passenger dissatisfaction with the increasing train delays. These delays are more with westbound trains because this track has more miles of speed restrictions than the eastbound track. In both directions, however, the trains are arriving at their destinations between 30 and 60 minutes late consistently—and I may note that this is only 300 miles that we are talking about—making it difficult for passengers to plan their schedule and thus discouraging them from riding. Since Amtrak has a high ratio of fixed train operating costs, this corridor's deficit has increased and Federal and State subsidies must be larger.

In the past, the State and Amtrak attempted to reverse this trend with Penn Central by appropriating \$330,000 to remove slow orders between Detroit and Jackson. Neither the State nor Amtrak can now afford to fund routine maintenance, however. With freight trains using the same track and the Federal subsidies to ConRail, we should not be required to support this maintenance.

Local ConRail officials informed us that no work is programmed between Jackson and Kalamazoo in 1977, and in fact the 3-year plan does not include any rehabilitation of this segment. The apparent rationale is the low freight tonnage carried on this route, which we estimate to be about 5 million gross ton-miles annually. We are concerned that certain segments may deteriorate to the point where passenger train safety becomes an issue. Detouring Amtrak trains is not possible in this corridor because there is no parallel route serving the major cities.

Under normal conditions, the recourse against ConRail would be an arbitration case filed by Amtrak. Using the section in the Rail Passenger Service Act of 1970 on track utility, Amtrak would attempt to prove that ConRail has not maintained its track to the May 1, 1971 standards. However, ConRail insists that it is not encumbered by agreements of a bankrupt railroad, and thus is not required to maintain the track in its 1971 condition.

We respectfully request that Congress investigate the adequacy of ConRail expenditures for track maintenance on passenger routes to protect the interest of Amtrak, its passengers, and the general public.

Thank you for the opportunity that you have provided us to comment on this matter.

[An attachment to Mr. Barwis' statement follows:]

CONSOLIDATED RAIL CORPORATION  
MICHIGAN DIVISION  
30 MILES PER HOUR SPEED RESTRICTIONS  
JACKSON TO KALAMAZOO  
JULY 12, 1977

MILE POST	WESTBOUND TRACK (miles)	EASTBOUND TRACK (miles)
75.4 - 75.6	0.2	
75.1 - 75.6		0.5
79.5 - 80.2	0.7	
79.5 - 80.1		0.6
81.7 - 82.5	0.8	
83.5 - 85.1		1.6
88.0 - 97.5	9.5	
104.2 - 104.6		0.4
106.0 - 107.0	1.0	
112.6 - 114.2		1.6
126.0 - 141.5	<u>15.5</u>	—
TOTAL MILES AT 30 M.P.H.	27.7	4.7

Mr. FLORIO. Sir, does Amtrak feel the same as you do?

Mr. BARWIS. Yes, they do.

Mr. FLORIO. What I will do is request that the chairman send a copy of your remarks to ConRail for response, and then get back to you with regard to their response.

Mr. BARWIS. Fine.

Mr. FLORIO. We thank you for your testimony.

Mr. BARWIS. Thank you very much, Mr. Chairman.

Mr. FLORIO. Mr. William C. Jennings.

**STATEMENT OF WILLIAM C. JENNINGS, ATTORNEY CONSULTANT  
ON REGULATORY PROCEDURES, FRANKLIN, TENNESSEE**

Mr. JENNINGS. Mr. Chairman and members of the subcommittee:

I am Will Jennings, a lawyer from Franklin, Tennessee. I was pleased to receive your invitation to make this statement, and am happy to accept it. Since the creation of the Department of Transportation, I have been involved in the DOT hazardous materials program, as either a participant or close observer. Therefore, this statement is based on personal knowledge.

I have had more than 14 years of full-time experience in safety regulatory programs. This experience began in December 1962, when I joined the staff of the Administrator of the Federal Aviation Agency as a consultant on regulatory procedures. Four months later, I was named Executive Director of the FAA Regulatory Council. In mid-1968, I was named Chairman of the Hazardous Materials Regulations Board, in the Department of Transportation, a position I held until I resigned from Government in November 1970. While Chairman of this board, I also directed the Office of Hazardous Materials and the Office of Pipeline Safety.

When I resigned from Government, I returned to the practice of law, as a consultant on regulatory procedures. My clients have been government agencies, shipping companies, container manufacturers, and operators of pipelines. This is a specialized kind of law with few practitioners. And the clients are widely scattered. I am probably the only lawyer in the State of Tennessee who does not have a client in Tennessee.

A safety program consists of management and money, capable management and adequate money. The only absolutely limiting factor in a safety program is money. There are political and technical factors, of course, but they are not absolutely limiting, that is, they can be overcome. But, if we are willing to spend the money, we can send people to the moon and bring them safely back to earth.

How much money are we willing to spend on a safety program? That is a matter of policy for Congress to decide.

Money alone doesn't insure safety. It has to be adequately managed and effectively spent. So the presence of money doesn't insure the success of a safety program, but the absence of money insures failure.

The DOT hazardous materials program is deficient in many ways, but I did not come here today to talk about program shortcomings. If you want a statement of program deficiencies, I shall submit a written statement detailing them. But it would be a waste of time to

discuss program deficiencies of an organization that, as now constituted, is incapable of correcting them. Instead, I invite the committee's attention to the organizational shortcomings.

Those shortcomings are a lack of management and a lack of money.

The DOT hazardous materials program is deficient because the organization that performs the function has been neglected by the Secretary of Transportation, the Office of Management and Budget, and the Congress. Since I do not expect you to take this statement on faith, I shall support it with a chronology of events.

When Alan Boyd, the first Secretary of Transportation, asked me to take over the DOT hazardous materials program, I declined. I had just received an appointment as a Federal Executive Fellow at the Center for Advanced Study at the Brookings Institution, which I considered a much more attractive opportunity. But after further discussion, I accepted the offer. My acceptance was based in large part on Secretary Boyd's promise to provide the resources that would be needed to do the job.

Secretary Boyd kept his promise—well, almost. In the fiscal year 1970 budget, prepared in the fall of 1968—that is the first budget I prepared—he approved 100 of the 137 people I requested for the Office of Hazardous Materials. After the 1968 election, for reasons that this committee knows better than I, the Bureau of the Budget cut this figure back to 35.

As far as I have been able to see, Alan Boyd was the only Secretary of Transportation who ever gave affirmative support to the hazardous materials program. Unfortunately, he left before we could get the program organized. Secretary Adams may take an interest in the program, but I have seen nothing so far to suggest it. I hope that the oversight functions of this committee will get his attention.

The number of people assigned to a regulatory program is a good way—perhaps the best way—to determine the amount of interest in the program. The long-continued lack of interest in the DOT hazardous materials program, on the part of the Secretary of Transportation, the Office of Management and Budget, and the Congress, is clearly shown by the personnel figures in the following chart:

This chart shows the personnel positions that OHMO has requested and received since 1968.

	OHMO Request	DOT to OMB	President's Budget	Available to OHMO
FY-69	25	25	25	20
FY-70	137	100	35	30
FY-71	80	65	65	35
FY-72	*	68	38	38
FY-73	*	55	42	39
FY-74	*	47	37	37
FY-75	*	44	40	40
FY-76	*	59	88	67
FY-77	*	111	67	67
FY-78	*	83	74	

\* I did not prepare these figures, so I prefer not to be specific. However, from conversations with the OHMO officials through the years, I believe that each figure exceeded \$0.

"Available to OHMO" is what OHMO actually got out of the appropriations after they were subject to the annual OMB/DOT siphoning.

Mr. JENNINGS. You will note that the program has received at best only sporadic support.

Since 1968, Congress has passed a number of laws that imposed additional workload on the hazardous materials people. The principal one of these was the Hazardous Materials Act of 1974. Others are the various environmental protection acts. These acts, prescribing new functions and detailed procedures, have at least doubled the workload that we faced in 1968. Despite the increased workload, the staff of the Office of Hazardous Materials Operations is today only two thirds as large as the number that Secretary Boyd approved in 1968.

For years the Director of the Office of Hazardous Materials was a grade GS-17. On July 1, 1975, the Secretary of Transportation downgraded the Director to GS-15. And that is apparently the grade at which the Secretary intends to keep the office, because the fiscal year 1978 budget projects that grade. This is a clear indication of the low regard in which the Secretary holds the hazardous materials program. There are 17 GS-18, 22 GS-17, and 58 GS-16 positions in the Office of the Secretary. Evidently, the Secretary believes that 107 of his staff people perform functions more important than the administrator of this national safety program.

From the standpoint of the weight of responsibility of the office, and the impact on the welfare of the people of the country, the Director of the Office of Hazardous Materials Operations rates a GS-18 ahead of most of the paper pushers on the Secretary's staff. I have seen nothing to show that Congress objects to the Secretary's downgrading of the program.

The Director of the Office of Hazardous Materials Operations is the lead official in the Department of Transportation in the hazardous materials safety field. His duties require him to coordinate the hazardous materials safety program of the entire Department. As a GS-15, he does not have the organizational standing to do the job. It is like having a colonel serve as chief of the Joint Chiefs of Staff, trying to lead a group of 4-star generals. Until the Secretary of Transportation gives the Director of the Office of Hazardous Materials Operations an appropriate grade—and I think it should be a grade GS-18—the Director will not be able to develop an adequate hazardous materials safety program.

There are deficiencies in the DOT hazardous materials program. And it is a proper function of this committee to inquire into those deficiencies. But the program deficiencies will not—cannot—be corrected until the Secretary of Transportation corrects the organizational deficiencies.

Providing the Office of Hazardous Materials Operations with an adequate staff—of appropriate grade level and breadth of background—is a necessary first step toward establishing an adequate hazardous materials safety program. Therefore, I respectfully recommend that this committee focus its attention on correcting the organizational deficiencies.

Mr. Chairman, I thank the committee for the opportunity to make this statement. I shall be happy to answer any questions or furnish any further information that you may require.

Mr. FLORIO. Thank you for your suggestions.

I would just ask that in the event that personnel levels were increased, and the gradings were increased, have you any substantive suggestions as to what should be done to improve hazardous waste regulations, hazardous materials regulations, in the railroad system?

Mr. JENNINGS. In the railroad system? I am not well enough acquainted with the railroad system to add to the testimony that you have gotten during these 2 days. I do know of areas that should be addressed and are not being addressed, but since the hazardous materials is an intermodal matter, my comments do not relate directly or solely to railroads, but to hazardous materials as a subject.

Mr. FLORIO. Thank you very much for your testimony.

The hearing in this matter is adjourned.

Thank you very much.

[The following statement was received for the record:]

Statement of  
THOMAS G. CRICELAIR  
Assistant Director  
National Association of Railroad Passengers

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Submitted for the Record  
Subcommittee on Transportation and Commerce  
Committee on Interstate and Foreign Commerce  
U. S. HOUSE OF REPRESENTATIVES

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Freight Train Derailments on the Northeast Corridor  
July 28, 1977

My name is Thomas Crikelair. I am Assistant Director of the National Association of Railroad Passengers.

The National Association of Railroad Passengers is a non-profit, consumer organization supported entirely by membership dues and contributions. We receive no financial support from the government, the railroad companies, Amtrak, or the railroad labor unions.

My statement will be very brief. I wish simply to offer to the Committee a brief account of one of my own experiences on the Northeast Corridor.

In late November of 1976 I was traveling on the Washington section of the Chicago-bound "Broadway Limited." Traveling north on the corridor, we passed the Perryville Tower between Baltimore and Wilmington, just north of the Susquehanna River bridge. As the train traveled north on the double track -- at a healthy 80 mph -- a southbound freight approached some distance ahead of us on the

inside track of a wide banking curve. A single box car in the mid-section of the freight train derailed and jack-knifed onto the outside track -- directly in the path of the approaching passenger train.

The freight crew signaled the approaching train and the passenger engineer threw his train into emergency. We were almost stopped by the time we hit the freight car. The impact sent passengers lurching forward in their seats, spilled the conductor's coffee, and sent cups and condiments flying off the snack bar counter.

The front end of the "GG-1" -- one of the most massive pieces of machinery in operation on the corridor -- was badly ripped up. The engine and the two front baggage cars were sitting on the ground. The derailed box car was entangled with one of the baggage cars and looked as if some one had ripped it up with a giant can opener.

This was, need I say, a very close call. How would we have fared if we had hit that car going around that curve at 80 mph? Even with our slow speed at the time we hit, I was happy to be protected by the GG-1. How would an unprotected Metroliner have fared? Traveling at 120 mph?

I have been in one freight-passenger collision on the Northeast Corridor, and I hope it will be my last. I hope that the day never comes when we are all sitting in our respective offices reading in the morning papers about a high-speed 120mph catastrophe on these tracks.

The words of the chief operating official for the Northeast Corridor would cause me the gravest concern were I a public official with the job of making policy decisions regarding the future of this corridor route. Mr. Bertrand has gone on record on several occasions

stating: "It is only by the grace of God that someone has not already been killed or hurt on this route. ... Something has got to be done to get those (through) freight trains off the corridor."

I cannot make the job of rerouting through freights off the corridor less complicated than it is. Nor can I make the task a less expensive one. But neither the dimensions of the problem nor the cost of solving it will make the problem go away.

**[Whereupon, at 12:15 p.m., the subcommittee was adjourned.]**

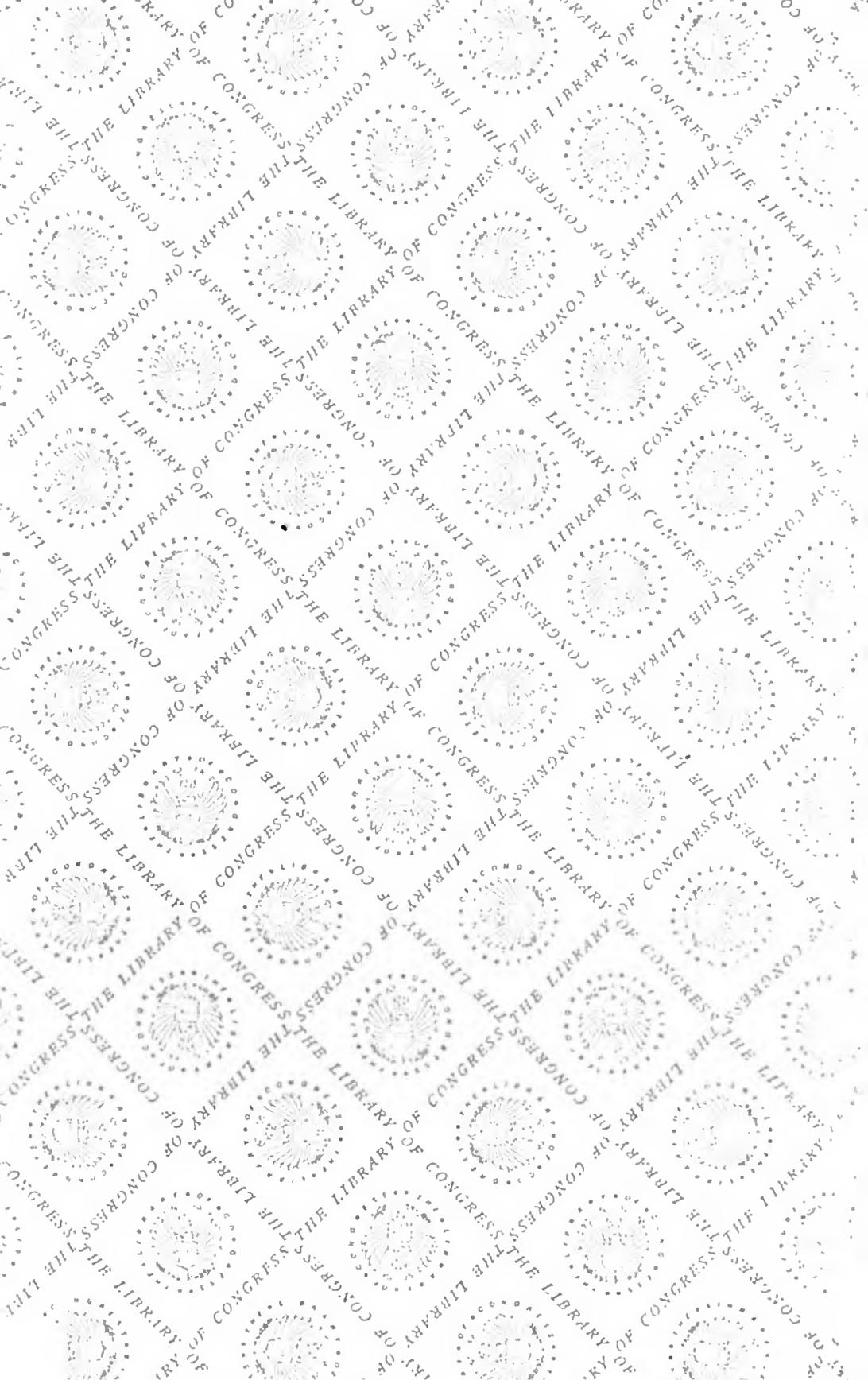
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