

TESTIMONY OF FEDERAL RAILROAD ADMINISTRATOR JOHN M. SULLIVAN BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE OF THE COMMITTEE ON INTER-
STATE AND FOREIGN COMMERCE, U.S. HOUSE OF REPRESENTATIVES, JANUARY 5, 1978

Mr. Chairman, members of the Committee, I appreciate the opportunity to discuss the bankruptcy of the Chicago, Milwaukee, St. Paul and Pacific Railroad Company. Appearing with me today is Robert E. Gallamore, my Deputy, who will play a major role in our review of the problems of the Midwest rail network.

In describing the conditions surrounding the bankruptcy of the Milwaukee, I will discuss the extent of its physical plant, its recent traffic history, and its financial performance.

Extent of the Milwaukee's Physical Plant

The Milwaukee Railroad operates over 10,000 route miles in 16 states from Kentucky across the northern tier to the Pacific Northwest, with over 7,700 miles concentrated in the Granger Region of Illinois, Iowa, Minnesota, North Dakota, South Dakota, Montana, and Wisconsin. The region is generally characterized by more rail capacity than is needed to move the existing traffic. An example of this problem at its worst is the small town of Albert Lea, Minnesota, which is served by four separate railroad companies operating

six rail lines through the town. In a recent filing with the Interstate Commerce Commission, pursuant to section 802 of the 4R Act, the Milwaukee Railroad identified 3,708 miles of line which were either pending or prospective candidates for abandonment. This represents approximately 37 percent of the Milwaukee's system. The excess capacity problem is not limited to light density lines. With one exception, every Corridor of Consolidation Potential (CCP) identified in the Department's report under section 503 of the 4R Act lies in or is connected to this region. These CCPs include five of the mainlines between Omaha and Chicago and the eight mainlines between Chicago and Kansas City.

Recent Traffic History

The principal commodities handled by the Milwaukee are farm products, food or kindred products, lumber or wood products, pulp and paper, and transportation equipment. In 1976 these commodities represented 54 percent of the railroad's total carloads, 48 percent of revenue tons, and 60 percent of railway revenues. During the period 1966-1976 the number of carloads of these principal commodities carried by this railroad decreased 25 percent

while the number of tons decreased 7 percent. Farm products, the most important commodity to the Milwaukee, decreased 37 percent on a tonnage basis during that period, from 8.1 million tons carried in 1966 to 5.9 million tons carried in 1976. Even during the 1973 Russian grain movement, the Milwaukee never achieved the level of 8 million tons of grain that it handled in 1966. Caught between a stagnant traffic base and escalating costs, the Milwaukee has survived by deferring maintenance and injecting funds from subsidiaries. Last month it reached the point where its management decided it should no longer operate in that manner.

Financial Performance

An examination of the railroad's financial performance in recent years confirms management's judgment. Our analysis examined the financial aspects of the railroad in terms of revenues, profitability, and expenses.

Revenues

For the six year period covering 1970 through 1975, the railroad was able to increase its revenues by 37 percent from \$277.5 million in 1970 to \$381.1 million in 1975. This increase tends to mask the reality of the Milwaukee's traffic picture, which is at best stagnant, as indicated below:

TABLE I
 TRAFFIC INDICATORS ^{1/}
 (In millions of tons and ton-miles)

<u>Year</u>	<u>Total Tons</u>	<u>Revenue Ton-miles</u>
1970	45.2	17.7
1971	41.9	16.6
1972	43.2	17.9
1973	46.8	19.7
1974	45.8	18.9
<u>1975</u>	<u>42.6</u>	<u>17.4</u>
6 yr. avg.	44.3	18.0

SOURCE: ICC R-1 Reports

^{1/} Includes non-revenue freight of nominal amounts.

What these figures indicate is that the company was paid substantially more in current dollars to provide approximately the same amount of service in 1976 as it did in 1970. But the increased revenues reflect almost entirely the effects of inflation through ex parte rate increases.

Profitability

Table II presents the Milwaukee's profit and loss statements in a general accounting format for the years 1970-1975 using financial information from the Milwaukee's R-1 reports filed with the ICC. The Table indicates that the railroad experienced cumulative pretax losses over the six year period totaling \$90.7 million.

On a consolidated basis, that is, after adding other income (net) of \$61.2 million from sources outside of the railroad's operations, the company did show small profits in two of the last six years. The overall effect of using other income to subsidize rail operations over the period was to reduce the \$90.7 million pretax loss to \$32.1 million.

Expenses

The declining profitability of the Milwaukee in the face of a significant current dollar increase in revenues points to difficulties in expense control

TABLE II

PROFIT & LOSS STATEMENT

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD COMPANY
(Industrial Basis, in Mil's \$)

<u>Revenues:</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>SIX YEAR</u> <u>Totals-% Inc/Dec.</u>
Freight	248.7	273.9	292.2	329.8	362.9	350.1	
All Other	28.8	21.9	20.6	25.6	31.8	31.0	
<u>Total Revenues</u>	<u>277.5</u>	<u>295.8</u>	<u>312.8</u>	<u>355.4</u>	<u>394.7</u>	<u>381.1</u>	<u>2,017.3</u> 37%
<u>Expenses:</u>							
Maint. of Way	45.3	49.1	57.8	58.7	60.8	59.0	
Maint. of Equip.	45.3	49.7	51.2	49.6	53.8	54.8	
Taxes	24.9	24.6	26.4	30.6	38.5	37.4	
Transportation	121.3	118.6	128.8	147.4	167.2	171.5	
Traffic	7.6	8.1	8.6	9.8	10.3	10.2	
Misc. & General	17.9	17.5	19.0	19.8	21.4	23.0	
Equip. Rents	23.1	25.6	27.8	37.5	42.9	55.0	
<u>Total Operating Expenses</u>	<u>285.4</u>	<u>293.2</u>	<u>319.6</u>	<u>353.4</u>	<u>394.9</u>	<u>410.9</u>	<u>2,057.4</u> 44%
Net Operating Inc.	(7.9)	2.6	(6.8)	2.0	(0.2)	(29.8)	(9)
Less: Fixed Chg's.	10.2	9.5	6.7	7.6	8.5	8.1	
<u>Rail Income-Pretax</u>	<u>(18.1)</u>	<u>(6.9)</u>	<u>(13.5)</u>	<u>(5.6)</u>	<u>(8.7)</u>	<u>(37.9)</u>	<u>(90.7)</u> (109%)
Add: Other Inc. (Net)	9.9	3.0	4.9	9.0	21.9	12.5	61.2
<u>Consol. Income-Pretax</u>	<u>(8.2)</u>	<u>(3.9)</u>	<u>(8.6)</u>	<u>3.4</u>	<u>13.2</u>	<u>(25.4)</u>	<u>29.5</u>
Less: Fed. Inc. Tax	-0-	-0-	-0-	-0-	1.8	4.4	2.6
<u>Ordinary Inc. (ICC-R-1)</u>	<u>(8.2)</u>	<u>(3.9)</u>	<u>(8.6)</u>	<u>3.4</u>	<u>11.4</u>	<u>(21.0)</u>	<u>26.9</u>
Add: Deprec. & Ret's.	18.9	18.9	18.7	17.0	16.0	16.8	106.3
<u>Total Cash Inc. (Rail Only)</u>	<u>0.8</u>	<u>12.0</u>	<u>5.2</u>	<u>11.4</u>	<u>7.3</u>	<u>(21.1)</u>	<u>15.6</u>

SOURCE: ICC-R-1

Key: () indicates a deficit or a negative number

as a major cause of the company's bankruptcy. In order to highlight what has happened to the Milwaukee's operating expenses, we have reformatted its income statement on a more functional basis, as depicted in Table III.

This Table first sets forth total revenues and then subtracts from them expenses grouped into three basic categories: (1) fixed cash expenses, defined as the noncontrollable expenses of taxes and fixed charges that have to be paid even if the railroad does not operate a single train; (2) variable expenses, which comprise cash expenses related to train operations and maintenance; and (3) the non-cash expenses of depreciation and retirements.

This Table indicates the tremendous escalation in the cost of train operations (i.e., payroll, fuel, and equipment costs), which, when combined with the fixed expenses, has left little cash available for materials and supplies to be used in the maintenance of plant and equipment.

Our analysis indicates that since 1970 alone, the railroad has been able to install on an annual basis only about 50 percent of the ties required to maintain a normalized condition. In fact, in 1975 and 1976 the railroad was able to install only 30 and 40 percent, respectively, of its annual requirements.

TABLE III

PROFIT & LOSS STATEMENT

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD COMPANY
 (Functional Basis, in Mil's.\$)

	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>SIX YEAR %Inc.</u>
<u>Total Revenues:</u>	<u>277.5</u>	<u>295.8</u>	<u>312.8</u>	<u>355.4</u>	<u>394.7</u>	<u>381.1</u>	<u>37%</u>
(1) <u>Fixed Cash Expenses</u>							
<u>State & Local Taxes</u>	24.9	24.6	26.4	30.6	38.5	37.4	50%
<u>Fixed Charges</u>	10.2	9.5	6.7	7.6	8.5	8.1	(21%)
<u>Sub Total</u>	<u>35.1</u>	<u>34.1</u>	<u>33.1</u>	<u>38.2</u>	<u>47.0</u>	<u>45.5</u>	<u>30%</u>
(2) <u>Variable Expenses</u>							
<u>Payroll & Fringes</u>	156.0	168.6	191.7	210.6	227.7	223.8	43%
<u>Fuel Costs</u>	10.6	10.4	11.1	14.2	26.3	27.5	159%
<u>Materials & Supplies</u>	51.9	45.1	43.9	43.5	43.5	51.0	(3%)
<u>Equip.-Rents</u>	23.1	25.6	27.8	37.5	42.9	55.0	138%
<u>Sub Total</u>	<u>241.6</u>	<u>249.7</u>	<u>274.5</u>	<u>305.8</u>	<u>340.4</u>	<u>344.2</u>	<u>42%</u>
(3) <u>Non-cash Expenses</u>	<u>18.9</u>	<u>18.9</u>	<u>18.7</u>	<u>17.0</u>	<u>16.0</u>	<u>16.8</u>	<u>(11%)</u>
<u>Total Oper. Exp. & Fix. Chg's.</u>	<u>295.6</u>	<u>302.7</u>	<u>326.3</u>	<u>361.0</u>	<u>403.4</u>	<u>419.0</u>	<u>38.0%</u>
Rail Income-Pretax	(18.1)	(6.9)	(13.5)	(5.6)	(8.7)	(37.9)	
Avg. No. of Employees	15,745	15,004	14,811	14,396	14,400	13,038	(17.0%)
Avg. Wage per/Employee	\$ 9,909	\$11,237	\$12,946	\$14,628	\$15,811	\$17,164	73.0%

SOURCE: ICC

Key: (indicates negative number or a Deficit)

(8)

The increase in 1976 over 1975 was made possible because of Federal assistance under Title V. The deferred maintenance problem on the Milwaukee Railroad is not limited to its branch lines alone. The Milwaukee's mainline routes across the Northern tier to the Pacific Northwest and south from Chicago to Louisville, Kentucky, suffer from considerable deferred maintenance with numerous slow orders that reduce operating speeds to 10 miles per hour. These slow speeds render the company unable to offer adequate, reliable, competitive service to shippers, causing yet further erosion of their traffic base, further reducing already insufficient revenues, and increasing operating expenses.

As the right hand column in Table III indicates, overall payroll costs over the period increased 43 percent (although the number of employees dropped 17 percent and the average wage per employee increased 73 percent); fuel costs increased 159 percent. In contrast, expenditures for maintenance materials and supplies decreased 3 percent, resulting in the inability to maintain plant and equipment, and forcing per diem payments and leasing charges for equipment to rise 138 percent.

The decrease in depreciation and retirements of 11 percent reflects the

company's inability to acquire new equipment, a fact corroborated by the already-cited and dramatic 138 percent increase in equipment charges.

Finally, the fixed cash expenses, which have traditionally been the focus of attention in bankruptcy, do not offer much comfort in this instance since, despite the overall increase of 30 percent over the six year period, the fixed charges actually decreased by 21 percent. Thus, all of the increase reflects state and local taxes that would likely have to be paid in case of a reorganization. This analysis indicates that the basic problem of the Milwaukee is its lack of sufficient traffic to economically utilize its plant. These problems cannot be met by the typical debt type of reorganization.

I think you will agree, Mr. Chairman, that the above analysis makes it clear that an inability to borrow--whether from private capital markets or from the Federal Government--was not the cause of the bankruptcy of the Milwaukee. Nor would massive Federal assistance to fix track necessarily insure the Milwaukee a new and sufficient traffic base. Our conclusion is that the long-term remedy of the Milwaukee's problems is not simply the provision of

of assistance under Title V of the 4R Act. Indeed, use of Title V without effecting substantial improvements in the overall rail system in the region would offer only temporary relief while delaying the essential process of coming to grips with the basic causes of the marginal railroad problem.

In order to start that essential process, the Secretary has decided to call a public meeting in Chicago on January 18 and 19, 1978, to discuss the problems of the rail system in the Midwest, under the authority of section 5 of the Department of Transportation Act, as amended by section 401 of the 4R Act. We are inviting railroads, labor organizations, state agencies, shipper organizations, and other affected parties to participate.

Mr. Chairman, that concludes my formal remarks. I hope the Committee concurs with the thrust of our analysis and supports the initiative we are taking in Chicago, for your support would be most helpful. I will be happy to answer any questions you or other members of the Committee might have.

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STATEMENT OF JOHN M. SULLIVAN
FEDERAL RAILROAD ADMINISTRATOR
HEARINGS BEFORE THE
TRANSPORTATION AND COMMERCE SUBCOMMITTEE
OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
U. S. HOUSE OF REPRESENTATIVES
ON RAILROAD SAFETY MATTERS

MARCH 15, 1978

Mr. Chairman, recent major accidents at Pensacola, Florida, on November 9, 1977 and at Waverly, Tennessee, on February 22, 1978, in combination with an incident of apparent vandalism near Youngstown, Florida, on February 26, 1978, have once again focused national attention on the railroad safety problem.

Over seven years after passage of the Federal Railroad Safety Act of 1970, a problem which was to have been corrected by the adoption of comprehensive Federal regulations has, in some instances, worsened instead of diminished. Our duty here today is to report to the Subcommittee on the scope of the railroad safety problem, the underlying causes of the problem, and the steps we are taking to fulfill our responsibilities.

In preface to this discussion, we wish to affirm to the Subcommittee that we intend to do everything in our power to bring about an acceptable level of safety on the Nation's railroads. This is the first opportunity the present Administration has had to articulate its approach to safety regulation. The Secretary of Transportation, as you know, is himself intimately familiar with this problem. He has given the Federal Railroad Administration a mandate to do everything which can be done to assure compliance with the Federal railroad safety laws and regulations.

If temporizing has been a problem in the past, it is not a problem today. If Federal inspectors have doubted the degree of commitment to railroad safety among persons in policy roles, they have no reason to feel that way today. Indeed, recent months have been characterized by intensive work, often long hours, and close coordination among our Field inspectors and the leadership in Washington. While it is too early to measure the results of our efforts, common sense tells us that we will have a positive impact. With that preface, we turn to the current accident picture.

TRENDS

Over the past 50 years freight revenue ton miles have increased more than 250%, but the rail share of the intercity freight market has decreased by over 50%. In addition, railroad employment has dropped 70% and intercity passenger traffic decreased from 77% to six percent. In short, there are fewer passengers and employees, but more freight.

The casualty trend has generally been decreasing over the past several years while, after adjusting for inflation, the loss and damage to track, roadbed, equipment and lading has increased by about 25%.

- Fatalities -

The largest percentage (almost 63%) of total fatalities is made up of persons killed in grade crossing accidents. In 1977, there were 946 fatalities due to grade crossing accidents.

Trespassers account for approximately 30% of the total fatalities, or 455 in 1977.

Employee fatalities have comprised approximately seven percent of all railroad accident fatalities over the past several years. Employee fatalities have decreased from a recent high of 190 in 1969 to 99 in 1977, a 48% reduction. It should be noted that FRA statistics are quite inclusive, so a number of these deaths annually are from highway accidents involving carrier automobiles, trucks, or vans. A number of these deaths also involve industrial or construction hazards such as those common to other industries, areas covered by the Occupational Safety and Health Administration (OSHA). We will discuss our relationship with OSHA in a minute.

Passenger fatalities account for less than one percent of total railroad accident fatalities.

- Injuries -

In 1977, there were 61,029 injuries to railroad employees. This is a 5.4% increase over 1976 and constituted over 91% of total railroad injuries. FRA reporting requirements for the railroad industry were significantly changed in 1975 to conform with the reporting requirements imposed by the Department of Labor on all other segments of American industry. These new reporting requirements have greatly increased the number of personal injuries to be reported. Therefore, rates of injury prior to 1975 are not comparable with injury rates following the implementation of the reporting revisions. However, in 1974, under the previous reporting requirement, employee injuries still constituted almost three-fourths (3/4) of the total injuries.

After normalizing for changes in hours of employment employee injuries remained fairly constant in the period 1966-1974 with the major causes as follows:

<u>Major cause</u>	<u>Percent of Total employee injuries</u>
Getting on or off trains	16.6
Construction and maintenance of cars & locomotives	12.2
Construction and maintenance of track	8.9
Stumbling, slipping and falling (not on train)	7.9
Coupling and uncoupling	6.6
Flying or falling objects, burns, etc.	4.8

Of all the employee categories, trainmen and enginemen accounted for 55% of employee injuries. The yard brakemen and yard helpers, a subset of trainmen and enginemen, have by far the largest problem considering a combination of frequency and severity of injuries.

Of the remaining nine percent of total railroad injuries, seven percent resulted from grade crossing accidents and the remaining two percent of all injuries were incurred by trespassers and passengers.

Data developed by FRA on Class I and Class II railroads shows that the incidence of rail injuries per 100 man years approximates the all industry index published by the Department of Labor.

- Train Accidents -

Train accidents have increased since 1966 and there has been a corresponding increase in their costs. After adjusting the monetary threshold for inflation and normalizing for changes in ton mileage, the increase in train accidents has been approximately 15%. Train accidents per million train miles increased by 6.1% in 1977 over 1976. By contributing cause; human factors account for 20%; equipment failures, 25%; defects in way or structures (track), 43%; and all other causes, 12%.

Track is not only the largest but also is the most rapidly increasing contributing cause. The increase in track-caused accidents has been 105% since 1966, but there has been a 15% decrease in both equipment and human factor caused accidents and a slight decrease in accidents attributed to miscellaneous causes.

Collisions have decreased by 15% since 1966, but derailments have increased over 40%, with defects in track the largest and most rapidly increasing single cause of derailments.

Increased axle loadings appear to be related with increased track-caused accidents. This is due to increased wear and tear on the roadbed without an attendant increase in the maintenance of the roadbed to allow for these changes. Additional research is being conducted to determine the specific relationships between increased axle loadings and track-caused accidents with respect to the types of problems generated and appropriate remedial action.

Car dynamics (principally the "rock and roll" effect caused by a high center of gravity in association with otherwise tolerable track irregularities) has been identified as a major cause of train accidents (specifically derailments) and has fostered a steadily upward trend in both the number of equipment caused derailments and the dollar damage caused by these derailments.

- Hazardous Materials Accidents -

In 1977, there were approximately 500 derailments involving placarded tank cars. In those 500 accidents, a total of 1,400 tank cars derailed. Approximately 150 of these cars released hazardous materials. In 1977, there were four fatalities, 500 injuries (150 of which were serious) and 14 evacuations involving a total of 19,000 people.

The Waverly, Tennessee, accident of February 22, 1978, resulted in the loss of 12 lives, the hospitalization of some 50 people, and the evacuation of over 2,000 people from their homes.

- Dollar Costs -

After adjusting for inflation, total costs to the carriers resulting from all railroad accidents rose 38% between 1966 and 1975 and increased from 2.4% of operating revenues to 3.5%. Since net rail income in the 1970's has declined significantly as a percentage of operating revenues, accident costs are beginning to play an even more crucial role with respect to the economic health of the industry.

UNDERLYING CAUSES

The underlying causes of the numerous kinds of railroad accidents are, of course, many and varied. No single explanation is appropriate for all areas of concern.

FRA is concerned that we know relatively little about why employee injuries in general continue to remain at significant levels. This is an area which will require more detailed analysis. Poor maintenance of locomotives and safety appliances and poor operating practices are, of course, among the major factors with which we deal every day. FRA also investigates all employee fatalities. We know as a result of those investigations that a great number of fatal accidents result from lack of vigilance to inherent transportation hazards.

Significant progress has been made in the grade crossing problem through the efforts of the states, the railroads and the Department of Transportation, but increased automotive traffic has kept absolute casualty figures at significant levels.

The train accident problem, of course, is the problem on which most public attention is now concentrated.

There are now 135,000 tank cars in hazardous materials service. In 1976, there were one million placarded tank carloads transported, with an estimated tonnage of 80 million. The transportation service provided totaled 2.4 billion ton miles. While most train accidents involve relatively small losses and no injury to persons, the carriage of large quantities of hazardous materials through populated areas together with obvious hazards to train crews make the train accident situation serious.

As noted above, train accidents are generally attributable to track, equipment, and human factors. The track and equipment areas are the most easily addressed through regulation, although FRA has regulated in all three fields.

We believe that strict carrier adherence to existing track and equipment standards would reverse the train accident trend and materially reduce the number of train accidents. However, among many railroads, compliance with the regulations is poor.

Poor compliance on individual properties is itself caused by several identifiable factors or some combination of these factors. Regardless of the extent of efforts to comply, widespread deferral of track maintenance over the past 25 years continues to take its toll. While individual carriers have either maintained track in good condition or have instituted commendable catch-up programs in the last few years, the industry as a whole is suffering from a long-term net disinvestment in track and roadbed.

Equipment maintenance has also been neglected. Whenever operating income falls, car repair forces tend to be reduced, and equipment inspection and repair efforts inevitably fall off.

The poor economic condition of the industry has also promoted reliance on heavier equipment designed to carry almost twice as much as the conventional cars of 30 years ago. By reducing the labor component of overall costs in this way and by instituting other measures the rail industry has been better able to compete with other surface modes which have benefited from massive indirect subsidies. Larger and heavier cars interact to produce greater forces on other equipment and track structures. Small deviations from standards which in earlier days would have been tolerable seem now to become critical. Maintenance and rehabilitation programs seem not to keep pace with the damage done by heavy axle loadings.

This is the reality we face in 1978 with respect to the economic condition of the industry. At the same time, FRA is aware that many safety problems are the result of poor maintenance and inspection activities in circumstances where little or no additional outlay of funds would be required to comply with applicable standards and procedures. Most often, but not always, persistent neglect of this

kind can be attributed to an indifference on the part of management or a failure by management to hold supervisors and employees accountable for compliance.

FRA's basic role in relation to the train accident problem should be clear. First, FRA must use administrative orders, penalties and persuasion to hold in check the tendency of some carriers to take chances with the public safety. We hasten to add that many railroads have good records of compliance with Federal standards and excellent safety programs on their own properties.

Second, FRA must assist carriers in identifying dangerous conditions or practices which otherwise might go unnoticed, insisting that accountability systems are instituted to forestall the repetition of such problems.

Third, FRA must increase its emphasis on predicting the development of problems such as those which have been experienced with uninsulated tank cars, heavier freight cars generally, and certain of the newer locomotives. FRA must stand ready to compel remedial action before major disasters occur, rather than after the damage is done. It is this responsibility which is most difficult, however, because of the formidable technical and practical problems associated with attempting to predict future events.

THE FRA RESPONSE

For the balance of this statement we would like to address what FRA has done and is attempting to do to promote railroad safety. Our first priority is the enforcement of those railroad safety laws entrusted to the Secretary of Transportation, together with regulations issued under those laws. We would like to mention in that connection the requests for new resources contained in the President's Budget. However, we also have important work to do in the area of regulatory development. That program relies heavily on research and testing. Through cooperative efforts of various kinds we learn a great deal from the industry, labor groups and other parties and attempt to perform a reciprocal educative function as well. Finally, the special concerns of our relationship with the Occupational Safety and Health Administration and the State Participation Program deserve separate comment. We would like to discuss briefly each of these areas of FRA activity.

ENFORCEMENT

FRA field compliance activities are directed to two basic objectives: motivating the railroads to comply with the safety laws and regulations; and assuring that the railroads understand what is required. In pursuing those objectives FRA inspectors also assist carriers by identifying local situations where supervision is failing to execute carrier safety programs.

In many cases, railroads follow the safety recommendations of our inspectors on a voluntary basis, obviating the necessity of FRA bringing into play its full range of enforcement tools. Despite this generally cooperative spirit, however, FRA has increasingly found that the use of out of service orders, penalties, and other legal tools is both necessary and appropriate.

Nowhere is this more obvious than in the area of civil penalties. In Fiscal Year 1977, penalty collections amounted to over \$3.4 million, an increase of approximately 126% over Fiscal Year 1976, the previous record year. Collections are expected to increase substantially in FY 1978 both because of more aggressive collection and because of the statutory increase in penalty amounts.

Since January 1, FRA attorneys have reviewed and transmitted to the carriers over 150 files containing claims of violations with total assessment exceeding \$4 million. Included among these are 24 files alleging violations of the Track Safety Standards, an area of particular concern in derailments. The penalties assessed for the track claims exceed \$750,000. Increased penalties alert the industry that we will no longer tolerate lax compliance with safety regulations and the resultant increase in accidents.

The application of legal sanctions in the area of hazardous materials transportation has also been dramatically increased in recent months.

Prior to the passage of the Hazardous Materials Transportation Act of 1974 (HMTA), violations of hazardous materials regulations were enforceable only by the institution of a criminal case in the Federal Courts by the appropriate United States Attorney. Fines were nominal. As a result of other demands on

prosecutorial resources, these cases were not given high priority by those offices. Thus, there was a lack of active enforcement of these regulations in the past. There has, however, been vigorous enforcement of violations of Emergency Order No. 5, which was issued under the Federal Railroad Safety Act of 1970 after the Decatur, Illinois, disaster in order to regulate the switching of tank cars containing flammable compressed gas. In FY 1977 and the first half of FY 1978, 47 of these claims were reviewed and transmitted to the carriers. Of these, 19 have already been settled for a total of approximately \$24,000.

On January 3, 1977, the Materials Transportation Bureau reissued the more comprehensive hazardous materials regulations under the authority of the HMTA, making these regulations subject to civil as well as criminal penalty sanctions. Since that time, we have been conducting a series of classes to familiarize our inspectors with the new regulations which have begun to generate an increasing volume of violation reports.

On October 28, 1977, FRA published in the Federal Register its procedures for carrying out these sanctions. These procedures call for direct handling of the claims by the Office of Chief Counsel, and we wish to assure this committee that this enforcement effort is now receiving top priority in that office. Since January 1 of this year, notices alleging 25 violations against shippers by rail for a total proposed assessment of \$150,000 and 16 violations against carriers for a total proposed assessment of \$65,000 have been issued by that office. With respect to these claims, the Office of Chief Counsel has already issued one order assessing a civil penalty and is engaged in active informal negotiations of 22 counts. A formal hearing has been requested on five counts.

Due to our concern over the recent accidents and derailments involving hazardous materials, we intend to continue this effort of vigorously enforcing these regulations.

FRA will implement a uniform policy of safety enforcement towards all carriers regardless of financial condition. Treating financially weak carriers more leniently in the enforcement of civil fines would reduce the incentive of those carriers to apply limited resources to correct conditions that are violative of Federal safety requirements.

Penalty sanctions are but one tool, however, and we are both continuing the use of traditional non-monetary sanctions and seeking new ways of using our available tools in combination with one another.

In 1977, FRA inspectors ordered out of service 392 seriously defective locomotives. In the current calendar period, we have intensified this effort, making clear to our inspectors that the deterioration of locomotive fleets on some of the properties must not be allowed to continue.

We have also had occasion to invoke the emergency powers granted to the Secretary in the Federal Railroad Safety Act. Our investigations revealed that the Illinois Central Gulf Railroad (ICG) had allowed vines, trees and other vegetation to grow around and into the poles supporting the signal lines and entangled the lines themselves, causing several known instances of false proceed signals. Although we gave the ICG several warnings regarding the deteriorated condition of this line, they chose not to devote sufficient funds and personnel to the projects. Because of our concern for the safety of train crews operating over this line, on December 7 we issued Emergency Order No. 6 ordering the line in question out of service until the vegetation had been cleared from the signal lines.

The railroad succeeded in obtaining a court injunction rendering our order unenforceable. However, before a hearing on the merits which was to occur seven days after we issued the emergency order, the railroad committed 75 employees and 16 bulldozers to the project and had substantially cleaned all the vegetation from the signal lines. The Administrator revoked the emergency order before the court hearing on the merits as the emergency condition had ceased to exist due to the efforts of the railroad.

We have come quite close to ordering the cessation of service in a number of other instances in the past few months, but the railroads involved took appropriate action to abate hazards when we made clear to them that we were willing to take whatever action might be required in the interest of safety.

The vigorous assessment of penalties and use of other sanctions will fall short of optimum effectiveness, however, unless we focus our field compliance resources on areas of greatest need. At the present time we are concentrating many of our inspectors on those carriers with a recent record of serious accidents. Our inspectors play the dual role of helping to diagnose the problems giving rise to serious accidents and forcing the remediation of those problems. We believe that by being persistent we can force less cooperative carriers to make difficult choices concerning the commitment of resources and the upgrading of inspection and maintenance practices.

We are hopeful that the Carrier Performance Profile which we currently have under development will help us identify problem areas by quantifying each railroad's accident record, its compliance record, and its record of defects. Our High Accident Corridor program, which we will discuss in connection with our rulemaking effort, should also assist us in this area.

Altogether, we are moving toward a better coordinated and more muscular safety enforcement program.

As explained earlier, Track caused accidents comprise 43% of the total accidents. These accidents can be reduced by increased surveillance and increased carrier maintenance. Even if carriers defer maintenance, the number and severity of accidents can be reduced through the reduction of track speed classification and, if necessary, closing of sections of track. Fifteen additional track inspectors are requested for FY 1979 to perform the increased surveillance. Approval of this request would raise the number of authorized Federal track inspectors to 95, representing a 40% increase under the new Administration. In addition to the 15 new track inspectors, we are requesting three clerical support positions for the field staff and seven new positions for Safety Headquarters to provide the necessary evaluation support for the Automated Track Inspection Program (+4) and the Data Management Program (+3). The analyses performed in connection with these programs on those areas of greatest need.

The total request for 425 Federal positions under the Railroad Safety Appropriation represents an increase of 25 positions over FY 1978 and a total increase of 49 positions over FY 1977.

Furthermore, there are currently 20 states participating in the Grants-in-Aid for Railroad Safety Program with 36 track inspectors and 14 equipment inspectors. In the last 18 months, there has been a 50% increase in both the number of states and the number of inspectors participating. With the approval of additional funding of \$1,940,000 in FY 1979 for the State Participation Program, the number of State inspectors is projected to triple by the end of FY 1979.

AUTOMATED TRACK INSPECTION PROGRAM (ATIP)

The Automated Track Inspection Program is designed to provide FRA field investigators with a set of measurement tools that will increase their capability to determine carrier compliance with the Federal Track Safety Standards. These tools are in the form of high speed full-size geometry measuring vehicles and highway-rail vehicles equipped with ultrasonic rail flaw detection equipment. The use of both of these types of vehicles will provide the Office of Safety with much needed data on track conditions.

The use of geometry measuring vehicles allows the field investigators to focus their attention on those areas of carrier high-speed trackage where problems exist. While the vehicles do not identify specific defects like broken angle bars, switch defects or bad ties, they do, by measuring various geometric parameters of the track, indicate critical areas. Using the data generated during each survey, the FRA track inspector can conduct on-the-ground monitoring activities, concentrating on these critical areas.

Three units are operating in this phase of the program. It is anticipated that the three vehicles will be capable of gathering track geometry measurements for over 75,000 miles of track per year.

A single highway-rail vehicle equipped with ultrasonic rail flaw detection equipment capable of measuring two basic geometry parameters, gage and cross-level, is presently in the field and will be available for use by track inspectors in the near future. A second vehicle will be in operation later.

The purpose of the vehicles will be to monitor carrier compliance with Section 213.113 of the Track Safety Standards--Defective Rails. The vehicles will inspect for internal defects on predetermined segments not to exceed 10% to 15% of the total mileage between designated points. The geometry instrumentation will be operated over the entire route. This will be primarily done at speeds between five and 15 m.p.h. on tracks with a maximum authorized speed of 30 m.p.h. or less.

Because of the slow operating speed, visual observation of the track structure can be made with little difficulty. This permits the FRA track inspector to observe not only geometry defects but also the condition of bolts, ties, bars and ballast for examples.

REGULATORY ACTION PROGRAM

- The Rulemaking Process -

FRA has been granted broad regulatory authority to identify and address all areas of rail safety. The FRA safety program has been built around the issuance of regulations and monitoring of railroads for compliance with the regulations. The program proceeds on the assumption that the standards are correctly conceived and that compliance with them will enhance safety.

In conjunction with Departmental policy designed to ensure that both proposed and existing regulations do not impose unnecessary burdens upon the private sector, consumers, or Federal, State and local governments, the Office of Safety has formed a task force to improve the soundness and clarity of proposed regulations and to eliminate unnecessary or unduly burdensome regulations. The task force will: 1. review existing regulations to ensure continued economic soundness and necessity; 2. assess proposed regulations in terms of cost to the general public, industry and government; and 3. justify the need for any proposed regulation deemed either potentially costly or controversial.

FRA works closely with labor and industry in formulating and amending our safety rules.

FRA prepares special analyses of economic impact to determine probable costs and benefits of pending regulations which are potentially costly or controversial. To improve our performance in this area, we have awarded a contract for the development of economic and cost benefit analysis in support of the FRA regulatory function. This study will provide an improved methodology to be used in evaluating the effectiveness of the Agency's regulations and all proposed remedial safety actions in promoting the safety of the Nation's railroads.

For many years the Office of Safety has been collecting accident reports of various types from all of the Nation's railroads. In general, this data has been used primarily in the formulation of the regulations used in promoting safety for the railroad industry, and to provide FRA with information concerning hazardous conditions associated with track and equipment operated by these railroads.

Under another contract an analysis will be conducted to evaluate the adequacy of the available data bases and the relevance of data collected in inspecting the railroads. This will serve to pinpoint the areas of deficiency in the data base and identify other parameters of value for use in future evaluations.

- Hazard Analysis and Priority Determination -

FRA must rely on hard data and credible analyses in identifying safety hazards, planning countermeasures to attack those hazards and determine resource allocations on a priority basis.

Although we perform sorting and tabulations of accidents by various means which aid in identifying some of the problem areas, more in-depth analyses are necessary to assist in determining accident causes and potential problems.

We have awarded a contract to the Transportation Systems Center (TSC) to assist FRA in determining underlying accident causal factors and to forecast the number and severity of accidents and accident exposure. From this, TSC will make a systematic assessment of the cost and effectiveness of measures available to the Office of Safety to combat these dangers to provide a rational foundation for applying FRA resources to inspection, enforcement, and regulatory activities.

The determination of an appropriate mix of countermeasures will, of course, consider not only the cost to FRA to implement each alternative, but the cost to the industry and the public as well.

- High Accident Corridors -

The Office of Safety is utilizing the nationwide transportation corridor density maps to show the geographical location of rail accidents. The accident data can then be readily displayed on maps in order to show the geographic distribution of the various accident variables including hazardous materials accidents or incidents, population density, traffic pattern, track conditions and Federal and State inspection activities.

Under the Hazard Analysis and Priority Determination contract, TSC is characterizing the flow of hazardous materials over the Nation's rail network and will utilize this high accident corridor information to aid in assessing the current and future exposure and risk associated with the rail transportation of hazardous materials.

- Recent Rulemaking Activity -

The primary area for rulemaking activity other than that statutorily mandated is the transportation of hazardous materials. Due to a series of serious accidents involving uninsulated pressure tank cars transporting these materials and to the request for help from the industry, the FRA undertook a program of tank car research at a cost of \$5 million. The result of this research and FRA's analysis of

hazardous materials accidents was the issuance of regulations by the Department's Materials Transportation Bureau effective October 19, 1977, which implement performance specifications developed. Existing and newly built specification 112 and 114 tank cars used to transport anhydrous ammonia must be equipped with head shields and such cars transporting flammable gases must be equipped with both head shields and thermal protection by December 31, 1981. In addition, all such tank cars, regardless of hazardous material transported, must be equipped with shelf couplers designed to resist vertical disengagements. The estimated cost to the equipment owners is \$100 million.

The other major rulemaking in the hazardous materials area was the issuance on October 28, 1977, of procedures for the enforcement of the regulations as authorized by the Hazardous Materials Transportation Act of 1974. The procedures call for a response by the respondent within 30 days of the issuance of a notice of probable violation by the Office of Chief Counsel. A right to a formal hearing is provided.

FRA has had a final rule in effect since June 1, 1976, providing blue flag protection of railroad employees engaged in servicing activities which require them to work on, under, or between rolling equipment. The 1976 safety amendments (PL 94-348) prescribed additional protection in the form of locking manually operated switches against movement onto tracks where employees are working. On November 2, 1976, FRA published a notice of proposed rulemaking to implement that mandate of the amendments and to clarify the existing regulations. The final rule, published January 11, 1977, provides further clarification with respect to applicability to

train and yard crews and to operations within repair facilities. However, additional problems have been experienced in construing the Congressional mandate as implemented by the current rules, and further rulemaking is underway to resolve these issues.

Also in accordance with the 1976 amendments, the FRA published a final rule on January 11, 1977, establishing a single performance standard for highly visible rear-end marking devices for passenger, commuter, and freight trains. After examining the variety of circumstances in which rear-end protection might be required, FRA has developed a conspicuity standard and procedures for qualification of devices. Given the use of existing locomotive headlight technology by the industry, it does not appear that passive or retroflective markers will qualify. The Association of American Railroads has submitted a petition for reconsideration in connection with the rulemaking, but the effective date is now set for July 1, 1978.

On January 27, 1977, FRA published final rules setting minimum standards for the use of radio communications in railroad operations. These were adopted in accordance with an NTSB recommendation after study indicated their feasibility, value, and slight cost to the industry.

Additional activities include the issuance pursuant to the Noise Control Act of compliance regulations and procedures for the issuance of compliance orders under the Federal Railroad Safety Act of 1970.

The 1976 amendments also required that any new construction or reconstruction of crew sleeping quarters be located outside the immediate vicinity of any railroad switching or humping operations. Interim regulations have been in

effect since December 3, 1976. Due to the need to compile data and to study comments initially received as well as those received after an extension to January 14, 1977, the final issuance of the rule has been delayed. It has, however, already been prepared and will be published in the very near future.

The extension of the coverage of the Hours of Service Act to hostlers and signal maintainers by the amendments contained in the Federal Railroad Safety Authorization Act of 1976 necessitated the issuance of a statement of agency policy and interpretation and several technical changes in the regulations. A proposed statement of agency policy and interpretation was issued September 28, 1976, and a more comprehensive interim statement was issued January 25, 1977. A final statement awaits the outcome of proposed technical amendments to the 1976 amendments. On January 28, 1978, FRA issued regulations making technical changes primarily in recordkeeping.

Advanced notices of proposed rulemaking have been issued on safety standards for caboose cars, glazing materials for locomotive cabs, cabooses and passenger cars, maintenance of highway grade crossing protection devices, and locomotive strobe lights.

SAFETY RESEARCH AND DEVELOPMENT

FRA's Safety R&D program encompasses all forms of support, from direct support of rulemaking activities to support of other activities such as improved safety inspection equipment, development of the knowledge to permit safer equipment to be designed, etc. The program also includes the analytical support to define what R&D should be done, how it should be done, when and why it should be done and who should do it.

The continuing high rate of railroad accidents mandates that FRA concentrate its R&D efforts on producing significant near term safety improvements. Safety R&D has the highest priority among R&D programs. While incorporation of research results is a lengthy process, past research efforts have produced substantial results while building the foundation for future safety improvements. The two major safety oriented programs are the Safety Research Program, and the Improved Track, Inspection and Data Acquisition Technology Program.

The Improved Track, Inspection and Data Acquisition Technology Program, which is authorized under the DOT Act of 1967, is divided into two subprograms, Improved Track Structures, and Inspection and Test Support Services.

The primary objective of the Improved Track Structures subprogram is to prevent track-caused accidents. The outputs from this subprogram form the basis for recommended changes to FRA's Track Safety Standards. Major outputs obtained thus far include:

- Development of computer models to predict track performance and component stress.
- Evaluation of a process which greatly reduces bolt-hole cracks and subsequent rail failure.

- Development of a methodology for analyzing track stability. This is currently being used to develop track safety guidelines.
- Completion of Amtrak locomotive tests to assess derailment mechanism, resulting in decision by the manufactures to modify the locomotives to resolve the problems.

Examples of future planned projects include:

- Definition of safe track load capacity.
- Development of safe track design criteria.
- Development of a track stiffness measurement system.
- Determination of required frequency of rail flaw detection and critical flaw size.

The Inspection and Test Support Services subprogram is aimed at the development of track and vehicle inspection systems and devices. An additional objective is the development and application of a methodology to evaluate safe service life of track and vehicle systems and components. Advancements in track inspection technology are implemented via the Automated Track Inspection Program to check compliance with the Track Safety Standards. Prior major projects include:

- Development of high speed, all weather track geometry measuring system and a low speed rail flaw detection system.
- Development of an automatic device for detecting hot bearings.

Future efforts will focus on obtaining outputs such as development of a high speed rail flaw detection capability, enhancement of track geometry measurement systems, evaluation of on-board and wayside vehicle inspection systems, and development of guidelines for evaluating the safe life of locomotives.

The Safety Research Program, which is authorized by the Safety Act, consists of three subprograms: Grade Crossing, Human Factors, and Rolling Stock.

The objective of the Grade Crossing subprogram is to reduce the number of grade crossing accidents through improvement in the performance and credibility of train detection and warning devices. Major prior projects have included the development of strobe lights to improve locomotive conspicuity and lower cost and more reliable grade crossing protection devices. Significant achievements expected in the future include development and evaluation of constant warning time systems and alternatives for increasing freight car conspicuity.

The Human Factors subprogram addresses accidents related to human error and man-machine interactions. Examples of major prior projects are as follows:

- Development of a Draft Buff Indicator, a device which depicts the distribution of stretching and compressing forces throughout a train, enabling the locomotive engineer to alleviate dangerous forces by either braking or accelerating.
- Completion of performance specification for the Research Locomotive and Train Handling Evaluator which will be used to evaluate train handling aids, procedures and environmental effects on operator performance.
- Development of a totally new locomotive cab concept with improved visibility, crash protection, and operator controls and displays.

Future efforts will concentrate on the design, fabrication, and application of the Evaluator to a wide range of human factors experiments. Greater emphasis will be placed on developing countermeasures to occupational injuries to railroad employees. Other outputs will include guidelines for crew vigilance devices and procedures previously tested on FRA's Facility for Accelerated Service Testing (FAST) and evaluation of the new cab design.

The Rolling Stock subprogram is directed toward reducing the likelihood and severity of accidents caused by equipment defects or limitations and adverse track-train interactions. Specific projects address hazardous material transport, train dynamics and operation, vehicle occupant protection, component failures prevention, and improved braking systems.

As we have indicated, performance specifications were issued last Fall for cars carrying liquefied flammable gases and ammonia and appropriate implementation is in process. The Safety devices included in the performance specification (couplers, head shields, and insulation materials) successfully withstood 95,000 miles of testing on our Facility for Accelerated Service Testing (FAST). Other major outputs recently obtained from the Rolling Stock subprogram include:

- Performance specifications for rear-end markings which were incorporated in a rule.
- Performance specifications and supporting data for rail vehicle glazing materials for the protection of railroad employees from acts of vandalism.

Major future activities expected from this subprogram include performance specifications and operational guidelines for cars carrying radioactive and explosive cargoes. In addition, performance specifications will be developed for braking systems and other critical vehicle components, such as wheels, axles and bearings. We will also be evaluating concepts to improve vehicle occupant protection and developing a better understanding of adverse track-time dynamics.

Additional safety benefits will be derived from the Facility for Accelerated Service Testing. This facility will permit us to gain the equivalent of 7-10 years of in-service experience in one year of testing by operating a train over a closed loop track for 12 hours a day, five days a week. This will permit improvements in safety to be adopted much more rapidly and with greater confidence.

The experiments being conducted on FAST will result in data which can be used in helping to improve the safety of railroads. Specific types of information which will be used are failure rate data on components and data to help predict the useful life of components so that they can be removed from service before failures and accidents occur. Additionally, appropriate rail inspection frequency data will be collected along with information on the way in which residual stresses in rail accumulate as a function of extended service. All of these data will directly support on-going, safety related projects and will be reflected in recommendations for improved track safety standards.

COOPERATIVE EFFORTS

The Federal Government works with all interested groups in reviewing railroad safety programs, seeking to foster a uniform understanding of safety goals and objectives. Working with the AAR and Short line organizations, FRA has conducted seminars and training sessions for member railroads and their working forces. Conducted in selected geographical locations, these seminars are used to provide the industry access to training materials and visual aids pertinent to safety laws. These aids are used throughout the industry in carrier employee training situations to enhance the industry safety posture.

FRA has participated in the work of various groups constituted to study a particular phase of the railroad safety problem. One such effort is the Railroad Safety Research Board where direction is given to research programs, both Federal and private, to assure the wise investment of resources in improving railroad safety. Another example was the work of the Railroad Operating Rules Advisory Committee (RORAC) where government, railroad management and railroad labor joined together to examine, discuss and advise all concerned in the standardization of railroad operating rules to achieve safer operating conditions. RORAC helped formulate FRA's initial mandatory operating rules. The Locomotive Cab

Committee, with a similar sector mix, advises both manufacturers and government in the configuration of the locomotive cabs conducive to operator and crew safety.

FRA is also participating in a comprehensive study of the adequacy of carrier training programs. There is significant evidence to indicate the number of experienced employees in the railroad industry will, in the next few years, prove completely inadequate to meet the needs of the industry. In general, it appears that an alarming number of employees are very close to retirement age. A well trained work force results in not only increased productivity, but safer operations as well.

In light of this, FRA commissioned a study by an independent consulting firm to examine industry training needs and problems and to outline possible research efforts which FRA could sponsor to address those needs and problems. A sample of eight railroads, including both rail labor and management representatives, were interviewed to determine the extent of existing training and to ascertain the extent of the emerging problem.

This study will assist FRA and the industry by serving as a discussion piece and a common reference document regarding railroad training efforts. In this context, it should serve as the necessary first step for FRA to determine its role, if any, in the training field.

While the Federal Government principally performs a regulatory and enforcement function in its relationship with rail carriers, it does provide considerable assistance to the industry in its effort to provide safe working conditions and safe operations. However, carriers must maintain primary responsibility for ensuring safety of railroad operations.

OCCUPATIONAL SAFETY AND HEALTH

The first Federal enactment addressing the issue of occupational safety in the railroad industry was the original Safety Appliance Act of 1893. Since the effective date of that law, the Interstate Commerce Commission and its successor, the FRA, have been deeply involved in occupational safety problems. In 1970, Congress enacted both the Occupational Safety and Health Act and the Federal Railroad Safety Act. Section 4(b)(1) of the Occupational Safety and Health Act excludes from its coverage working conditions as to which another Federal agency exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health. The adjustment of jurisdictional questions relating to regulated transportation industries has been a matter of concern to the Departments of Transportation and Labor, the Occupational Safety and Health Review Commission, the courts, and all affected parties since that time.

In 1975, FRA proposed to end the jurisdictional uncertainty in the area of railroad safety and health by adopting substantial portions of the Department of Labor "consensus" regulations. That process was underway when the present Administration took office, but initial standards paralleling the Department of Labor regulations had not yet been issued. At that point, we undertook a complete reexamination of our approach.

Our chief concern was that FRA would have to acquire a substantial technical capability relating to general industrial and construction standards duplicating the capability under development by the Department of Labor. Further, significant attention to this area would inevitably distract our attention from our central concern, the safety of railroad operations.

After reviewing all of the pertinent considerations, we decided that the institution of a massive regulatory program in this area would not be in the best interest of employee health and safety in the rail industry. However, we recognized the need to articulate (1) the extent to which we have exercised jurisdiction over railroad safety and (2) the proper relationship between FRA and the Occupational Safety and Health Administration with respect to major fields of regulatory activity. The result of our efforts is a public notice terminating our general occupational safety and health docket. The notice includes a policy statement which we believe will help to dispell most jurisdictional questions by affirming Department of Labor jurisdiction over working conditions not rooted in railroad operations. To the extent some overlap continues to exist or the Department of Labor requires assistance in applying its standards to conditions in the railroad industry, the two departments of government should be able to cooperate in assuring comprehensive protection while preserving the integrity of both regulatory programs. A good working relationship already exists between our respective compliance offices and we will seek more formal, structured arrangements in the near future.

STATE PARTICIPATION

Section 206 of the Federal Railroad Safety Act of 1970 authorizes the states to assist the Secretary of Transportation in carrying out investigative and surveillance activities concerning regulations issued under the Act. At the present time twenty states are participating by certification or agreement in the program. Of those twenty states, nineteen are participating in inspections under the Track Safety Standards, eight are involved in Freight Car Safety Standards inspections, with seven states doing both. Altogether, the states employ fifty inspectors and inspector trainees. This represents a significant growth in the state participation program over previous years, and an additional five states are expected to join the program in the very near future. A chart showing the States and their level of participation is attached.

The Act provides for fifty percent (50%) Federal funding of state costs attributable to the program. Total obligations under this program were \$705,000 in FY 1977. During fiscal year 1978 there is budgeted out of our railroad safety appropriation \$1,920,000 for grants in aid to the states. These funds are available from unobligated balances of prior years. The \$1,940,000 budget authority requested in FY 1979 together with \$800,000 planned carryover will provide for an expanded inspection force. Because many of the decisions affecting the growth of this program rest with the state regulatory commissions, funds authorized for this purpose should remain available until expended.

The future of the state participation program in relation to the overall inspection effort is a matter of serious concern to us. It was the impression of the Congress in 1970 that the states generally had at their disposal a significant capability which could be tapped to supplement Federal enforcement resources. With respect to track and freight car safety, at least, this has not turned out to

be the case in most instances. State commissions generally have more expertise in areas such as grade crossing safety. Therefore, the states, with a very few exceptions, have been forced to acquire qualified personnel. FRA has established an inspector trainee program to help the states in this regard.

Nevertheless, because many state governments have salary scales which do not permit the compensation of qualified inspectors at a level equivalent to that provided by the railroad industry or the Federal government, difficulties have apparently been experienced in bringing aboard both qualified inspectors and qualified inspector trainees. FRA will continue to facilitate the entry of states possessing the requisite capability and will assist states in acquiring this capability.

COMMENTS ON PROPOSED LEGISLATION

1. H.R. 2908 would require the Secretary of Transportation to establish by order a requirement that railroads place and maintain light-reflecting paint or other reflector markings on the sides of all locomotives and cars in order to promote safety at rail-highway grade crossings.

As we have stated in our letter of June 27, 1977, to Chairman Staggers, 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 reflectors for the railroad industry's car fleet of 1.75 million cars is economically justified or that reflectors will produce the desired safety results. While a significant number of accidents involve motor vehicles running into trains at crossings because of darkness or poor visibility due to weather conditions, the Department feels that improvement of crossing protection or illumination is a far more effective approach to safety at rail-highway grade crossings than reflectors. Because of the considerable costs involved in providing additional grade crossing protection, the Department feels that only the most effective methods should be pursued. While reflectors would probably prevent some collisions, their use would fall far short of eliminating the problem because of variations in road curvature motor vehicle speed, reflector cleanliness, driver inattention and other factors. However, the Department has undertaken additional study of the potential benefits of reflectors on rail equipment and will continue to evaluate this and other proposals relating to grade crossing safety.

2. H.R. 7022 would amend the Federal Railroad Safety Act of 1970 to direct the Secretary of Transportation to issue, within 180 days, regulations that require the cab area of all railroad locomotives and the entire interior area of all railroad cabooses to be enclosed completely by bulletproof material within one year after the regulations are issued. The bill defines "bulletproof material" as a material that would stop a bullet from a medium-power, small arms weapon.

The Department has consistently opposed legislation which would establish Congressionally imposed regulatory standards. The Department feels that regulatory matters such as this should be left to the discretion of the Secretary of Transportation as now provided in section 202 of the Act. Regulations should be established only after full consideration by an administrative agency possessing the appropriate expertise and after completion of rulemaking proceedings in which full public participation is afforded. Only then can it be determined what, if any, regulations are necessary. Illustrative of the matters that must be considered in such a proceeding, are the size of the ordnance which may be fired at a train, the distance travelled, the angle of impact, and the need to protect against hazards which would not be eliminated merely from the bulletproof material called for by the bill.

The bill, as drafted, would inhibit us from developing a solution other than requiring the bulletproofing of locomotives and cabooses, or from concluding that regulations are not required or are impractical. The interest of effective and efficient Federal regulation is best served when we have the flexibility to require only what is necessary to meet a particular problem.

FRA is currently grappling with this problem. In addition to publishing advance notices of proposed rulemaking requesting from the public additional information on improved glazing materials and maximum safety standards for cabooses, we have conducted a series of public meetings to discuss the "bulletproofing" problem with representatives of the railroad industry, rapid transit operators, rail labor, and glazing manufacturers. We have also sponsored a series of performance tests on various types of glazing materials and metals used in locomotive cabs by the Ballistics Research Laboratory of the Aberdeen Proving Grounds. Information obtained from these and other sources is now being collated and analyzed by our staff.

In addition, FRA is holding a series of meetings with labor and industry representatives to attempt to achieve a consensus on the most fruitful approach to this problem; and it appears that progress is being made.

3. H.R. 8017 and H.R. 9886 are identical bills that would amend the Federal Railroad Safety Act of 1970 to require the Secretary of Transportation to issue within 180 days regulations that require the locomotive of all freight, passenger and commuter trains to be equipped with strobe lights. These regulations must also require that the strobe lights be operated at grade crossings and at other locations where the Secretary finds that their operation is in the interest of safety.

For the reasons discussed at some length in our previous comments on H.R. 7022, we do not favor enactment of legislation H.R. 8017 and H.R. 9886. We believe that the interest of effective and efficient Federal regulation is best served when we have the flexibility to prescribe regulations that are tailored to fit the particular safety problem without creating additional unforeseen problems.

Attached is an advance notice of proposed rulemaking on this subject recently published by FRA requesting public comment on the need for and the specific requirements of a regulation governing the application and operation of strobe lights or other lighted devices on locomotives to warn the public of trains approaching grade crossings. The period for public comment expires May 1, 1978. After we have reviewed these comments we will be in a much better position to determine the appropriate action to take.

4. H.R. 8361 would amend the Federal Railroad Safety Act of 1970 to establish a Railroad Safety Advisory Committee and to broaden the role of the states in enforcing all of the railroad safety laws and regulations.

The proposed Railroad Safety Advisory Committee would consist of representatives of the public, rail management, rail labor, railroad safety organizations, and state commissions engaged in railroad safety regulation. The Secretary would be required to submit proposed regulations and orders to the Committee prior to publication and would have to publish his reasons for rejecting the advice of the Committee in the event the Committee failed to concur in the rulemaking. The Department opposes this provision because all of the affected groups involved already have ample opportunity to participate in the rulemaking process through comment on notices of proposed rulemaking and, quite often, advanced notices of proposed rulemaking as well. In addition, FRA utilizes public hearings and informal public conferences to elicit the views of all parties. In view of these practices there is no need for the proposed Advisory Committee.

The bill also proposes to expand the existing state participation program (1) by amending section 206 of the Act to authorize state agencies to participate in investigative and surveillance activities under the railroad safety statutes which were already in effect at the time of passage of the 1970 legislation and (2) by permitting state agencies to sue for injunctive relief with respect to a violation of any Federal railroad safety statute or regulation without first referring the matter to the Secretary for action.

The Federal Railroad Administration has made significant strides in facilitating the entry of states into the current program of participation under the 1970 Act. Additional work will be required in the immediate future to bring the states into the inspection program with respect to the initial Federal operating rules, radio rules, and rear end marker regulations. This process will require a major outlay of FRA resources to bring the states "up to speed" through training and monitoring at the same time our own people are learning to implement these provisions. In addition only 8 of the 20 participating states are implementing FRA freight car standards.

Until the states are fully implementing regulations under the 1970 Act, we believe it would be premature and an undesirable diversion of our resources to extend the state program into new areas such as motive power, signals, power brakes, and hours of service.

The Department opposes the proposal that the states be permitted to sue for injunctive relief with respect to violations of the railroad safety laws and regulations without first consulting the Secretary. Current law permits the states to sue for injunctive relief under the Federal Railroad Safety Act only if the Secretary has failed to act after ninety (90) days and if the Secretary has not determined that no violation has occurred. These qualifications are essential if the railroad safety laws and regulations are to be enforced uniformly throughout the nation. The Secretary is responsive to well founded requests from the states. However, to the best of our knowledge no state has yet requested the Secretary to seek injunctive relief. The proposal is, therefore, both unwise and premature.

5. H.R. 8365 would amend section 2 of the Hours of Service Act to reduce the maximum hours of train and engine crews from the current twelve hours to ten (10) hours during the first two years after the effective date of amendment and to eight (8) hours after the expiration of two years.

The purpose of the Hours of Service Act is "to promote the safety of employees and travelers on railroads by limiting the hours of service of employees thereon." Since it has not been established that any further reduction in maximum hours of service would have any positive impact on railroad safety, the Department opposes enactment of this bill.

The issue of safety should be central to all deliberations on this bill. A study by the Interstate Commerce Commission in early 1967 concerning the relationship between hours of service and railroad accidents under the then existing sixteen-hour limitation failed to establish any definite correlation. (The Act was amended in 1969 by Public Law 91-169, which reduced the maximum hours of service of covered operating employees from sixteen to twelve.) Moreover, an analysis by the Federal Railroad Administration (FRA) of all accidents caused by human factors during 1975-1976 also failed to disclose any such correlation.

The Department believes that the resolution of further disagreements concerning work hours should be handled within the established collective bargaining framework. We fully agree with the position taken by the Senate Commerce Committee in its report on the 1969 hours of service legislation: "The committee intends that this section should not only permit but should also promote collective bargaining in the hope that further resort to legislation will not be sought by either railroad management or labor". S. Rep. No. 604, 91st Cong., 1st Sess. 10 (1969).

Another significant objection to the proposed bill is its potential cost. Railroad terminals are fixed facilities which are often spaced at considerable distances. Based on the Department's experience in administering the current statute, we believe there are a significant number of assignments which could not be completed within eight hours or for which that time period would not allow any margin of error to accommodate the operational difficulties which are common in the industry. While many assignments could probably be redefined at minimal cost to the public, others could not be redefined without considerable outlays for deadhead transportation due to the great distances between terminals.

6. H.R. 9027 would add a new subsection (h) to section 202 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 431). The subsection would provide that no common carrier by railroad shall run, or permit to be run over its line or road, any freight train which is in excess of 4,300 feet in length, exclusive of caboose. This represents an average of approximately seventy-five (75) cars.

The bill contains no congressional findings setting forth the reasons for the legislation. However, Chairman Staggers has stated that this proposal is designed to enhance railroad safety by reducing the incidence of train accidents. We do not believe that conclusive evidence exists establishing that a limitation on train length would, by itself, result in an appreciable net reduction in train accidents. Further, we are concerned that the proposed legislation would impair efficiency and productivity in the rail industry, especially in the absence of a concurrent revision in existing work rules.

The correlation between train length and the safety of train operations has been a source of dispute within the industry and in previous Congresses. In 1957, the Committee on Interstate and Foreign Commerce added an amendment to the Power or Train Brakes Safety Appliance Act which was intended to deny the Interstate Commerce Commission the authority to regulate train length. H.R. Rep. No. 1205, 85th Cong., 1st Sess. (1957). The amendatory language was inserted in the legislation following a discussion of the authority of the I.C.C. (now the Secretary of Transportation) to make changes in the power brake rules mandated by the statute, and it reads as follows: "Provided, however, that such rules or standards or instructions or changes therein shall be promulgated solely for the purpose of achieving safety." 45 U.S.C. 9. In explanation of this proviso, the committee stated:

The purpose of including such language is to make clear that these rules are for the purpose of safety, and not for the purpose of limiting the length of trains. The relationship of train length to safety is a matter for separate consideration.

The Federal Railroad Safety Act of 1970 now provides adequate authority to regulate in the area of train length. The Department believes that complicated regulatory judgments such as those involved in proposed restrictions on train length are best made by the administering agency after appropriate research, analysis, and opportunity for public comment. To date, no petition for rulemaking has been submitted to FRA embodying the regulatory proposal contained in the bill. However, FRA appreciates the concerns underlying the legislative proposal and is conducting research into track-train dynamics which may have direct application to this problem.

Analysis of accident data relating to frequency of train accidents for trains of different lengths is extremely difficult due to a number of variable factors involved. However, an analysis of national train accident statistics for calendar years 1975 and 1976 suggests that less than forty percent (40%) of train accidents occur in trains of seventy-five (75) or more cars. (A chart displaying these statistics is attached.) As indicated below, partial data compiled by the Association of American Railroads (AAR) suggests that, depending on the railroad, the percentage of trains which exceed seventy-five cars may range between thirty-five percent (35%) and fifty percent (50%). While available data would not permit the reliable normalization of FRA statistics to fully evaluate whether a significant correlation may exist between train length and train accidents, the data which is available does not indicate a positive correlation. The single exception to this rule

may be equipment-caused train accidents. Since a greater number of cars in the consist will increase the statistical possibility that a seriously defective car will be present, this is not a correlation which would necessarily support any limitation on train size.

Certainly train length in combination with increasing tonnages, poor train placement of empty and loaded cars, poor train handling, and equipment defects will be productive of a higher accident level. The problems are real and they are of major concern to FRA. However, imposition of an arbitrary train length limitation without regard to other factors would appear to be an inappropriate response to a problem which has not yet been quantified.

Indeed, it is entirely possible that an arbitrary and inflexible train length limitation might actually result in an increase in accident frequency and severity. The higher traffic density on main lines which shorter trains would produce would greatly increase the number of situations in which trains would meet or be overtaken, heightening the statistical possibilities for collisions in the event of human error or failure of a signal system. Since most grade crossing accidents involve a motor vehicle being struck by a locomotive rather than a motor vehicle proceeding into the side of the train, increased train traffic might result in an increase in grade crossing accidents--the source of most of the fatalities related to railroad operations.

The Department believes that the best immediate answer to train accidents is the strict enforcement of Federal laws and regulations governing track, equipment and human factors. In the past year, new emphasis has been placed on meaningful enforcement activity. Additional resources are being requested for this purpose. We believe it would be untimely for the Congress to mandate a limitation

on train length in light of the uncertain safety consequences of the measure and ongoing efforts to enforce safety laws and regulations which address hazards more directly and with greater precision. Any further regulatory activity related to the operation of long trains should be undertaken by FRA and should take into consideration (1) the advances in train handling permitted by the use of radio-controlled "slave locomotives", (2) the special factors associated with the unit train concept, and (3) other matters bearing on the safety of long trains. As noted above, FRA is presently conducting research which will assist in addressing the train accident problem from the point of view of methods of train handling.

The Department is also concerned that this legislation could have a severe detrimental impact on the economic health of the railroad industry. While no precise estimate can be made of the costs rail carriers would incur from such a regulation, it is clear that the level would be extremely high—much higher than many of the firms in the industry could bear, given their financial condition. The investment in new locomotives, cabooses, changes in passing sidings and yard configurations would be considerable. The restriction would have a great impact on the operating practices of every carrier. While data are not available for the industry as a whole, information on several Class I railroads of varying size operating in different territories received by the AAR indicates that of a total 1.8 million trains run per year, 35% contain more than 75 cars; for some railroads, the percentage was greater than 50%. Operating characteristics of railroads differ, depending on size or commodities carried, terrain, management philosophy and numerous other factors; the carriers estimated that this legislation would result in an increase in number of trains per year of from 6% to 46%. Estimated total new investment per carrier ranged from \$18 million to \$340 million.

The impact on operations and maintenance expenditures would also be considerable. Additional trains require more fuel, more maintenance, and cause the need for more track work. But, above all, they require more crews. The railroads' estimates for increases in the total number of road crew employees alone ranged from 6% to 33%; this does not include any increase in maintenance of way or other personnel. At an average yearly cost per four man crew of \$95,044 as estimated by the Interstate Commerce Commission (not including benefits), this could amount to a considerable sum.

The impact of the 4,300 foot length restriction will probably be seen most clearly in coal transportation. Unit train service is the most efficient way to move large volumes of coal, from the points of view of both railroad and utility. Typically, such trains consist of 100 hopper cars (although many trains are longer) and three or four locomotives. According to the National Coal Association, over 168 million tons of coal was moved this way in 1975, which is approximately 40% of all rail coal originated. Under the Rail Revitalization and Reform Act of 1976 (RRRA), the ICC has begun to allow some portion of the investment made for new movements such as these to be incorporated in the tariff charged, to allow the railroads to be able to attract the capital to make such movements possible. To the extent that the ICC allows the rate of return on such expenditures to be incorporated, the higher charges are passed on to the utility, and ultimately, to the consumer. Rates governing existing unit train movements were set before the "capital incentive rate" provision of the RRRRA went into effect, however, so the coal carriers would probably have to petition the ICC for an increase in all existing tariffs to cover not only new investment but increases in number of crews as well. Again, depending on the decision, some or all of this increase in cost must ultimately be borne by the utility customers, or may result in loss of rail market share.

It is true that there has been much research into the economics of small trains which indicates that, in many cases, such operations are more efficient than longer trains. This is especially true in movements of TOFC trains, where shippers need fast, reliable delivery times. However, such types of operations are not efficient for all types of service, especially if trains must carry full crews. Several short train studies done by various railroads, and cited in Robert Leilich's "A Study of The Economics of Short Trains" (Peat, Marwick, Mitchel and Company, 1974) indicate that crew costs in particular and labor cost per ton-mile in general are the major impediments to such service although, in isolated cases, it has proven efficient despite these factors.

The central point with respect to the economic impact of the bill is that an absolute limitation on train size which does not take into account the type of freight hauled or existing labor agreements concerning crew size would have an immediate and significant effect on the industry, shippers, and consumers.

Because it cannot be demonstrated with available data that a 4,300 foot limit on train length is an appropriate response to the train accident problem, because an increase in the number of trains could result in an upward countervailing trend in grade crossing accidents and train collisions, and because the economic impact of the limitation on the industry would be severe, the Department opposes enactment of the bill.

7. H.R. 9924 would amend section 105 of the Hazardous Materials Transportation Act of 1975 to prohibit the Secretary of Transportation from issuing any regulation, exemption, exception or inconsistency ruling that would permit the transportation of any radioactive materials through or into any geographical area containing a population density greater than 12,000 persons per square mile. The only exceptions to this general prohibition would be (1) radioactive materials to be used for medical diagnosis or treatment in that geographic area; and (2) the transportation of radioactive material during a national emergency.

Since the term "radioactive materials" is not defined in the bill, the Department's existing definition is probably intended. However, this definition includes not only fissionable materials and radioactive wastes, but also industrial x-ray equipment and consumer items such as household ionization smoke detectors and anti-static phonograph brushes. The Department's hazardous materials regulations, the source of this definition, take into account the varying degree of hazards posed by various radioactive materials; H.R. 9924 does not. Low level hazards, such as posed by smoke detectors and other similar devices containing small sources of radioactivity, hardly merit the extreme routing controls contemplated by the bill. As H.R. 9924 evidently applies not only to highway transportation, but also to water and rail transportation, if the Department's existing definition of radioactive materials is intended by the use of those words in the bill, the bill may make such consumer items unavailable to most urban residents and in fact might effectively seal the nation's cities from access to any device containing a radioactive materials as a component part, unless intended for medical use or during a national emergency. The bill may even prevent shipment of medical radioisotopes from or through an urban area to a rural hospital.

We also expect to encounter great difficulty in determining the boundaries of all the areas within the United States having a population density of twelve thousand persons per square mile. That figure cannot easily be correlated with "Urban Areas", "Urban Places," or "Standard Metropolitan Statistical Areas" which are defined by the Bureau of the Census for common use in other contexts. Additional resources would be necessary for the Department to make that determination and to keep it accurate as demographic conditions change over time.

The Department is aware of public concern with the transportation of radioactive materials and has adequate authority under the Hazardous Materials Transportation Act to deal effectively with the transportation of such materials. The Nuclear Regulatory Commission recently contracted for the preparation of an "Environmental Assessment of the Transportation of Radioactive Materials in Urban Environs" which is scheduled for completion in the middle of 1978. The Assessment is expected to provide additional detailed information that will be of use to the Department in connection with its responsibilities in this area. We believe that any further action that is taken concerning transportation controls on radioactive materials should benefit from a careful review of the varying levels of hazards actually involved in moving such materials.

In light of the foregoing, we believe that H.R. 9924 is unnecessary, that as presently drafted it will not achieve its stated purpose, and that if enacted it may have unfortunate and unintended effects.

8. H.R. 10556. FRA has several major concerns with H.R. 10556. First, the bill unnecessarily increases the ceiling on the number of railroad safety inspectors which FRA may hire to 645 inspectors. Secondly, the restrictions imposed on FRA's research and development ("R&D") appropriations will seriously jeopardize some of FRA's key railroad safety related research work.

Section 2 of the bill would amend section 212 of the Federal Railroad Safety Act of 1970 ("Safety Act"), 45 U.S.C. 441 to: authorize to be appropriated not to exceed \$37,725,000 for the fiscal year ending September 30, 1979; increase the number of personnel authorized to be employed by the FRA Office of Safety; and eliminate section 212(c).

Section 2 as drafted presents several difficulties. Elimination of section 212(c) cut out one necessary phrase authorizing funds appropriated for R&D activities under section 212(b)(4) to remain available until expended. A provision should be added to section 212(a) to make such funds and funds authorized for automatic track inspection and the state safety programs to remain available until expended.

Finally, the President's FY 1979 budget includes the salaries of 301 inspectors (an increase of 15 inspectors), 50 headquarters professionals, and 74 administrative/clerical personnel nationwide at a total cost of \$22.2 million (including the procurement and operation of track inspection equipment and data collection). We believe that FRA can adequately carry out its safety responsibilities with the manpower resources we have requested.

Section 3 of the bill sets a series of limitations on FRA's R&D other than the safety research program, largely replacing the former section 212(c). The first sentence sets a limit of \$40 million on FRA's R&D program for fiscal year 1979 (in addition to the \$10 million authorized in 212(c)(4)). This would require a cut of \$8.3 million in the President's budget, and is opposed by FRA. Incidentally, although none of the cuts would come from the safety research program per se, most of the safety related programs mentioned in the next sentence of the section would receive some reduction.

The second sentence requires at least 50 percent of "such funds" (presumably \$40 million, but it is not clear) be in safety research, improved track inspection and data acquisition technology, improved rail freight service, and improved passenger systems. However, these definitions are very broad and the terms are not defined; these "programs" are administrative subdivisions of funds set by FRA. We are not proposing to do so this year, but all of FRA's R&D could easily be classified under these four headings, making the provision meaningless.

The third sentence provides that no FRA R&D "program" can exceed funds allocated for railroad safety research (which is limited to \$10 million by 212(b)(4) and is in fact budgeted at \$7.37 million). Ironically, under FRA's current administration subdivisions of R&D funds, this would directly reduce only two programs: the Improved Track, Inspection and Data Acquisition Program, and the Facility for Accelerated Service Testing Program (FAST) at Pueblo, Colorado, both of which advance safety related track research, which this bill is trying to promote. The former program is designed to improve track safety standards; develop

methods for track construction and maintenance in order to reduce track-caused accidents and increase performance; and to improve automated track inspection capabilities. The FAST program, which is a full system approach to the simultaneous testing of the reliability and safety of track and roadbed components, rolling stock, maintenance equipment and techniques, under accelerated and realistic high tonnage conditions, would, in fact, be eliminated. Substantial reductions would also be incurred in the Transportation Test Center budget request for construction, equipment and the operation and maintenance of the facility itself. However, as I pointed out in the previous paragraph, there is no fixed definition of FRA "programs", since they are administrative subdivisions of funds. Programs could, therefore, be subdivided "ad infinitum" to keep beneath this ceiling.

Two other points deserve mention in connection with the bill's arbitrary restriction on the amount of R&D expenditures that must be devoted to safety. The first is that much of what FRA does in the non-hardware categories currently included in the R&D budget is not research at all, but either operational in nature or for policy planning purposes. For example, the monies FRA allocates to examining the prospects for physical and corporate restructuring in a specific region, support operational planning. If FRA spends money out of the R&D program to determine the relative importance of the factors that have an effect upon the economic or financial viability of a rail line, it is being done to provide a basis for policymaking, and thus is not either "research" or "development" in the sense that those terms are generally understood. For that reason, we are planning—in our 1980 budget submission, which is the first budget that has been formulated completely under the Carter Administration—to label these categories more accurately.

A second point that must be emphasized is that improvements in safety do not necessarily result exclusively from expenditures for safety R&D. To the contrary, work done in areas such as freight car management improvement, commodity research and financial and system structure analysis can have an ultimate impact on railroad profitability that will permit the kind of spending on plant and equipment by the railroads that safety requires. For these reasons, then, it would be inadvisable to place an arbitrary limitation on the amounts of funds spent for other than safety R&D.

9. H.R. 11118 would amend the Hours of Service Act to define the term "designated terminal" to mean the home or away from home terminal of an employee. Under the Act, rest periods for employees at other than "designated terminals" would be considered as on-duty time. The meaning of "designated terminal" has led to considerable controversy and litigation between FRA and the railroad industry.

In the initial "test" case on the issue, the Ninth Circuit Court of Appeals held for the position advanced by the Government, which is that designated terminal means the home or away from home terminal for the particular run or assignment involved, or another terminal where suitable facilities for food and lodging are available which has been bilaterally designated as a release point for that crew. FRA feels that this position best carries forth the intent of Congress when it amended the Act in 1969.

A recent Eighth Circuit Court of Appeals decision specifically rejected the opinion of the Ninth Circuit and held that designated terminal is any terminal on a railroad where suitable facilities for food and lodging are available. This position is similar to an amendment proposed by the Association of American Railroads in 1969 which Congress specifically rejected at that time.

Thus, there is now a conflict between circuits. We will recommend to the Department of Justice that a writ of certiorari to the Supreme Court be sought to resolve the conflict. Unfortunately the time lag involved in obtaining such review will only add to the burden already faced by FRA in this regard. Inspectors have spent thousands of hours investigating and researching complaints from employees alleging that they have been released at a point which is not a designated terminal. Clearly the industry, which had not significantly changed its operations when that terminology was added as a part of the 1969 amendments, will obviously not change

its practices now. Because of the conflict which currently exists between the circuits, our enforcement efforts in this regard will be fruitless. Therefore, unless Congress acts to define the term, we will be forced to notify our field inspectors to cease investigations of future complaints arising outside of the Ninth Circuit which involve the designated terminal concept until the Supreme Court renders a decision on the issue.

In our opinion if the "designated terminal" definition set forth in H.R. 11118 is expanded to state that a designated terminal is the home or away from home terminal for a particular crew assignment while also providing for bilateral designation of locations having suitable facilities for food and lodging as release points for purposes of the Act, the bill will provide the necessary guidance to both FRA and the industry as to the intent of the Congress in this regard.

As of March 1, 1978 the following states were participating.

<u>State</u>	<u>Participation By</u>	<u>Inspectors</u>	
		<u>Track</u>	<u>Equipment</u>
Alabama	Certification	1	2
Arizona	Certification	1	1
Connecticut	Agreement	1*	
Illinois	Agreement	4	
Indiana	Agreement	1	
Iowa	Certification	3	
Kansas	Certification	1*	
Maryland	Agreement	1*	1
Michigan	Certification	3	
Minnesota	Agreement	2	
Missouri	Agreement	2*	
Nebraska	Certification	1	
New Hampshire	Agreement	1*	
New York	Agreement	3	
Ohio	Agreement	3	1
Oregon	Certification	2	1
Pennsylvania	Certification	3	4
Vermont	Agreement	1	
Washington	Certification	2	2
West Virginia	Certification		2
TOTALS		36	14

*Denotes trainee

Under an "agreement", the FRA agrees with the State to cooperate in certain areas if the State is unable to qualify for or is not desirous of obtaining full certification.

PROPOSED RULES

written comments received will be available for examination, both before and after the closing date for written comments, during regular business hours in Room 5101, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Principal Program Person: John A. McNally, Office of Safety, Federal Railroad Administration, Washington, D.C., 20590, 202-426-9178. Principal Attorney: Edward F. Conway, Jr., Office of Chief Counsel, Federal Railroad Administration, Washington, D.C. 20590, 202-426-8836.

SUPPLEMENTAL INFORMATION:

BACKGROUND

The National Grade Crossing Inventory indicates the following number of crossings: 219,082 public; 142,338 private; and 3,601 pedestrian. During the 10-year period 1967 through 1976, an annual average of 1,328 fatalities and 3,680 injuries resulted from rail-highway grade crossing accidents involving collisions between rail equipment and motor vehicles, other vehicles or machines and pedestrians. In 1976, the most current year for which data has been finalized, there was a total of 12,114 crossing accidents of all types resulting in 1,168 fatalities and 4,887 injuries. Of the total number of accidents, 11,700 involved collisions between rail equipment and motor vehicles which are the accidents most pertinent to this proceeding. The 11,700 accidents consisted of 8,352 collisions where a train struck a motor vehicle (resulting in 846 fatalities, 2,941 injuries) and 3,348 collisions in which a motor vehicle ran into the side of a train (resulting in 182 fatalities and 1,473 injuries). Of the 11,700 collisions, 7,121 or 60.9 percent occurred in daylight and 4,579 or 39.1 percent took place at night. A breakdown of the types of protection at the crossings where these accidents occurred indicates that 929 occurred at crossings protected by gates, 4,505 at crossings protected by flashing lights, wigwags or bells and 6,266 at crossings protected by passive warning signs only.

The FRA presently has in effect a regulation (49 CFR 230.231) which requires each locomotive used in road service to be equipped with a headlight "which shall afford sufficient illumination to enable a person in the cab of such locomotive who possesses the usual visual capacity required of locomotive engineers, to see in a clear atmosphere, a dark object as large as a man of average size standing erect at a distance of at least 800 feet ahead and in front of such headlight; and such headlight must be maintained in good condition." In the case of locomotives used in yard service, the distance re-

[4910-06]

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[49 CFR Chapter II]

[Docket No. RSGC-2; Notice 1]

STROBE LIGHTS ON LOCOMOTIVES

Advance Notice of Proposed Rulemaking

AGENCY: Federal Railroad Administration (FRA), Department of Transportation.

ACTION: Advance Notice of Proposed Rulemaking (ANPRM).

SUMMARY: In an effort to reduce the number of grade crossing accidents occurring throughout the nation, the FRA is considering development of proposed safety regulations to require locomotives to be equipped with lighted devices that are more effective than the standard headlights now in use in alerting motorists that a train is approaching a grade crossing. FRA solicits public comment to assist it in assessing the merits of this approach to reducing the number of grade crossing accidents.

DATES: Written comments must be received by May 1, 1978. Comments received after that date will be considered to the extent practicable.

ADDRESSES: (1) Submission of written comments. Written comments should identify the docket number and notice number and be submitted in triplicate to the docket clerk, Office of Chief Counsel, Federal Railroad Administration, 400 Seventh Street SW., Washington, D.C. 20590. (2) Examination of written comments. All

quirement is reduced to 300 feet. Additionally, FRA requires that each locomotive be provided with a "suitable whistle or its equivalent" (49 CFR 230.234).

The Association of American Railroads (AAR) Standards Code of Operating Rules is the foundation for the operating rules and practices of most railroads, including rules governing the display of a locomotive headlight and use of the locomotive bell and whistle. Using the AAR Code as a guideline, each railroad constructs, interprets, applies, and expands upon the Code rules as it sees fit according to conditions or operating practices prevailing on the individual railroad. Rule 17 of the AAR Code provides that: "The headlight must be displayed brightly to the front of every train by day and by night. When an engine is running backward, a white light must be displayed by night on the leading end." Rule 18 of the AAR Code provides that: "Yard engines will display the headlight to the front and rear by night. When not provided with a headlight at the rear, a white light must be displayed".

A number of railroads have equipped some of their locomotives with lighting devices other than the conventional headlight. These devices generally afford greater visual conspicuity. Three types are now being utilized by a number of railroads: the oscillating white headlight, the oscillating emergency red headlight and the revolving colored dome warning light mounted on the locomotive roof. The oscillating white headlight is utilized to provide an increased degree of visual conspicuity over and above that of a stationary white headlight for vehicular traffic at grade crossings; it supplements the standard fixed beam headlight which is burning at the same time. The red emergency oscillating light is actuated to provide maximum conspicuity when emergency circumstances prevail. The revolving colored dome light mounted on the roof of a locomotive provides added conspicuity at a maximum height calling attention to the locomotive movement not only to the front and rear, but also to the sides. While the oscillating headlight and the revolving color dome light may have a positive effect on grade crossing safety, FRA has no statistical data available to substantiate this. Each railroad's operating rules govern the use of these devices as well as locomotive whistles, horns and bells as trains approach and pass over public crossings.

FRA has conducted research to determine means of enhancing the visibility of trains at grade crossings. Several types of devices including strobe lights were investigated. This research is documented in the following reports:

"The Visibility and Audibility of Trains Approaching Grade Crossings," J. P. Aurelius and N. Korobow, System Consultants, Inc., FRA-RP-71-2; May 1971 (NTIS No. PB-202-668). "Field Evaluation of Locomotive Conspicuity Lights," D. B. Devoe and C. N. Abernethy, Transportation Systems Center, FRA-ORD-75-54; May 1975 (NTIS No. PB-244-532). "Guidelines for Enhancement of Visual Conspicuity of Trains at Grade Crossings," John B. Hopkins and A. T. Newell, Transportation Systems Center, FRA-ORD-71; May 1975 (NTIS No. PB-244-551).

Copies of these reports may be obtained from the National Technical Information Service, Springfield, Va. 22161.

The research up to this point had included both laboratory and field testing, but had not included any operational tests of strobe lights. For this reason, a joint project was initiated in fiscal year 1977 with Amtrak, Santa Fe, Chessie, and Boston and Maine Railroads to evaluate the effectiveness of the strobe lights, and to identify and remedy any operational problems associated with their operation. This project should be completed in fiscal year 1979.

Members of Congress have also expressed their interest in the use of strobe lights to improve grade crossing safety. Congressman Paul Simon has introduced a bill on this subject (H.R. 8017). If enacted, it would require the Secretary of Transportation to issue regulations that would require the locomotive of all freight, passenger, and commuter trains to be equipped with strobe lights. These regulations must also require that the strobe lights be operated at grade crossings and at other locations where the Secretary finds that their operation is required in the interest of safety.

PUBLIC PARTICIPATION REQUESTED

The purpose of this advance notice is to solicit public participation and comment on the need for and the specific requirements of regulations that FRA may develop governing the application and operation of lighted devices on locomotives to warn the public of trains approaching grade crossings.

Specific advice is requested on the following points:

1. What types of lights should FRA consider requiring on locomotives to increase their conspicuity? Strobe lights, more powerful or oscillating headlights, or revolving dome lights? Could any of these lights be confused with other lights in the present railroad environment and result in potentially dangerous situations? Could any of these lights have a negative or distracting effect on railroad employees, motorists, pedestrians or persons who reside near a railroad? Describe and explain.

2. Should these lights be required on all locomotives or only on road loco-

motives? Should these lights be required to be installed only on locomotives that operate independently of other locomotives or that are used as the lead unit of locomotive consists?

3. How many lights should be required on each locomotive? What color should they be? What values should be specified for light intensity, frequency of flashing, and width and height of beam or angular coverage? Explain.

4. How effective would each type of light be in alerting motorists and preventing grade crossing accidents? Explain. Based upon available statistics, what percentage of accidents that occurred in 1977 could have been avoided by each type of light?

5. How costly would each type of light be to install and maintain? What would be the labor and material costs per locomotive to install each type? What would be the annual maintenance cost for each type? Is each type readily available in sufficient number? How much time would be required to equip all locomotives with each type?

6. If regulations were promulgated requiring locomotives to be equipped with two strobe lights that flash alternately, each with an effective intensity of between 800 and 3,000 candela over the forward 270 degrees of the lamp with a vertical beam width of 5+ degrees and with a flash rate of between 60 and 90 flashes/minutes for each lamp, what would be the labor and material costs per locomotive to install these lights? What would be the annual maintenance costs for these lights per locomotive? Are these lights readily available in sufficient supply? How much time would be required to equip locomotives with these lights?

7. Should these lights be illuminated at all times when the locomotive is in motion? Only at night or during reduced visibility? Only when approaching grade crossings that are not protected by flashing lights or gates? When approaching all grade crossings regardless of the type of grade crossing protection provided? What discretion, if any, should railroads and localities be allowed in this respect? If these lights are to be activated only when approaching grade crossings, should they be installed so that they are automatically activated whenever the locomotive bell or horn is used or should they be independently activated?

8. What State and local jurisdictions have laws, ordinances and regulations in effect that:

(a) Require locomotives to display strobe lights, flashing lights or any other type of lights to alert motorists at grade crossings?

(b) Prohibit or limit the use of strobe lights, flashing lights or any other type of lights?

PROPOSED RULES

(c) Prohibit or limit the use of horns, bells, whistles or other types of audible warning devices?

Please provide a copy of each law, ordinance or regulation or summarize it and provide the appropriate legal citation. What percentage of grade crossings are subject to these laws, ordinances and regulations?

9. How many of the following grade crossing accidents occurred in 1977:

(a) A locomotive equipped only with a standard fixed headlight struck a motor vehicle or pedestrian?

(b) A locomotive equipped with an oscillating headlight, strobe light, or revolving light struck a motor vehicle or pedestrian?

(c) A motor vehicle struck the side of

a locomotive or one of the first 20 cars in a train when the locomotive was equipped with a standard fixed headlight? When the locomotive was equipped with an oscillating headlight, strobe light, or revolving light?

10. For each accident category in question 9.

(a) What was the grade crossing accident rate based on locomotive miles?

(b) How many fatalities resulted?

(c) How many injuries resulted? Categorize injuries as permanently disabling, major and minor or superficial to the extent possible.

(d) How much damage resulted to railroad and other private property?

(e) How many accidents occurred at grade crossings protected by gates? By

flashing lights with and without bells? By wigwags with and without bells? By passive warning signs?

(f) How many accidents occurred in daylight, dawn/dusk, and in darkness?

(Sec. 202, Federal Railroad Safety Act of 1970 (45 U.S.C. 431), as amended by sec. 5(b), Federal Railroad Authorization Act of 1976, Pub. L. 94-348, 90 Stat. 817, July 18, 1976; sec. 209, Federal Railroad Safety Act of 1970, as amended (45 U.S.C. 438; § 1.49(m) of the regulations of the Office of the Secretary. 49 CFR 1.49(n).)

Issued in Washington, D.C., on February 28, 1978.

JOHN M. SULLIVAN,
Administrator.

[FR Doc. 78-5820 Filed 3-6-78; 8:45 am]

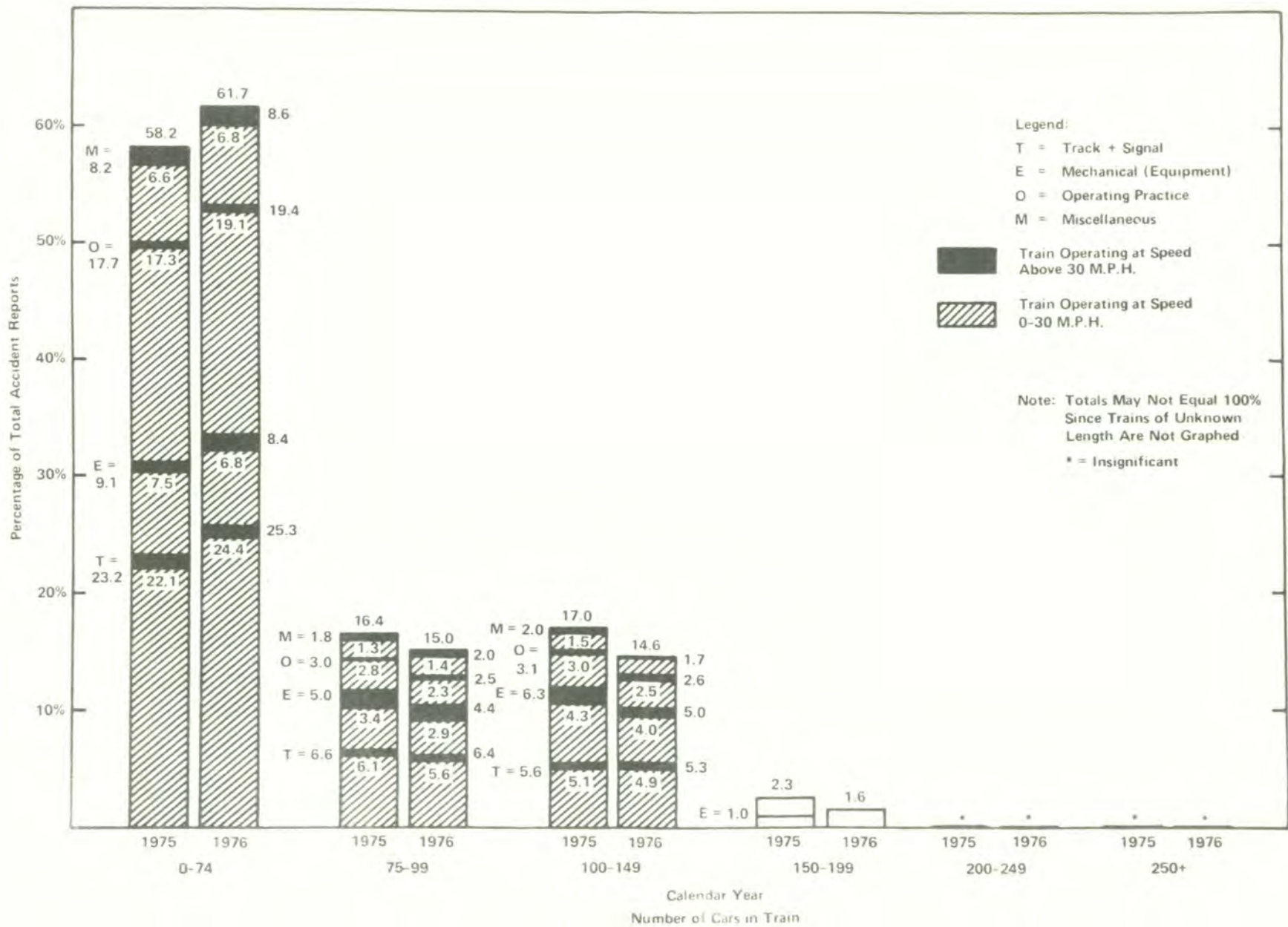


Fig. 1 The Number of Train Accident/Incident Reports in Calendar Years 1975 and 1976 for Various Lengths of Trains

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STATEMENT OF JOHN M. SULLIVAN
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HEARINGS BEFORE THE
SURFACE TRANSPORTATION SUBCOMMITTEE
OF THE
COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION
UNITED STATES SENATE
ON RAILROAD SAFETY MATTERS

APRIL 21, 1978

Mr. Chairman, recent major accidents at Pensacola, Florida, on November 9, 1977, at Waverly, Tennessee, on February 22, 1978, and at Lewisville, Arkansas, on March 29, 1978, in combination with an incident of apparent vandalism near Youngstown, Florida, on February 26, 1978, have once again focused national attention on the railroad safety problem.

Over seven years after passage of the Federal Railroad Safety Act of 1970, a problem which was to have been corrected by the adoption of comprehensive Federal regulations has, in some instances, worsened instead of diminished. Our duty here today is to report to the Subcommittee on the scope of the railroad safety problem, the underlying causes of the problem, and the steps we are taking to fulfill our responsibilities.

In preface to this discussion, we wish to affirm to the Subcommittee that we intend to do everything in our power to bring about an acceptable level of safety on the Nation's railroads. The Secretary of Transportation, as you know, is himself intimately familiar with this problem. He has given the Federal Railroad Administration a mandate to do everything which can be done to assure compliance with the Federal railroad safety laws and regulations.

If temporizing has been a problem in the past, it is not a problem today. If Federal inspectors have doubted the degree of commitment to railroad safety among persons in policy roles, they have no reason to feel that way today. Indeed, recent months have been characterized by intensive work, often long hours, and close coordination among our Field inspectors and the leadership in Washington. While it is too early to measure the results of our efforts, common sense tells us that we will have a positive impact. With that preface, we turn to the current accident picture.

TRENDS

Over the past 50 years freight revenue ton miles have increased more than 250%, but the rail share of the intercity freight market has decreased by over 50%. In addition, railroad employment has dropped 70% and intercity passenger traffic decreased from 77% to six percent. In short, there are fewer passengers and employees, but more freight.

The casualty trend has generally been decreasing over the past several years while, after adjusting for inflation, the loss and damage to track, roadbed, equipment and lading has increased by about 25%.

- Fatalities -

The largest percentage (almost 63%) of total fatalities is made up of persons killed in grade crossing accidents. In 1977, there were 946 fatalities due to grade crossing accidents.

Trespassers account for approximately 30% of the total fatalities, or 455 in 1977.

Employee fatalities have comprised approximately seven percent of all railroad accident fatalities over the past several years. Employee fatalities have decreased from a recent high of 190 in 1969 to 99 in 1977, a 48% reduction. It should be noted that FRA statistics are quite inclusive, so a number of these deaths annually are from highway accidents involving carrier automobiles, trucks, or vans. A number of these deaths also involve industrial or construction hazards such as those common to other industries, areas covered by the Occupational Safety and Health Administration (OSHA). We will discuss our relationship with OSHA in a minute.

Passenger fatalities account for less than one percent of total railroad accident fatalities.

- Injuries -

In 1977, there were 61,029 injuries to railroad employees. This is a 5.4% increase over 1976 and constituted over 91% of total railroad injuries. FRA reporting requirements for the railroad industry were significantly changed in 1975 to conform with the reporting requirements imposed by the Department of Labor on all other segments of American industry. These new reporting requirements have greatly increased the number of personal injuries to be reported. Therefore, rates of injury prior to 1975 are not comparable with injury rates following the implementation of the reporting revisions. However, in 1974, under the previous reporting requirement, employee injuries still constituted almost three-fourths (3/4) of the total injuries.

After normalizing for changes in hours of employment employee injuries remained fairly constant in the period 1966-1974 with the major causes as follows:

<u>Major cause</u>	<u>Percent of Total employee injuries</u>
Getting on or off trains	16.6
Construction and maintenance of cars & locomotives	12.2
Construction and maintenance of track	8.9
Stumbling, slipping and falling (not on train)	7.9
Coupling and uncoupling	6.6
Flying or falling objects, burns, etc.	4.8

Of all the employee categories, trainmen and enginemen accounted for 55% of employee injuries. The yard brakemen and yard helpers, a subset of trainmen and enginemen, have by far the largest problem considering a combination of frequency and severity of injuries.

Of the remaining nine percent of total railroad injuries, seven percent resulted from grade crossing accidents and the remaining two percent of all injuries were incurred by trespassers and passengers.

- Train Accidents -

Train accidents have increased since 1966 and there has been a corresponding increase in their costs. After adjusting the monetary threshold for inflation and normalizing for changes in ton mileage, the increase in train accidents has been approximately 15%. Train accidents per million train miles increased by 6.1% in 1977 over 1976. By contributing cause; defects in way or structures (track) account for 43%; equipment failures, 25%; human factors, 20%; and all other causes, 12%.

Track is not only the largest but also is the most rapidly increasing contributing cause. The increase in track-caused accidents has been 105% since 1966, but there has been a 15% decrease in both equipment and human factor caused accidents and a slight decrease in accidents attributed to miscellaneous causes.

Collisions have decreased by 15% since 1966, but derailments have increased over 40%, with defects in track the largest and most rapidly increasing single cause of derailments.

Increased axle loadings appear to be related with increased track-caused accidents. This is due to increased wear and tear on the roadbed without an attendant increase in the maintenance of the roadbed to allow for these changes. Additional research is being conducted to determine the specific relationships between increased axle loadings and track-caused accidents with respect to the types of problems generated and appropriate remedial action.

Car dynamics (principally the "rock and roll" effect caused by a high center of gravity in association with otherwise tolerable track irregularities) has been identified as a major cause of train accidents (specifically derailments) and has fostered a steadily upward trend in both the number of equipment caused derailments and the dollar damage caused by these derailments.

- Hazardous Materials Accidents -

In 1977, there were approximately 500 derailments involving placarded tank cars. In those 500 accidents, a total of 1,400 tank cars derailed. Approximately 150 of these cars released hazardous materials. In 1977, there were four fatalities, 500 injuries (150 of which were serious) and 14 evacuations involving a total of 19,000 people.

The Waverly, Tennessee, accident of February 22, 1978, resulted in the loss of 14 lives, the hospitalization of some 50 people, and the evacuation of over 2,000 people from their homes.

- Dollar Costs -

After adjusting for inflation, total costs to the carriers resulting from all railroad accidents rose 38% between 1966 and 1975 and increased from 2.4% of operating revenues to 3.5%. Since net rail income in the 1970's has declined significantly as a percentage of operating revenues, accident costs are beginning to play an even more crucial role with respect to the economic health of the industry.

UNDERLYING CAUSES

The underlying causes of the numerous kinds of railroad accidents are, of course, many and varied. No single explanation is appropriate for all areas of concern.

FRA is concerned that we know relatively little about why employee injuries in general continue to remain at significant levels. This is an area which will require more detailed analysis. Poor maintenance of locomotives and safety appliances and poor operating practices are, of course, among the major factors with which we deal every day. FRA also investigates all employee fatalities. We know as a result of those investigations that a great number of fatal accidents result from lack of vigilance to inherent transportation hazards.

Significant progress has been made in the grade crossing problem through the efforts of the states, the railroads and the Department of Transportation, but increased automotive traffic has kept absolute casualty figures at significant levels.

The train accident problem, of course, is the problem on which most public attention is now concentrated.

There are now 135,000 tank cars in hazardous materials service. In 1976, there were one million placarded tank carloads transported, with an estimated tonnage of 80 million. The transportation service provided totaled 2.4 billion ton miles. While most train accidents involve relatively small losses and no injury to persons, the carriage of large quantities of hazardous materials through populated areas together with obvious hazards to train crews make the train accident situation serious.

As noted above, train accidents are generally attributable to track, equipment, and human factors. The track and equipment areas are the most easily addressed through regulation, although FRA has regulated in all three fields.

We believe that strict carrier adherence to existing track and equipment standards would reverse the train accident trend and materially reduce the number of train accidents. However, among many railroads, compliance with the regulations is poor.

Poor compliance on individual properties is itself caused by several identifiable factors or some combination of these factors. Regardless of the extent of efforts to comply, widespread deferral of track maintenance over the past 25 years continues to take its toll. While individual carriers have either maintained track in good condition or have instituted commendable catch-up programs in the last few years, the industry as a whole is suffering from a long-term net disinvestment in track and roadbed.

Equipment maintenance has also been neglected. Whenever operating income falls, car repair forces tend to be reduced, and equipment inspection and repair efforts inevitably fall off.

The poor economic condition of the industry has also promoted reliance on heavier equipment designed to carry almost twice as much as the conventional cars of 30 years ago. By reducing the labor component of overall costs in this way and by instituting other measures the rail industry has been better able to compete with other surface modes which have benefited from massive indirect subsidies. Larger and heavier cars interact to produce greater forces on other equipment and track structures. Small deviations from standards which in earlier days would have been tolerable seem now to become critical. Maintenance and rehabilitation programs seem not to keep pace with the damage done by heavy axle loadings.

This is the reality we face in 1978 with respect to the economic condition of the industry. At the same time, FRA is aware that many safety problems are the result of poor maintenance and inspection activities in circumstances where little

or no additional outlay of funds would be required to comply with applicable standards and procedures. Most often, but not always, persistent neglect of this kind can be attributed to an indifference on the part of management or a failure by management to hold supervisors and employees accountable for compliance.

FRA's basic role in relation to the train accident problem should be clear. First, FRA must use administrative orders, penalties and persuasion to hold in check the tendency of some carriers to take chances with the public safety. We hasten to add that many railroads have good records of compliance with Federal standards and excellent safety programs on their own properties.

Second, FRA must assist carriers in identifying dangerous conditions or practices which otherwise might go unnoticed, insisting that accountability systems are instituted to forestall the repetition of such problems.

Third, FRA must increase its emphasis on predicting the development of problems such as those which have been experienced with uninsulated tank cars, heavier freight cars generally, and certain of the newer locomotives. FRA must stand ready to compel remedial action before major disasters occur, rather than after the damage is done. It is this responsibility which is most difficult, however, because of the formidable technical and practical problems associated with attempting to predict future events.

THE FRA RESPONSE

For the balance of this statement we would like to address what FRA has done and is attempting to do to promote railroad safety. Our first priority is the enforcement of those railroad safety laws entrusted to the Secretary of Transportation, together with regulations issued under those laws. We would like to mention in that connection the requests for new resources contained in the President's Budget. However, we also have important work to do in the area of regulatory development. That program relies heavily on research and testing. Through cooperative efforts of various kinds we learn a great deal from the industry, labor groups and other parties and attempt to perform a reciprocal educative function as well. Finally, the special concerns of our relationship with the Occupational Safety and Health Administration and the State Participation Program deserve separate comment. We would like to discuss briefly each of these areas of FRA activity.

ENFORCEMENT

FRA field compliance activities are directed to two basic objectives: motivating the railroads to comply with the safety laws and regulations; and assuring that the railroads understand what is required. In pursuing those objectives FRA inspectors also assist carriers by identifying local situations where supervision is failing to execute carrier safety programs.

In many cases, railroads follow the safety recommendations of our inspectors on a voluntary basis, obviating the necessity of FRA bringing into play its full range of enforcement tools. Despite this generally cooperative spirit, however, FRA has increasingly found that the use of out of service orders, penalties, and other legal tools is both necessary and appropriate.

Nowhere is this more obvious than in the area of civil penalties. In Fiscal Year 1977, penalty collections amounted to over \$3.4 million, and increase of approximately 126% over Fiscal Year 1976, the previous record year. Collections are expected to increase substantially in FY 1978 both because of more aggressive collection and because of the statutory increase in penalty amounts.

Since January 1, FRA attorneys have reviewed and transmitted to the carriers over 240 files containing claims of violations with total assessment exceeding \$7.8 million. Included among these are 26 files alleging violations of the Track Safety Standards, an area of particular concern in derailments. The penalties assessed for the track claims exceed \$1,200,000. Increased penalties alert the industry that we will no longer tolerate lax compliance with safety regulations and the resultant increase in accidents.

The application of legal sanctions in the area of hazardous materials transportation has also been dramatically increased in recent months.

Prior to the passage of the Hazardous Materials Transportation Act of 1974 (HMTA), violations of hazardous materials regulations were enforceable only by the institution of a criminal case in the Federal Courts by the appropriate United States Attorney. Fines were nominal. As a result of other demands on

prosecutorial resources, these cases were not given high priority by those offices. Thus, there was a lack of active enforcement of these regulations in the past. There has, however, been vigorous enforcement of violations of Emergency Order No. 5, which was issued under the Federal Railroad Safety Act of 1970 after the Decatur, Illinois, disaster in order to regulate the switching of tank cars containing flammable compressed gas. In FY 1977 and the first half of FY 1978, 48 of these claims were reviewed and transmitted to the carriers. Of these, 19 have already been settled for a total of approximately \$24,000 and another two have been tentatively settled for \$6,000.

On January 3, 1977, the Materials Transportation Bureau reissued the more comprehensive hazardous materials regulations under the authority of the HMTA, making these regulations subject to civil as well as criminal penalty sanctions. Since that time, we have been conducting a series of classes to familiarize our inspectors with the new regulations which have begun to generate an increasing volume of violation reports.

On October 28, 1977, FRA published in the Federal Register its procedures for carrying out these sanctions. These procedures call for direct handling of the claims by the Office of Chief Counsel, and we wish to assure this committee that this enforcement effort is now receiving top priority in that office. Since January 1 of this year, notices alleging 26 violations against shippers by rail for a total proposed assessment of \$153,000 and 103 violations against carriers for a total proposed assessment of \$258,000 have been issued by that office. With respect to these claims, the Office of Chief Counsel has already issued several orders assessing a civil penalties and is engaged in active informal negotiations of the remaining counts. A formal hearing has been requested on 22 counts.

Due to our concern over the recent accidents and derailments involving hazardous materials, we intend to continue this effort of vigorously enforcing these regulations.

FRA will implement a uniform policy of safety enforcement towards all carriers regardless of financial condition. Treating financially weak carriers more leniently in the enforcement of civil fines would reduce the incentive of those carriers to apply limited resources to correct conditions that are violative of Federal safety requirements.

Penalty sanctions are but one tool, however, and we are both continuing the use of traditional non-monetary sanctions and seeking new ways of using our available tools in combination with one another.

In 1977, FRA inspectors ordered out of service 392 seriously defective locomotives. In the current calendar period, we have intensified this effort, making clear to our inspectors that the deterioration of locomotive fleets on some of the properties must not be allowed to continue.

We have also had occasion to invoke the emergency powers granted to the Secretary in the Federal Railroad Safety Act. Our investigations revealed that the Illinois Central Gulf Railroad (ICG) had allowed vines, trees and other vegetation to grow around and into the poles supporting the signal lines and entangled the lines themselves, causing several known instances of false proceed signals. Although we gave the ICG several warnings regarding the deteriorated condition of this line, they chose not to devote sufficient funds and personnel to the projects. Because of our concern for the safety of train crews operating over this line, on December 7 we issued Emergency Order No. 6 ordering the line in question out of service until the vegetation had been cleared from the signal lines.

The railroad succeeded in obtaining a court injunction rendering our order unenforceable. However, before a hearing on the merits which was to occur seven days after we issued the emergency order, the railroad committed 75 employees and 16 bulldozers to the project and had substantially cleaned all the vegetation from the signal lines. The Administrator revoked the emergency order before the court hearing on the merits as the emergency condition had ceased to exist due to the efforts of the railroad.

We have come quite close to ordering the cessation of service in a number of other instances in the past few months, but the railroads involved took appropriate action to abate hazards when we made clear to them that we were willing to take whatever action might be required in the interest of safety.

In a major exercise of the emergency powers, FRA acted on March 23, 1978, to require the removal from service of 1% carbon content freight car wheels which have experienced an unusually high failure rate. A total of 270,820 70-ton 1% carbon cast steel wheels (commonly referred to as "70T U-1 wheels") were produced during the period 1958-1969. No "70T U-1 wheels" have been produced since late 1969. The relatively high carbon content in these wheels (all wheels produced since 1970 contain not more than .75% carbon) reduces wheel wear. However, it also increases the susceptibility of these wheels to thermal abuse or cracking as a result of heat generated when the brake shoes are applied to these wheels during heavy, prolonged braking.

During the month of February 1978, two major accidents occurred which involved the failure of "70T U-1 wheels" and the derailment of trains carrying hazardous materials. The first accident occurred at Waverly, Tennessee, on February 22, 1978. On February 24, 1978, a derailed tank car containing liquified

petroleum gas (propane) exploded, resulting in the death of 14 persons and injury to approximately 50 persons. The force of the explosion destroyed two city blocks and caused much additional damage.

The second major accident involving the failure of a "70T U-1 wheel" occurred on February 28, 1978, at Bristow, Kentucky (near Bowling Green). Although the accident resulted in no casualties or release of hazardous materials, 33 cars were derailed at a speed of 48 m.p.h. causing extensive damage to equipment and lading.

On March 14, 1978, the FRA initiated a special safety inquiry to obtain sufficient information concerning the nature and scope of the safety problem presented by these wheels to devise an effective solution that can be implemented as soon as possible. A public hearing was held on March 17, 1978.

As a result of this hearing, FRA issued an emergency order restricting the use of freight cars with high carbon cast steel wheels, prescribing a mandatory program for locating those wheels and removing them from cars, and requiring that all these wheels be removed from service before January 1, 1979.

The vigorous assessment of penalties and use of other sanctions will fall short of optimum effectiveness, however, unless we focus our field compliance resources on areas of greatest need. At the present time we are concentrating many of our inspectors on those carriers with a recent record of serious accidents. Our inspectors play the dual role of helping to diagnose the problems giving rise to serious accidents and forcing the remediation of those problems. We believe that by being persistent we can force less cooperative carriers to make difficult choices concerning the commitment of resources and the upgrading of inspection and maintenance practices.

We are hopeful that the Carrier Performance Profile which we currently have under development will help us identify problem areas by quantifying each railroad's accident record, its compliance record, and its record of defects. Our High Accident Corridor Program, which we will discuss in connection with our rulemaking effort, should also assist us in this area.

Altogether, we are moving toward a better coordinated and more muscular safety enforcement program.

As explained earlier, Track caused accidents comprise 43% of the total accidents. These accidents can be reduced by increased surveillance and increased carrier maintenance. Even if carriers defer maintenance, the number and severity of accidents can be reduced through the reduction of track speed classification and, if necessary, closing of sections of track. Fifteen additional track inspectors are requested for FY 1979 to perform the increased surveillance. Approval of this request would raise the number of authorized Federal track inspectors to 95, representing a 40% increase under the new Administration. In addition to the 15 new track inspectors, we are requesting three clerical support positions for the field staff and seven new positions for Safety Headquarters to provide the necessary evaluation support for the Automated Track Inspection Program (+4) and the Data Management Program (+3). The analyses performed in connection with these programs on those areas of greatest need.

The total request for 425 Federal positions under the Railroad Safety Appropriation represents an increase of 25 positions over FY 1978 and a total increase of 49 positions over FY 1977.

Furthermore, there are currently 23 states participating in the Grants-in-Aid for Railroad Safety Program with 38 track inspectors and 19 equipment inspectors. In the last 18 months, there has been a 70% increase in both the number of states and the number of inspectors participating. We anticipate having 30 states participating by the end of FY 1978 with 100 inspectors or trainees, a level which we plan to maintain during FY 1979.

AUTOMATED TRACK INSPECTION PROGRAM (ATIP)

The Automated Track Inspection Program is designed to provide FRA field investigators with a set of measurement tools that will increase their capability to determine carrier compliance with the Federal Track Safety Standards. These tools are in the form of high speed full-size geometry measuring vehicles and highway-rail vehicles equipped with ultrasonic rail flaw detection equipment. The use of both of these types of vehicles will provide the Office of Safety with much needed data on track conditions.

The use of geometry measuring vehicles allows the field investigators to focus their attention on those areas of carrier high-speed trackage where problems exist. While the vehicles do not identify specific defects like broken angle bars, switch defects or bad ties, they do, by measuring various geometric parameters of the track, indicate critical areas. Using the data generated during each survey, the FRA track inspector can conduct on-the-ground monitoring activities, concentrating on these critical areas.

Three units are operating in this phase of the program. It is anticipated that the three vehicles will be capable of gathering track geometry measurements for over 75,000 miles of track per year.

A single highway-rail vehicle equipped with ultrasonic rail flaw detection equipment capable of measuring two basic geometry parameters, gage and cross-level, is presently in the field and will be available for use by track inspectors in the near future. A second vehicle will be in operation later.

The purpose of the vehicles will be to monitor carrier compliance with Section 213.113 of the Track Safety Standards--Defective Rails. The vehicles will inspect for internal defects on predetermined segments not to exceed 10% to 15% of the total mileage between designated points. The geometry instrumentation will be operated over the entire route. This will be primarily done at speeds between five and 15 m.p.h. on tracks with a maximum authorized speed of 30 m.p.h. or less.

Because of the slow operating speed, visual observation of the track structure can be made with little difficulty. This permits the FRA track inspector to observe not only geometry defects but also the condition of bolts, ties, bars and ballast for examples.

REGULATORY ACTION PROGRAM

- The Rulemaking Process -

FRA has been granted broad regulatory authority to identify and address all areas of rail safety. The FRA safety program has been built around the issuance of regulations and monitoring of railroads for compliance with the regulations. The program proceeds on the assumption that the standards are correctly conceived and that compliance with them will enhance safety.

In conjunction with Departmental policy designed to ensure that both proposed and existing regulations do not impose unnecessary burdens upon the private sector, consumers, or Federal, State and local governments, the Office of Safety has formed a task force to improve the soundness and clarity of proposed regulations and to eliminate unnecessary or unduly burdensome regulations. The task force will: 1. review existing regulations to ensure continued economic soundness and necessity; 2. assess proposed regulations in terms of cost to the general public, industry and government; and 3. justify the need for any proposed regulation deemed either potentially costly or controversial.

FRA works closely with labor and industry in formulating and amending our safety rules.

FRA prepares special analyses of economic impact to determine probable costs and benefits of pending regulations which are potentially costly or controversial. To improve our performance in this area, we have awarded a contract for the development of economic and cost benefit analysis in support of the FRA regulatory function. This study will

provide an improved methodology to be used in evaluating the effectiveness of the Agency's regulations and all proposed remedial safety actions in promoting the safety of the Nation's railroads.

For many years the Office of Safety has been collecting accident reports of various types from all of the Nation's railroads. In general, this data has been used primarily in the formulation of the regulations used in promoting safety for the railroad industry, and to provide FRA with information concerning hazardous conditions associated with track and equipment operated by these railroads.

Under another contract an analysis will be conducted to evaluate the adequacy of the available data bases and the relevance of data collected in inspecting the railroads. This will serve to pinpoint the areas of deficiency in the data base and identify other parameters of value for use in future evaluations.

- Hazard Analysis and Priority Determination -

FRA must rely on hard data and credible analyses in identifying safety hazards, planning countermeasures to attack those hazards and determine resource allocations on a priority basis.

Although we perform sorting and tabulations of accidents by various means which aid in identifying some of the problem areas, more in-depth analyses are necessary to assist in determining accident causes and potential problems.

We have awarded a contract to the Transportation Systems Center (TSC) to assist FRA in determining underlying accident causal factors and to forecast the number and severity of accidents and accident exposure.

From this, TSC will make a systematic assessment of the cost and effectiveness of measures available to the Office of Safety to combat these dangers to provide a rational foundation for applying FRA resources to inspection, enforcement, and regulatory activities.

The determination of an appropriate mix of countermeasures will, of course, consider not only the cost to FRA to implement each alternative, but the cost to the industry and the public as well.

-High Accident Corridors -

The Office of Safety is utilizing the nationwide transportation corridor density maps to show the geographical location of rail accidents. The accident data can then be readily displayed on maps in order to show the geographic distribution of the various accident variables including hazardous materials accidents or incidents, population density, traffic pattern, track conditions and Federal and State inspection activities.

Under the Hazard Analysis and Priority Determination contract, TSC is characterizing the flow of hazardous materials over the Nation's rail network and will utilize this high accident corridor information to aid in assessing the current and future exposure and risk associated with the rail transportation of hazardous materials.

-Recent Rulemaking Activity -

The primary area for rulemaking activity other than that statutorily mandated is the transportation of hazardous materials. The current retrofit timetable for 112 and 114 tank car calls for:

1. Existing specification 112 and 114 tank cars used to transport flammable gases are required to have both thermal and tank head protection and are to be retrofitted over a four-year period ending on December 31, 1981.
2. Existing specification 112 and 114 tank cars used to transport anhydrous ammonia are required to have tank head protection (such as a head shield) installed and are to be retrofitted with this protection over a four-year period ending on December 31, 1981.
3. All specification 112 and 114 tank cars are to be equipped with special couplers designed to resist coupler vertical disengagements. These couplers are to be retrofitted on all cars by July 1, 1979.

The recent major hazardous materials accidents directed attention toward the possibility of accelerating the retrofit timetable for 112 and 114 tank cars. While the retrofit timetable is part of the hazardous materials regulations issued by the MTB, it is the result of joint efforts of both the FRA and the MTB. In accordance with internal Departmental procedures, the FRA develops the substantive requirements of these regulations that pertain to the rail transportation of hazardous materials and the MTB performs a review function and issues the regulations. The revision of the retrofit schedule is basically a technical matter.

In order to obtain sufficient information to determine whether the existing tank car retrofit schedule can be accelerated the FRA conducted a special inquiry on April 7, 1978. At FRA's request the AAR, NTSB, tank car builders, coupler manufacturers, shippers and other interested parties actively participated in this inquiry by providing knowledgeable witnesses and pertinent manufacturing and maintenance data.

FRA has reviewed the information we received as a result of this inquiry and within a week we will be making an appropriate recommendation to MTB concerning the retrofit schedule.

Many DOT specification 105 tank cars are used to transport the same products as are transported in 112 and 114 tank cars. In addition, the 105 insulated pressure tank cars carry other more hazardous products such as chlorine, hydrogen chloride and hydrocyanic acid. Yet the 105 tank cars may not have as good thermal and tank head puncture resistance protection as is being specified for the 112 and 114 cars. The FRA, therefore, conducted a special safety inquiry, on April 13, 1978, concerning the need to improve present safety standards for the design and construction of new and existing DOT specification 105 tank cars.

The AAR, NTSB, tank car builders, coupler manufacturers, and other interested parties actively participated in this inquiry by providing knowledgeable witnesses and pertinent technical manufacturing service and cost data.

As a result of this inquiry, the FRA is considering development of improved safety standards for the design and construction of 105 tank cars that will be at least equivalent to those prescribed for 112 and 114 tank cars. Among the items under consideration to minimize the hazards associated with transportation of these products are improvements in couplers, tank head protection, thermal protection and safety relief devices.

Due to a series of serious accidents involving uninsulated pressure tank cars transporting these materials and to the require for help from the industry, the FRA undertook a program of tank car research at a cost of \$5 million. The result of this research and FRA's analysis of hazardous materials accidents was the issuance of regulations by the Department's Materials Transportation Bureau which implement performance specifications developed.

Another major rulemaking in the hazardous materials area was the issuance on October 28, 1977, of procedures for the enforcement of the regulations as authorized by the Hazardous Materials Transportation Act of 1974. The procedures call for a response by the respondent within 30 days of the issuance of a notice of probable violation by the Office of Chief Counsel. A right to a formal hearing is provided.

The FRA recently reviewed reports of all derailments caused by wheel deficiencies during the period of November 1, 1976 through December 31, 1977. During this 14 month period, railroads reported a total of 502 derailments caused by wheel deficiencies on cars identified by ownership and car number. Of these 502 derailments, 87 or 17.3% were attributed to wheels on Trailer Train Company (TTX) cars. These derailments were not concentrated in any single series of cars nor on any particular railroad.

The TTX has a fleet of approximately 78,600 freight cars. These cars constitute approximately 4.6% of the Nation's fleet of 1,700,000 freight cars. TTX cars generally are assigned to high speed service where they experience more heavy braking and accumulate considerably more mileage than most cars. Nevertheless, the fact that the 4.6% of the Nation's car fleet that consists of TTX cars is experiencing 17.3% of the Nation's derailments attributed to wheel deficiencies warrants further investigation and prompt initiation of appropriate corrective measures. FRA, therefore, initiated a special safety inquiry, conducted on March 30, 1978, concerning the safety performance of freight car wheels on TTX cars.

The purpose of this special inquiry was to obtain sufficient information (to enable the FRA to define the nature and scope of this safety problem in order to devise and implement an effective solution as soon as possible without unduly disrupting essential rail service.

At FRA's request the Association of American Railroads (AAR), the American Short Line Railroad Association, TTX, wheel manufacturers, the NTSB, the Brotherhood of Railroad Carmen (BRC), the United Transportation Union (UTU), and several major railroads actively participated in this inquiry by providing knowledgeable witnesses and pertinent maintenance, service, accident and manufacturing data.

The FRA is reviewing the information we received as a result of this inquiry and will initiate appropriate action in the near future.

FRA has had a final rule in effect since June 1, 1976, providing blue flag protection of railroad employees engaged in servicing activities which require them to work on, under, or between rolling equipment. The 1976 safety amendments (PL 94-348) prescribed additional protection in the form of locking manually operated switches against movement onto tracks where employees are working. On November 2, 1976, FRA published a notice of proposed rulemaking to implement that mandate of the amendments and to clarify the existing regulations. The final rule, published January 11, 1977, provides further clarification with respect to applicability to train and yard crews and to operations within repair facilities. However, additional problems have been experienced in construing the Congressional mandate as implemented by the current rules, and further rulemaking is underway to resolve these issues.

Also in accordance with the 1976 amendments, the FRA published a final rule on January 11, 1977, establishing a single performance standard for highly visible rear-end marking devices for passenger, commuter, and freight trains. After examining the variety of circumstances in which rear-end protection might be required, FRA has developed a conspicuity standard and procedures for qualification of devices. Given the use of existing locomotive headlight technology by the industry, it does not appear that passive or retroreflective markers will qualify. The Association of American Railroads has submitted a petition for reconsideration in connection with the rulemaking, but the effective date is now set for July 1, 1978.

On January 27, 1977, FRA published final rules setting minimum standards for the use of radio communications in railroad operations. These were adopted in accordance with an NTSB recommendation after study indicated their feasibility, value, and slight cost to the industry.

Additional activities include the issuance pursuant to the Noise Control Act of compliance regulations and procedures for the issuance of compliance orders under the Federal Railroad Safety Act of 1970.

The 1976 amendments also required that any new construction or reconstruction of crew sleeping quarters be located outside the immediate vicinity of any railroad switching or humping operations. Interim regulations have been in effect since December 3, 1976. Due to the need to compile data and to study comments initially received as well as those received after an extension to January 14, 1977, the final issuance of the rule has been delayed. It has, however, already been prepared and will be published in the very near future.

The extension of the coverage of the Hours of Service Act to hostlers and signal maintainers by the amendments contained in the Federal Railroad Safety Authorization Act of 1976 necessitated the issuance of a statement of agency policy and interpretation and several technical changes in the regulations. A proposed statement of agency policy and interpretation was issued September 28, 1976, and a more comprehensive interim statement was issued January 25, 1977. A final statement awaits the outcome of proposed technical amendments to the 1976 amendments. On January 28, 1978, FRA issued regulations making technical changes primarily in recordkeeping.

Advanced notices of proposed rulemaking have been issued on safety standards for caboose cars, glazing materials for locomotive cabs, cabooses and passenger cars, maintenance of highway grade crossing protection devices, and locomotive strobe lights.

SAFETY RESEARCH AND DEVELOPMENT

FRA's Safety R&D program encompasses all forms of support, from direct support of rulemaking activities to support of other activities such as improved safety inspection equipment, development of the knowledge to permit safer equipment to be designed, etc. The program also includes the analytical support to define what R&D should be done, how it should be done, when and why it should be done and who should do it.

The continuing high rate of railroad accidents mandated that FRA concentrate its R&D efforts on producing significant near term safety improvements. Safety R&D has the highest priority among R&D programs. While incorporation of research results in a lengthy process, past research efforts have produced substantial results while building the foundation for future safety improvements. The two major safety oriented programs are the Safety Research Program, and the Improved Track, Inspection and Data Acquisition Technology Program.

The Improved Track, Inspection and Data Acquisition Technology Program, which is authorized under the DOT Act of 1976, is divided into two subprograms, Improved Track Structures, and Inspection and Test Support Services.

The primary objective of the Improved Track Structures subprogram is to prevent track-caused accidents. The outputs from this subprogram form the basis for recommended changes to FRA's Track Safety Standards. Major outputs obtained thus far include:

- . Development of computer models to predict track performance and component stress.

- . Evaluation of a process which greatly reduces bolt-hole cracks and subsequent rail failure.
- . Development of a methodology for analyzing track stability. This is currently being used to develop track safety guidelines.
- . Completion of Amtrak locomotive tests to assess derailment mechanism, resulting in decision by the manufactures to modify the locomotives to resolve the problems.

Examples of future planned projects include:

- . Definition of safe track load capacity.
- . Development of safe track design criteria.
- . Development of a track stiffness measurement system.
- . Determination of required frequency of rail flaw detection and critical flaw size.

The Inspection and Test Support Services subprogram is aimed at the development of track and vehicle inspection systems and devices. An additional objective is the development and application of a methodology to evaluate safe service life of track and vehicle systems and components. Advancements in track inspection technology are implemented via the Automated Track Inspection Program to check compliance with the Track Safety Standards. Prior major projects include:

- . Development of high speed, all weather track geometry measuring system and a low speed rail flaw detection system.
- . Development of an automatic device for detecting hot bearings.

Future efforts will focus on obtaining outputs such as development of a high speed rail flaw detection capability, enhancement of track geometry measurement systems, evaluation of on-board and wayside vehicle

inspection systems, and development of guidelines for evaluating the safe life of locomotives.

The Safety Research Program, which is authorized by the Safety Act, consists of three subprograms: Grade Crossing, Human Factors, and Rolling Stock.

The objective of the Grade Crossing subprogram is to reduce the number of grade crossing accidents through improvement in the performance and credibility of train detection and warning devices. Major prior projects have included the development of strobe lights to improve locomotive conspicuity and lower cost and more reliable grade crossing protection devices. Significant achievements expected in the future include development and evaluation of constant warning time systems and alternatives for increasing freight car conspicuity.

The Human Factor subprogram addresses accidents related to human error and man-machine interactions. Examples of major prior projects are as follows:

- . Development of a Draft Buff Indicator, a device which depicts the distribution of stretching and compressing forces throughout a train, enabling the locomotive engineer to alleviate dangerous forces by either braking or accelerating.
- . Completion of performance specification for the Research Locomotive and Train Handling Evaluator which will be used to evaluate train handling aids, procedures and environmental effects on operator performance.
- . Development of a totally new locomotive cab concept with improved visibility, crash protection, and operator controls and displays.

Future efforts will concentrate on the design, fabrication, and application of the Evaluator to a wide range of human factors experiments. Greater emphasis will be placed on developing countermeasures to occupational injuries to railroad employees. Other outputs will include guidelines for crew vigilance devices and procedures previously tested on FRA's Facility for Accelerated Service Testing (FAST) and evaluation of the new cab design.

The Rolling Stock subprogram is directed toward reducing the likelihood and severity of accidents caused by equipment defects or limitations and adverse track-train interactions. Specific projects address hazardous material transport, train dynamics and operation, vehicle occupant protection, component failures prevention, and improved braking systems.

As we have indicated, performance specifications were issued last Fall for cars carrying liquefied flammable gases and ammonia and appropriate implementation is in process. The Safety devices included in the performance specification (couplers, head shields, and insulation materials) successfully withstood 95,000 miles of testing on our Facility for Accelerated Service Testing (FAST). Other major outputs recently obtained from the Rolling Stock subprogram include:

- . Performance specifications for rear-end markings which were incorporated in a rule.
- . Performance specifications and supporting data for rail vehicle glazing materials for the protection of railroad employees from acts of vandalism.

Major future activities expected from this subprogram include performance specifications and operational guidelines for cars carrying

radioactive and explosive cargoes. In addition, performance specifications will be developed for braking systems and other critical vehicle components, such as wheels, axles and bearings. We will also be evaluating concepts to improve vehicle occupant protection and developing a better understanding of adverse track-time dynamics.

Additional safety benefits will be derived from the Facility for Accelerated Service Testing. This facility will permit us to gain the equivalent of 7-10 years of in-service experience in one year of testing by operating a train over a closed loop track for 12 hours a day, five days a week. This will permit improvements in safety to be adopted much more rapidly and with greater confidence.

The experiments being conducted on FAST will result in data which can be used in helping to improve the safety of railroads. Specific types of information which will be used are failure rate data on components and data to help predict the useful life of components so that they can be removed from service before failures and accidents occur. Additionally, appropriate rail inspection frequency data will be collected along with information on the way in which residual stresses in rail accumulate as a function of extended service. All of these data will directly support on-going, safety related projects and will be reflected in recommendations for improved track safety standards.

COOPERATIVE EFFORTS

The Federal Government works with all interested groups in reviewing railroad safety programs, seeking to foster a uniform understanding of safety goals and objectives. Working with the AAR and Short line organizations, FRA has conducted seminars and training sessions for member railroads and their working forces. Conducted in

selected geographical locations, these seminars are used to provide the industry access to training materials and visual aids pertinent to safety laws. These aids are used throughout the industry in carrier employee training situations to enhance the industry safety posture.

FRA has participated in the work of various groups constituted to study a particular phase of the railroad safety problem. One such effort is the Railroad Safety Research Board where direction is given to research programs, both Federal and private, to assure the wise investment of resources in improving railroad safety. Another example was the work of the Railroad Operating Rules Advisory Committee (RORAC) where government, railroad management and railroad labor joined together to examine, discuss and advise all concerned in the standardization of railroad operating rules to achieve safer operating conditions. RORAC helped formulate FRA's initial mandatory operating rules. The Locomotive Cab Committee, with a similar sector mix, advises both manufacturers and government in the configuration of the locomotive cabs conducive to operator and crew safety.

FRA is also participating in a comprehensive study of the adequacy of carrier training programs. There is significant evidence to indicate the number of experienced employees in the railroad industry will, in the next few years, prove completely inadequate to meet the needs of the industry. In general, it appears that an alarming number of employees are very close to retirement age. A well trained work force results in not only increased productivity, but safer operations as well.

In light of this, FRA commissioned a study by an independent consulting firm to examine industry training needs and problems and to outline possible research efforts which FRA could sponsor to address

those needs and problems. A sample of eight railroads, including both rail labor and management representatives, were interviewed to determine the extent of existing training and to ascertain the extent of the emerging problem.

This study will assist FRA and the industry by serving as a discussion piece and a common reference document regarding railroad training efforts. In this context, it should serve as the necessary first step for FRA to determine its role, if any, in the training field.

While the Federal Government principally performs a regulatory and enforcement function in its relationship with rail carriers, it does provide considerable assistance to the industry in its effort to provide safe working conditions and safe operations. However, carriers must maintain primary responsibility for ensuring safety of railroad operations.

OCCUPATIONAL SAFETY AND HEALTH

The first Federal enactment addressing the issue of occupational safety in the railroad industry was the original Safety Appliance Act of 1893. Since the effective date of that law, the Interstate Commerce Commission and its successor, the FRA, have been deeply involved in occupational safety problems. In 1970, Congress enacted both the Occupational Safety and Health Act and the Federal Railroad Safety Act. Section 4(b)(1) of the Occupational Safety and Health Act excludes from its coverage working conditions as to which another Federal agency exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health. The adjustment of jurisdictional questions relating to regulated transportation industries has been a matter of concern to the Department of Transportation and Labor, the Occupational Safety and Health Review Commission, the courts, and all affected parties since that time.

In 1975, FRA proposed to end the jurisdictional uncertainty in the area of railroad safety and health by adopting substantial portions of the Department of Labor "consensus" regulations. That process was underway when the present Administration took office, but initial standards paralleling the Department of Labor regulations had not yet been issued. At that point, we undertook a complete reexamination of our approach.

Our chief concern was that FRA would have to acquire a substantial technical capability relating to general industrial and construction standards duplicating the capability under development by the Department of Labor. Further, significant attention to this area would inevitably distract our attention from our central concern, the safety of railroad operations.

After reviewing all of the pertinent considerations, we decided that the institution of a massive regulatory program in this area would not be in the best interest of employee health and safety in the rail industry. However, we recognized the need to articulate (1) the extent to which we have exercised jurisdiction over railroad safety and (2) the proper relationship between FRA and the Occupational Safety and Health Administration with respect to major fields of regulatory activity. The result of our efforts is a public notice terminating our general occupational safety and health docket. The notice includes a policy statement which we believe will help to dispell most jurisdictional questions by affirming Department of Labor jurisdiction over working conditions not rooted in railroad operations. To the extent some overlap continues to exist or the Department of Labor requires assistance in applying its standards to conditions in the railroad industry, the two departments of government should be able to cooperate in assuring comprehensive protection while preserving the integrity of both regulatory programs. A good working relationship already exists between our respective compliance offices and we will seek more formal, structured arrangements in the near future.

STATE PARTICIPATION

Section 206 of the Federal Railroad Safety Act of 1970 authorizes the states to assist the Secretary of Transportation in carrying out investigative and surveillance activities concerning regulations issued under the Act. At the present time 23 states are participating by certification or agreement in the program. Of those 23 states, 20 are participating in inspections under the Track Safety Standards, 11 are involved in Freight Car Safety Standards inspections, with eight states doing both. Altogether, the states employ 57 inspectors and inspector trainees. This represents a significant growth in the State Participation Program over previous years. As explained earlier, we anticipate having 30 states participating by the end of FY 1978 with 100 inspectors or trainees, a level which we plan to maintain during FY 1979. A chart showing the states and their level of participation is attached.

The Act provides for 50% Federal funding of state costs attributable to the program. Total obligations under this program were \$705,000 in FY 1977. During FY 1978 there is budgeted out of our railroad safety appropriation \$1,920,000 for grants in aid to the states. These funds are available from unobligated balances of prior years. We are requesting \$1,940,000 in budget authority for FY 1979. Because many of the decisions affecting the growth of this program rest with the state regulatory commissions, funds authorized for this purpose should remain available until expended.

The future of the State Participation Program in relation to the overall inspection effort is a matter of serious concern to us. It was the impression of the Congress in 1970 that the states generally had at their disposal a significant capability which could be tapped to supplement Federal enforcement resources. With respect to track and freight car safety, at least, this has not turned out to be the case in most instances. State commissions generally have more expertise in areas such as grade crossing safety. Therefore, the states, with a very few exceptions, have been forced to acquire qualified personnel. FRA has established an inspector trainee program to help the states in this regard.

Nevertheless, because many state governments have salary scales which do not permit the compensation of qualified inspectors at a level equivalent to that provided by the railroad industry or the Federal government, difficulties have apparently been experienced in bringing aboard both qualified inspectors and qualified inspector trainees. FRA will continue to facilitate the entry of states possessing the requisite capability and will assist states in acquiring this capability.

States participating in the rail safety program under Section 206 of the Federal Railroad Safety Act of 1970 as of April 20, 1978, are:

<u>State</u>	<u>TRACK</u>		<u>EQUIPMENT</u>	
	<u>Inspectors</u>	<u>Participation</u>	<u>Inspectors</u>	<u>Participation</u>
Alabama	1	Certification	2	Certification
Arizona	1	Full Certification	1	Full Certification
Connecticut	1*	Agreement		
Illinois	3	Agreement		
Indiana	1	Agreement		
Iowa	3	Full Certification		
Kansas	1*	Agreement		
Massachusetts			1	Certification
Maryland	1*	Agreement	1	Full Certification
Maine	2*	Agreement		
Michigan	3	Certification		
Minnesota	2	Agreement		
Missouri	2	Agreement		
Nebraska	1	Agreement		
New Hampshire	1*	Agreement		
New York	3	Agreement	3	Agreement
Ohio	3-2*	Agreement	1	Agreement
Oregon	2	Full Certification	1	Full Certification
Pennsylvania	3	Certification	4	Full Certification
Utah			1*	Agreement
Vermont	2	Agreement		
Washington	2	Full Certification	2	Full Certification
West Virginia			2	Full Certification
TOTALS	38		19	

*Denotes trainee (8 track - 1 equipment)

DEPARTMENTAL PROPOSALS
(S. 2897)

Mr. Chairman, you have been kind enough to introduce S. 2897, which embodies those portions of the Department's legislative program dealing with railroad safety. In particular section 4 of the bill would authorize appropriations for railroad safety for fiscal years 1979 and 1980. We ask that \$35 million be allotted for each of these years, an amount which should adequately cover our budget needs. In addition, we request that sums appropriated for research and development, automated track inspection and the State safety participation program remain available until expended.

The remaining safety amendments are largely technical in nature, but are important to the effective and efficient conduct of our responsibilities. The Federal Railroad Safety Act of 1970 and the other important railroad safety statutes provide us with ample authority to regulate in this area.

In addition to our requested authorization, the Department's proposed safety amendments are as follows:

Section 2 of the bill would amend section 207 of the Federal Railroad Safety Act of 1970 to allow the Secretary 90 days after receipt of a violation report from a participating State to commence an enforcement action. The law presently allows the Secretary 90 days after the date the violation occurs. Adoption of this amendment would help to preserve uniformity of interpretation of the railroad safety regulations while assuring prompt attention to violation reports after they have been submitted for action.

Section 3 of the bill would amend section 208 of the Federal Railroad Safety Act of 1970 to (1) remove archaic references to the National

Transportation Safety Board (NTSB) and (2) provide that certain agents of the Department shall be considered employees of the Government for purposes of the Federal Tort Claims Act.

References to the NTSB would be deleted because they are no longer appropriate following the re-establishment of the NTSB as an independent agency in 1975 (Title III, Pub. L. No. 93-633). The revision would also help to avoid confusion concerning the Secretary's own authority to investigate accidents to ascertain compliance with the safety laws and to gather background data required for rulemaking under section 208 of the 1970 enactment.

Agents of the Department engaged in railroad safety inspections would be made subject to the Federal Tort Claims Act so that it would no longer be necessary to acquire expensive liability insurance, which is charged to the Government as a part of the contract cost of services. Contract agents are used to provide services related to the operation of automated track inspection vehicles.

Section 5 of the bill would amend the Hours of Service Act to make that law applicable to the activities of common carriers engaged in interstate or foreign commerce by railroad.

During the period the Hours of Service Act was first construed by the Supreme Court, the Commerce Clause of the United States Constitution was read very restrictively. As a result, the language of subsection 1(a) of the Act was seized upon by the Court as a vehicle for avoiding any potential unconstitutional overbreadth. Specifically, the Court said that the language on interstate transportation limits the words "any common carrier or carriers, their officers, agents, and employees."

Therefore, by the logic of the Court, the Act applies to an employee's period of service only when it is demonstrated that the employee is personally engaged in the movement of interstate traffic. Baltimore & Ohio R.R. v. Interstate Commerce Commission, 221 U.S. 612 (1911).

This particular restriction on applicability is unique among the railroad safety statutes. In the case of the Safety Appliance Acts (45 U.S.C. 1-16), for instance, the Supreme Court recognized that all of the railroad activities of a common carrier have the real potential for impact on the interstate transportation of persons and property. In Southern Ry. v. United States, 222 U.S. 20 (1911), the Court stated: "the true test of [the Safety Appliance Acts'] application is the use of the vehicle on a railroad which is a highway of interstate commerce, and not its use in moving interstate traffic." The same logic should apply to the service of employees for a common carrier, since the crew of a train moving intrastate traffic on a "highway of interstate commerce" can affect the safety of interstate trains, either directly or indirectly. In any event, this is an area in which the paramount need for uniform regulation is manifest. Of course, previous imagined limitations on the Commerce Clause have long since been removed by the courts.

Unfortunately, the dictum of the 1911 Supreme Court decision remains as the sole authoritative interpretation of the reach of the Hours of Service Act. Therefore, this proposed amendment is needed to rectify the theoretical gap in coverage and to conform the language of the Hours of Service Act to that of the other special-purpose railroad safety statutes.

The amendment would have the further beneficial effect of reducing the workload of the administering agency by eliminating the requirement

that proof be submitted concerning violations involving the movement of interstate cars in trains which originate and terminate within the boundaries of a single state. The amendment would not result in any significant impact on the industry, since all but a very few train movements do involve interstate commerce as currently described; and the limitations of the Act are generally observed with respect to the remaining operations.

Section 6 of the bill would amend the Safety Appliance Acts, Locomotive Inspection Act, and Signal Inspection Act to provide that the Secretary shall assess the civil penalties provided for in those laws.

In 1976, the penalty amounts for these statutes were increased to parallel those set forth in section 209 of the Federal Railroad Safety Act of 1970 (\$250-2,500). These technical amendments would give the Secretary the same assessment authority under the older safety laws which he possesses under the 1970 legislation. Vesting this power in the Secretary will assure that penalty amounts within the statutory range are uniform nationally and will discourage carriers faced with substantial penalty demands from insisting on litigation solely on the chance that a court might enter judgment for lesser amounts.

COMMENTS ON S. 2898

S. 2898 was introduced at the request of rail labor organizations. We have had only a very limited amount of time to review its provisions. Therefore, our comments on S. 2898 are preliminary in nature. We will be advising you shortly on our final position on this bill.

Section 2 of the bill would authorize railroad safety appropriations for fiscal year 1979 in a total amount not to exceed \$37,725,000. The Department has requested a two-year authorization at \$35,000,000 per year.

The Department opposes the form of authorization contained in S. 2898. First, we believe a two-year authorization is more appropriate to assure adequate planning. Second, the elimination of section 212(c) deletes one necessary phrase authorizing funds for research and development ("R&D") under section 212(b)(4) to remain available until expended. A provision should be added to provide that such funds and funds authorized for automatic track inspection and the State safety participation program shall remain available until expended.

Finally, the President's FY 1979 budget includes the salaries of 301 inspectors (an increase of 15 inspectors), 50 headquarters professionals, and 74 administrative/clerical personnel nationwide at a total cost of \$22.2 million (including the procurement and operation of track inspection equipment and data collection). We believe that FRA can adequately carry out its safety responsibilities with the resources we have requested.

Section 3 of the bill sets limitations on FRA research and development (R&D) activities, other than the safety research program, largely replacing the former section 212(c). The first sentence of the section provides that at least 50 percent of the funds authorized to be appropriated to

the Secretary for conducting railroad R&D programs shall be available for safety research, improved track inspection and data acquisition technology, improved rail freight service, and improved passenger systems. However, these categories are very broad and the terms are not defined; these "programs" are administrative subdivisions of funds set by FRA. We are not proposing to do so this year, but all of FRA's R&D could easily be classified under these four headings, making the provision meaningless.

The second sentence provides that no FRA R&D "program" can exceed funds allocated for railroad safety research (which is limited to \$10 million by 212(b)(4) and is in fact budgeted at \$7.37 million). Ironically, under FRA's current administration subdivisions of R&D funds, this would directly reduce only two programs which advance safety related track research: the Improved Track, Inspection and Data Acquisition Program, and the Facility for Accelerated Service Testing Program (FAST) at Pueblo, Colorado. The former program is designed to improve track safety standards; develop methods for track construction and maintenance in order to reduce track-caused accidents and increase performance; and to improve automated track inspection capabilities. The FAST program, which is a full system approach to the simultaneous testing of the reliability and safety of track and roadbed components, rolling stock, maintenance equipment and techniques, under accelerated and realistic high tonnage conditions, would, in fact, be eliminated. Substantial reductions would also be incurred in the Transportation Test Center budget request for construction, equipment and the operation and maintenance of the facility itself.

Another point that must be emphasized is that improvements in safety do not necessarily result exclusively from expenditures for safety R&D.

To the contrary, work done in areas such as freight car management improvement, commodity research and financial and system structure analysis can have an ultimate impact on railroad profitability that will permit the kind of spending on plant and equipment by the railroads that safety requires. For these reasons, then, it would be inadvisable to place an arbitrary limitation on the amounts of funds spent for other than safety R&D.

Section 4 of the bill would amend the Hours of Service Act to define the term "designated terminal" to mean the home or away from home terminal of a particular crew assignment. Under the Act, rest periods for employees at other than "designated terminals" are considered on-duty time. The designated terminal concept was introduced into the law in 1969 and has led to considerable controversy and litigation between the Government and the railroad industry.

In the initial test case on the issue, the U.S. Court of Appeals for the Ninth Circuit upheld the position advanced by the FRA, which is that a "designated terminal" is the home or away from home terminal of the particular crew assignment, or another terminal where suitable facilities for food and lodging are available which has been bilaterally designated as a release point for that crew. In the view of FRA, as the administering agency, this position best carries forth the intent of the Congress at the time of the 1969 amendments to the Act.

However, a recent Eighth Circuit Court of Appeals decision rejected the opinion of the Ninth Circuit and held that a designated terminal is any terminal on a railroad where suitable facilities for food and lodging are available. This position is similar to an amendment proposed by the Association of American Railroads in 1969 which was not adopted.

Thus, there is now a conflict between circuits. We will recommend to the Department of Justice that a writ of certiorari to the Supreme Court be sought to resolve the conflict. Unfortunately, the time lag involved in obtaining such review will only add to the burden already faced by FRA in this regard. Inspectors have spent thousands of hours

investigating complaints from employees alleging that they have been improperly released. Because of the legal uncertainty which now prevails outside the Ninth Circuit, until Congress acts to define the term we will be forced to decline enforcement of alleged violations involving improper points of release, assuming the point of release is a terminal on the particular line of railroad.

The Department supports a clarification of legislative intent to put an end to the uncertainty and litigation which this undefined term has produced. In our view, a clarification of the intent of Congress in 1969 would provide that a designated terminal is a home or away from home terminal of the particular crew assignment or such other terminal having suitable facilities for food and lodging as may be jointly agreed upon as a point of release by the railroad and its employees.

Section 5 would amend section 2 of the Hours of Service Act to reduce the maximum hours of train and engine crews from the current twelve hours to ten hours.

The purpose of the Hours of Service Act is "to promote the safety of employees thereon." Since it has not been established that any further reduction in maximum hours of service would have any positive impact on railroad safety, the Department opposes enactment of this section.

The issue of safety should be central to all deliberations on this provision. A study by the Interstate Commerce Commission in early 1967 concerning the relationship between hours of service and railroad accidents under the then existing sixteen-hour limitation failed to establish any definite correlation. (The Act was amended in 1969 by Public Law 91-169,

which reduced the maximum hours of service of covered operating employees from sixteen to twelve.) Moreover, an analysis by the Federal Railroad Administration (FRA) of all accidents caused by human factors during 1975-1976 also failed to disclose any such correlation within the current permitted hours.

The Department believes that the resolution of further disagreements concerning work hours should be handled within the established collective bargaining framework. We fully agree with the position taken by the Senate Commerce Committee in its report on the 1969 hours of service legislation: "The committee intends that this section should not only permit but should also promote collective bargaining in the hope that further resort to legislation will not be sought by either railroad management or labor". S. Rep. No. 604, 91st Cong., 1st Sess. 10 (1969).

Another significant objection to the proposed provision is its potential cost. Railroad terminals are fixed facilities which are often spaced at considerable distances. Based on the Department's experience in administering the current statute, we believe there are a significant number of assignments which could not be completed within ten hours or for which that time period would not allow any margin of error to accommodate the operational difficulties which are common in the industry. While many assignments could probably be redefined at minimal cost to the public, others could not be redefined without considerable outlays for deadhead transportation due to the great distances between terminals.

Section 6 of the bill would add a new subsection (h) to section 202 of the Federal Railroad Safety Act of 1970 (45 U.S.C. 431). The subsection would provide that no common carrier by railroad shall run, or permit to be run over its line or road, any freight train which is in excess of 4,300 feet in length, exclusive of caboose. This represents an average of approximately seventy-five (75) cars.

The bill contains no congressional findings setting forth the reasons for this proposal. However, proponents have stated that this proposal is designed to enhance railroad safety by reducing the incidence of train accidents. We do not believe that conclusive evidence exists establishing that a limitation on train length would, by itself, result in an appreciable net reduction in train accidents. Further, we are concerned that the proposed legislation would impose a significant economic burden on the railroad industry before a safety need has been conclusively demonstrated. Regulation on other than safety grounds would be an inappropriate Federal intrusion into railroad management responsibility. Should such limitations be desirable from an industry viewpoint, they are better accomplished through management decisions, or where work rules are involved, through collective bargaining.

The correlation between train length and the safety of train operations has been a source of dispute within the industry and in previous Congresses. In 1957, the Committee on Interstate and Foreign Commerce added an amendment to the Power or Train Brakes Safety Appliance Act which was intended to deny the Interstate Commerce Commission the authority to

regulate train length. H.R. Rep. No. 1205, 85th Cong., 1st Sess. (1957). The amendatory language was inserted in the legislation following a discussion of the authority of the I.C.C. (now the Secretary of Transportation) to make changes in the power brake rules mandated by the statute, and it reads as follows: "Provided, however, that such rules or standards of instructions or changes therein shall be promulgated solely for the purpose of achieving safety." 45 U.S.C. 9. In explanation of this provision, the committee stated:

The purpose of including such language is to make clear that these rules are for the purpose of safety, and not for the purpose of limiting the length of trains. The relationship of train length to safety is a matter for separate consideration.

The Federal Railroad Safety Act of 1970 now provides adequate authority to regulate in the area of train length whenever a safety need is apparent. The Department believes that complicated regulatory judgments such as those involved in proposed restrictions on train length are best made by the administering agency after appropriate research, analysis, and opportunity for public comment. To date, no petition for rulemaking has been submitted to FRA embodying the regulatory proposal contained in the bill. However, FRA appreciates the concerns underlying the legislative proposal and is conducting research into track-train dynamics which may have direct application to this problem.

Analysis of accident data relating to frequency of train accidents for trains of different lengths is extremely difficult due to a number of variable factors involved. However, an

analysis of national train accident statistics for calendar year 1975 and 1976 suggests that less than forty percent (40%) of train accidents occur in trains of seventy-five (75) or more cars. (A chart displaying these statistics is attached.) Data compiled by the Association of American Railroads (AAR) suggests that the percentage of trains which exceed seventy-five cars averages approximately thirty-two percent (32%). While available data would not permit the reliable normalization of FRA statistics to fully evaluate whether a significant correlation may exist between train length and train accidents, the data which is available does not indicate a positive correlation. The single exception to this rule may be equipment-caused train accidents. Since a greater number of cars in the consist will increase the statistical possibility that a seriously defective car will be present, that is not a correlation which would necessarily support any limitation on train size.

Certainly train length in combination with increasing tonnages, poor train placement of empty and loaded cars, poor train handling, and equipment defects will be productive of a higher accident level. The problems are real and they are of major concern to FRA. However, imposition of an arbitrary train length limitation without regard to other factors would appear to be an inappropriate response to a problem which has not yet been quantified.

Indeed, it is entirely possible that an arbitrary and inflexible train length limitation might actually result in an increase in accident frequency and severity. The higher traffic density on main lines which shorter trains would produce would greatly increase the number of situations in which trains would meet or be overtaken, heightening the statistical possibilities for collisions in the event of human error or failure of a signal system. Since most grade crossing accidents involve a motor vehicle being struck by a locomotive rather than a motor vehicle proceeding into the side of the train, increased train traffic might result in an increase in grade crossing accidents--the source of most of the fatalities related to railroad operations.

The Department believes that the best immediate answer to train accidents is the strict enforcement of Federal laws and regulations governing track, equipment and human factors. In the past year, new emphasis has been placed on meaningful enforcement activity. Additional resources are being requested for this purpose. We believe it would be untimely for the Congress to mandate a limitation on train length in light of the uncertain safety consequences of the measure and ongoing efforts to enforce safety laws and regulations which address hazards more directly and with greater precision. Any further regulatory activity related to the operation of long trains should be undertaken by FRA and should take into

consideration (1) the advances in train handling permitted by the use of radio-controlled "slave locomotives", (2) the special factors associated with the unit train concept, and (3) other matters bearing on the safety of long trains. As noted above, FRA is presently conducting research which will assist in addressing the train accident problem from the point of view of methods of train handling.

The Department is also concerned that this legislation could have a severe detrimental impact on the economic health of the railroad industry. While no precise estimate can be made of the costs rail carriers would incur from such a regulation, it is clear that the level would be extremely high--much higher than many of the firms in the industry could bear, given their financial condition. The investment in new locomotives, cabooses, changes in passing sidings and yard configurations would be considerable. The restriction would have a great impact on the operating practices of every carrier. Operating characteristics of railroads differ, depending on size or commodities carried, terrain, management philosophy and numerous other factors. However, individual carriers have estimated in submissions to the AAR that this legislation would result in an increase in number of trains per year of from 6% to 46%. Estimated total new investment per carrier ranged from \$18 million to \$340 million.

The impact on operations and maintenance expenditures would also be considerable. Additional trains require more fuel, more maintenance, and cause the need for track work. But, above all, they require more crews. The railroads' estimates for increases in the total number of road crew employees alone ranged from 6% to 33%; this does not include any increase in maintenance of way or other personnel. At an average yearly cost per four man crew of \$95,044 as estimated by the Interstate Commerce Commission (not including benefits), this could amount to a considerable sum.

The impact of the 4,300 foot length restriction will probably be seen most clearly in coal transportation. Unit train service is the most efficient way to move large volumes of coal, from the points of view of both railroad and utility. Typically, such trains consist of 100 hopper cars (although many trains are longer) and three or four locomotives. According to the National Coal Association, over 168 million tons of coal were moved this way in 1975, which is approximately 40% of all rail coal originated. Under the Railroad Revitalization and Regulatory Reform Act of 1976 (RRRRA), the ICC has begun to allow some portion of the investment made for new movements such as these to be incorporated in the tariff charged, to allow the railroads to be able to attract the capital to make such movements possible. To the extent that the ICC allows the rate of return on such expenditures to be

incorporated, the higher charges are passed on to the utility, and ultimately, to the consumer. Rates governing existing unit train movements were set before the "capital incentive rate" provision of the RRRRA went into effect, however, so the coal carriers would probably have to petition the ICC for an increase in all existing tariffs to cover not only new investment but increases in number of crews as well. Again, depending on the decision, some or all of this increase in cost must ultimately be borne by the utility customers, or may result in loss of rail market share.

It is true that there has been much research into the economics of small trains which indicates that, in many cases, such operations are more efficient than longer trains. This is especially true in movements of TOFC trains, where shippers need fast, reliable delivery times. However, such types of operations are not efficient for all types of service, especially if trains must carry full crews. Several short train studies done by various railroads, and cited in Robert Leilich's "A Study of the Economics of Short Trains" (Peat, Marwick, Mitchel and Company, 1974) indicate that crew costs in particular and labor cost per ton-mile in general are the major impediments to such service although, in isolated cases, it has proven efficient despite these factors.

The central point with respect to the economic impact of the bill is that an absolute limitation on train size which does not take into account the type of freight hauled or existing labor agreements concerning crew size would have an immediate and significant effect on the industry, shippers, and consumers.

Because it cannot be demonstrated with available data that a 4,300 foot limit on train length is an appropriate response to the train accident problem, because an increase in the number of trains could result in an upward counter-vailing trend in grade crossing accidents and train collisions, and because the economic impact of the limitation on the industry would be severe, the Department strongly opposes enactment of the provision.

Section 7 of the bill would add a new subsection (1) to section 202 of the Federal Railroad Safety Act of 1970 to protect any employee who reports safety violations to FRA, refuses to operate defective equipment, or refuses to work in surroundings where the employee "reasonably believes there is present an imminent danger to his safety and health."

We feel that this provision requires detailed comment on our part and would prefer to postpone formal comment until we can provide the Subcommittee with a fully coordinated position on this issue.

Section 8 of the bill would establish within the FRA an Office of Occupational Safety and Health to administer "the occupational safety and health functions, powers, and duties of the Federal Railroad Administration." As we have previously noted in this statement, FRA has already determined that it should limit its occupational safety and health program to those working environments which are affected by railroad operations. FRA published a policy statement on the respective roles of FRA and the Department of Labor concerning occupational safety and health in the railroad industry on March 14, 1978 (43 Fed. Reg. 10583). We believe that this policy statement, which affirms Department of Labor jurisdiction over many important areas of concern, should be given an opportunity to work. Also, it is our hope that this policy statement will be the starting point for the resolution of further jurisdictional questions involving the two Departments.

No case has been made that railroad workers experience a materially higher degree of risk from non-operational hazards than do the employees of other industries. Therefore, FRA believes that the establishment of a separate office for this purpose within FRA cannot presently be justified. We will continue to monitor the compatibility and combined

effectiveness of efforts by the Department of Labor and FRA to foster safe and healthful working conditions in the railroad industry and will make such recommendations as might prove warranted.

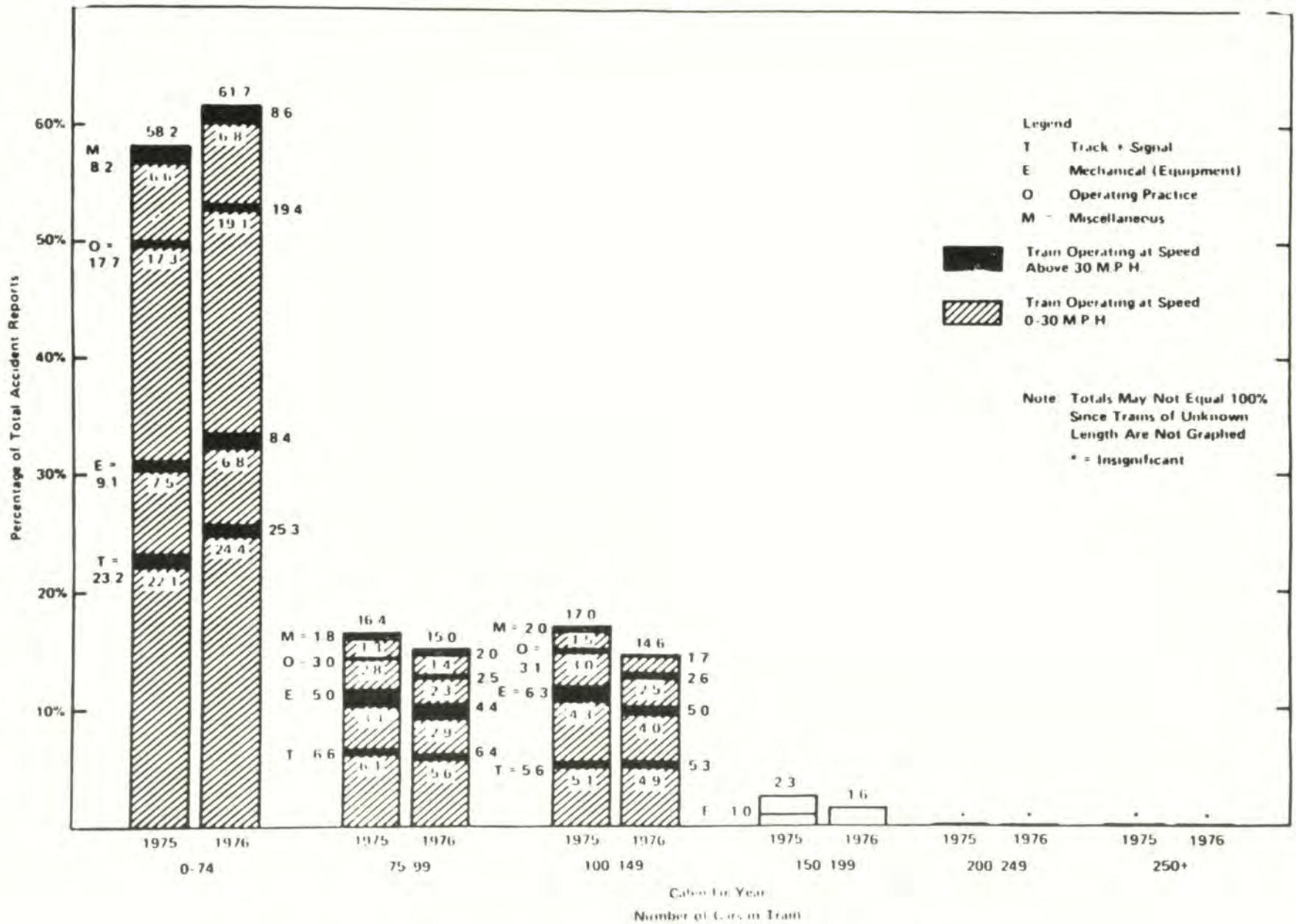


Fig. 1 The Number of Train Accident Reports in Calendar Years 1975 and 1976 for Various Lengths of Trains

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STATEMENT OF JOHN M. SULLIVAN, ADMINISTRATOR, FEDERAL RAILROAD ADMINISTRATION, BEFORE THE GOVERNMENT ACTIVITIES AND TRANSPORTATION SUBCOMMITTEE OF THE HOUSE COMMITTEE ON GOVERNMENT OPERATIONS, DEALING WITH THE NORTHEAST CORRIDOR IMPROVEMENT PROJECT, THURSDAY, JUNE 15, 1978.

Mr. Chairman and Members of the Committee:

I appreciate this opportunity to report on the status of the Northeast Corridor Improvement Project (NECIP) and to acquaint you with the progress and problems of the program. I have with me Mr. Louis S. Thompson who was recently appointed Director of the Project, and Mr. David Gedney, the Project's Associate Director, Office of Engineering, who served as the Acting Director before Mr. Thompson's appointment. They will assist me in responding to any questions you may have later.

The Federal Railroad Administration (FRA) was charged by the Secretary of Transportation with carrying out a program to improve rail service in the Northeast which has received considerable Congressional and Executive Branch attention since 1962 and has been specifically addressed in two recent Acts: the Regional Rail Reorganization Act of 1973, the 3R Act, and the Railroad Revitalization and Regulatory Reform Act of 1976, the 4R Act. The current program received its primary guidance and funding authorization in the latter Act.

The 4R Act requires the Secretary to implement the improvement program. For this purpose a Northeast Corridor Project Office (NECP) was established within FRA dedicated exclusively to carrying out the improvement project. This office is composed of a small group of Federal employees who direct the efforts of a larger number of contractor and Amtrak employees.

The magnitude and complexity of the engineering and construction effort required of this project cannot be overemphasized. All the work must be undertaken on an operating railroad -- one of the world's busiest -- with a minimum impact on the thousands of passengers and shippers who use the Northeast Corridor daily.

The program envisioned by both the Congress and the Department is far more than a track maintenance activity. Extensive design efforts are required for new and upgraded electrification, bridge replacement, station refurbishment, communications and signalling, and so forth. In order to carry out the task without building a large staff of Federal employees, FRA engaged the services of an architect and engineering team consisting of the joint resources of DeLeuw, Cather and Ralph M. Parsons Company (DCP) to provide critically needed engineering, design, and program management support. This was done in 1976 through standard Federal procurement procedures for hiring A&E contractors.

Another principal NECIP contractor is the primary NEC owner, Amtrak. Amtrak assists in planning improvements (since they will operate the improved system) and has a major construction role, carried out by its force account labor and by subcontractors. Relationships with Amtrak and the delineation of Amtrak's responsibilities have been established by a contract designed to protect the public interest and investment in the improved transportation system.

A program of this magnitude and complexity would normally be the subject of years of engineering planning and design effort before the start of construction. Although many years of intermittent study had occurred previously, the extremely tight deadlines of the 4R Act -- only 60 months from enactment to achievement of service goals -- caused the planning and organization to be telescoped into about one year. This short period of time was devoted to establishing contracting relationships, placing initial engineering and design contracts, rapid ordering of materials and equipment, and assessing the environmental impacts of the Project. In many instances, planning, design, purchasing and construction were required to proceed at almost the same time.

On April 1, 1977, only 13 months after the 4R Act became law, the first full season of track work began. As the work

progressed, difficulties emerged: the lead times for equipment and materials were longer than expected; personnel shortages were experienced by Amtrak; newly hired workers had to be trained; supervisors were inexperienced; and productivity did not meet forecasts. The strain on Amtrak can be better understood when we realize that Amtrak virtually doubled its personnel overnight and had to assume greatly expanded functions related to construction and maintenance of the fixed plant. Nevertheless, we have made significant achievements.

Through the end of last month, \$51 million of engineering and design and \$162 million of construction and materials subcontracts had been awarded and \$204 million more of work was in the process of being let as subcontracts or was being performed by our major contractors, Amtrak and DCP. Of approximately 3,000 persons working on the NECIP last month, 36 percent were minority employees and over 15 percent of the total value of subcontracts awarded had gone to minority firms.

Between April 1, 1977 and March 31, 1978, some 216,000 ties were replaced, 71 miles of continuous welded rail laid, 3,337 joints eliminated, 54 miles of high-speed surfacing done, 209 miles of ballast cleaned, and 39 miles of undercutting completed.

We are currently benefiting from the experience gained during the 1977 track work season. Amtrak's performance so far this season shows an increase in cost effectiveness stemming from the training, improved supervision, and availability of experienced workers. I am proud to report to you that this work season will feature the use for the first time in the U.S. of an automated track laying system. Based on experience with the system elsewhere we expect that it will sharply increase the rate at which the track structure for high speed trains can be upgraded while reducing costs in comparison to standard track maintenance methods.

NECP and DCP also encountered start-up problems which are now being ironed out. Coordination problems and unanticipated technical problems have been faced and surmounted. During 1977, a massive draft Programmatic Environmental Impact Statement (PEIS) was prepared and a series of 13 public hearings held in key cities along the Corridor. Responses to the comments generated by the review and from the hearings have been incorporated in the final PEIS which currently is at the printer. This document represents a significant achievement in that it deals with the physical, economic, and social impacts of this major project which extends more than 450 miles through eight States and the District of Columbia.

In addition, plans for the use of concrete ties, electrification voltages and frequency, station upgrading and bridge repair are complete. Work in these areas is now well into the design or procurement phases.

On January 4 of this year, Secretary Adams announced the start of a re-examination of the Northeast Corridor Project. In making his announcement, the Secretary stated that "if future transport in the Northeast Corridor is to reach its full potential, intercity and intracity transportation improvements should be coordinated to reinforce each other." The Secretary announced that he had therefore "set in motion some changes in Corridor planning that will place a greater emphasis on service to users and overcoming potential conflicts between intercity, commuter and freight operations." In addition, Corridor planning will work to move Amtrak's operations as close to self-sustaining as feasible.

This re-examination is being undertaken in consultation with Amtrak, Conrail, the States and local commuter authorities, freight shippers and others vitally interested in the future of the Northeast Corridor. In addition to its major purpose of better coordinating improvement of the Corridor for the benefit of all its users, the study will provide a more realistic and current assessment of project costs and schedules and the best uses for the \$1.75 billion authorization.

The redirection effort in no way implies a lack of support for the project. On the contrary, both the President and the Secretary are firmly committed to rail service improvements in the Corridor. These improvements and the jobs associated with them are vital to the economy of the Eastern seaboard.

In summary, although the project has experienced organizational and production difficulties, substantial progress has been achieved and is continuing. The interests of literally hundreds of State, local and regional organizations along the Corridor are being considered and coordinated in our daily planning and execution. In keeping with the Administration's desire to control operating deficits in the Corridor, concern for commuters and shippers and desire to provide a balanced and integrated rail service system, we are proceeding surely but deliberately, assuring full consideration of all user needs. We feel strongly that the ongoing redirection effort will provide a more firm foundation for the program, and that the final product will be more responsive to the needs of all users of the Northeast Corridor.

This concludes my statement. I will be happy to answer any questions you may have.

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STATEMENT OF JOHN M. SULLIVAN, ADMINISTRATOR,
FEDERAL RAILROAD ADMINISTRATION,
BEFORE
THE SURFACE TRANSPORTATION SUBCOMMITTEE
OF THE COMMITTEE ON COMMERCE, SCIENCE
AND TRANSPORTATION
UNITED STATES SENATE
JULY 11, 1978

Mr. Chairman and Members of the Committee:

It is my pleasure to appear today on behalf of the Department of Transportation to discuss the railroad problem in the Midwest, how we are working to alleviate the problem through the so-called "401 Process" established pursuant to the 4R Act, and how the proposed changes in the Federal Bankruptcy laws would affect our efforts. In addition, I will address the problems of freight car shortage and the need for a reenactment of the so-called "no-suspend" or "yo-yo" rate provisions.

RAILROAD PROBLEMS OF THE MIDWEST

The railroad problem in the Midwest today is symptomatic of the railroad condition throughout the U.S. -- namely, a mature fixed-facility industry, constrained in growth by the burdens of redundant common carrier responsibilities and competition from other modes. As a result, the industry has experienced a decreasing share of the intercity freight

market and an erosion of profitability. While the declining trend in market share has continued, as measured by revenue ton-miles hauled, railroads still carry about 36% of all inter-city freight. Often, increases in volume are in concentrated low-rated cargo, where there is no real transport alternative. Meanwhile, increases in more profitable cargo all too often go by truck.

Railroading is an industry in which many costs remain fixed or are subject to only minor adjustments when economic downturns occur. For this reason, even minor decreases in traffic force serious adjustments. Generally, these decreased revenues have to be offset by deferrals of maintenance. Furthermore, when rising costs are not met by adequate traffic growth over the long-term, deferring maintenance is insufficient. Short-term recoveries, cost cutting schemes and similar devices provide only temporary relief, and a reduction in fixed costs through plant restructuring has to be faced. The "401 Process" is, we believe, becoming the catalyst in aiding the industry's restructuring process.

MIDWEST CRISIS

Nowhere in the United States is the problem of excess railroad fixed plant more prevalent than in the Midwest. In this fertile granger region, during the period of the expanding rail industry, competing rail carriers criss-crossed the region to link small agricultural centers with major gateways and processing facilities. Historically, the flat and open land in this region posed little obstacle for railroad expansion. Expansion was further encouraged by the traffic to be generated by the fertile soil, the intensely competitive nature of a maturing rail system, and the absence of effective non-rail competition. The legacies of the past are innumerable, but a few illustrations will serve to establish the degree to which the Midwest rail network was overbuilt:

- 14 rail lines converge in Des Moines, Iowa.
- 6 carriers compete for traffic between Chicago and Omaha, each with its own private railroad line.
- 8 carriers compete between Chicago and Kansas City, a center with 14 major railroad classification yards.
- Iowa has more than 7500 miles of railroad track, while California, another fertile agricultural state with nearly three times the land area, has a slightly lesser amount of track.
- No point in Iowa is more than 25 miles from an active railroad line.

The branch line system literally blanketed the region, so that practically everyone was within reach of a railroad depot. In spite of the enormous changes in our transportation system in the past half century, this huge system has been left largely intact. Multiple common carriers remain responsible to provide service when reduction to one or two would in many cases suffice for service purposes (and intra-industry competition) while simultaneously laying the foundation for improved intermodal competition and greater energy savings as well.

SECTION 401 PROCESS

In his testimony on June 15, the Secretary reported to you on some of the coordination and restructuring projects we have been developing with the carriers and others under the section 401 process. The Secretary has delegated responsibility for the program to FRA and has directed me and my staff to pursue the program vigorously. As you know, it is a voluntary process; but, we think that when coupled with other DOT programs, the process has tremendous potential. Rail carriers have met and will continue to meet with us and our representatives to discuss potential coordination and consolidation projects, including coordinated abandonments, trackage rights agreements, and internal restructuring. We want to concentrate the traffic on viable or potentially viable facilities, and downgrade or eliminate facilities which do not meet these standards. The result will be that the same or even more traffic will be carried on fewer lines in a far more efficient, rational and cost effective manner.

In his testimony to you on June 15, Secretary Adams brought you up to date on four coordination projects between the Milwaukee and the C&NW. In addition, he advised you of our efforts to have the Rock Island Trustee consider, as a possible option, a new entity to operate part of the Rock Island between Kansas City and the Quad Cities, and perhaps other properties as well, and permitting joint use with at least one other carrier.

By the end of the summer, we expect to conclude agreements between the C&NW and the Milwaukee for track consolidation and traffic coordination from Clinton to Tama, Iowa (135 miles) and between C&NW and ICG for a joint facility agreement whereby the carriers will form a "paired track" arrangement between Council Bluffs, and Denison, Iowa (64 miles) with each carrier's single track being used one way. Again, there will be a reduction in redundant plant, accompanied by significant service improvements and cost savings for the three railroads involved. The C&NW has started work on upgrading the lines under an agreement which will permit it to pay the costs with funds from the section 505 preference share program.

On the whole, we think the 401 process and related efforts are working well. We have had excellent cooperation from the parties involved -- the carriers, the states and localities, shipper groups, and the labor unions.

REVISIONS TO THE BANKRUPTCY LAWS

I would now like to turn to the very important problem of the revisions to the Bankruptcy laws, involving those changes dealing with railroad reorganizations. The bills pending before the Congress are H.R. 8200 and S. 2266.

Our interest is that the reorganization courts have the tools at their disposal to resolve problems in a timely manner; that the public, the shippers, and the employees are protected; and that the confidence of the financial community in the soundness and security of railroad investments is not impaired. Accordingly, I would like at this time to outline briefly several key provisions of the Bankruptcy bills.

BACKGROUND

By way of background, let me start by saying that the Penn Central and related reorganizations have made it abundantly clear that the powers granted in §77 of the Bankruptcy Act (originally enacted in 1933 and revised in 1935) are no longer adequate for the kinds of problems encountered in railroad reorganizations today.

Historically, the primary problems facing railroads in reorganization were, first, restructuring the capitalization so that it could be serviced by the reorganized company, and, secondly, generating enough funds to pay off

obligations incurred during reorganization or immediately prior thereto. Normally, court protection in bankruptcy, where payment of bonds and local taxes is stopped, would enable the trustee to generate the positive cash flow to (1) maintain existing service, (2) rehabilitate to some extent where the system had been allowed to run down before final collapse, and (3) pay off priority claims. Today, however, debt structure is no longer the prime cause of failure and debtors may not be able to generate a positive cash flow in reorganization. It is necessary that the courts be vested with the power to respond quickly and effectively to these new problems. The current bankruptcy revision bills present numerous issues, many of them very technical. I would like to comment on several of the more major issues, particularly those that have a bearing on the current situation in the Midwest.

First, the Roles of the ICC, DOT and the Court.

One of the principal defects of section 77 has been the extensive delay before confirmation of a reorganization plan which resulted from the laborious dual proceedings before the ICC and the reorganization courts. The proper role

to be played by the ICC and the courts in railroad reorganization proceedings was considered by the Commission on the Bankruptcy Laws of the United States and discussed in its final report to Congress in 1973. The Commission suggested, and H.R. 8200 provides, that the ICC's role should be one of a public interest advisor to the court, a role similarly accorded to DOT, and that the court have the authority to approve abandonments, mergers, and plans of reorganization.

S. 2266, as it has been modified to date, would, with one exception, vest control over the reorganization proceeding in the court, with DOT and ICC performing advisory roles. However, section 1171 of S. 2266 would require that those portions of reorganization plans dealing with proposed transfers of rail properties be referred to the ICC. The ICC would have the power to approve, modify, or disapprove such proposals, and the Commission's public interest determination would be binding upon the reorganization court, unless determined to be arbitrary, capricious, an abuse of discretion or contrary to law.

The Department supports the basic streamlined procedure of H.R. 8200. We believe that the court should have jurisdiction over all facets of the reorganization proceeding. There is, of course, a need to ensure that the public interest is being adequately safeguarded. We suggest that certain public interest safeguards be built into any new legislation. First, as recognized by both bills, the ICC and DOT must be accorded full participation rights in the reorganization proceeding, including the right to appeal an initial adverse decision. Second, the

court should have the benefit of the expertise of the various Federal agencies in addressing transportation and employee protection matters.

Finally, the ICC's recommendations with respect to transfers of the debtor's rail properties should constitute a rebuttable presumption as to whether the proposal is consistent with the public interest. The court should be able to override the Commission's recommendation where direct evidence to the contrary convinces the court of the uncorrectness of the ICC's decision or in limited cases where the court determines that the public interest in the implementation of the reorganization plan outweighs the adverse transportation considerations involved in the proposal.

Second, Elimination of Uneconomic Lines.

One of the primary reasons for the financial plight of the bankrupt midwestern railroads is that they have too many lines carrying an inadequate volume of rail traffic. To the extent that a debtor's limited cash resources are utilized to maintain service on uneconomic lines, the debtor's ability to maintain and adequately serve shippers on the economic remainder of its system is jeopardized. Absent a substantial increase in the traffic base, the problem can be overcome only by abandonments, consolidations of traffic designed to increase traffic density, or Federal/State subsidy programs intended to relieve a railroad of deficit operations.

The bills under consideration have many positive features which increase a reorganization court's ability to effectively stem deficit operations associated with unprofitable rail lines.

First, both bills would authorize any interested person to propose a plan of reorganization calling for a merger or consolidation of the debtor with one or more persons. The Supreme Court had previously limited this right to the officers and directors of the debtor, even though in many, if not all railroad reorganizations, the stockholders' equity is either worthless or takes a minority interest in the reorganized company.

Second, the Senate bill would authorize the judicial panel on multidistrict litigation to order a coordination or consolidation of multiple railroad reorganization proceedings if the cases involved a dispute between two or more debtors, the abandonment of property that would affect the services of two or more debtors, or a possible merger or common reorganization plan of two or more debtors. As evidenced by the 3R Act, this type of authority may be useful or necessary in dealing with multiple railroad bankruptcies within a single region of the country.

Finally, both bills contain identical provisions to expedite the handling of railroad abandonment applications involving a bankrupt railroad. Under section 77 and section 1a of the Interstate Commerce Act, such abandonments require dual approval by the court and the ICC, with substantial delay the inevitable result.

In addition, the public convenience and necessity standard used in ICC determination often gives undue weight to shipper needs, sometimes jeopardizing the debtor's ability to reorganize. In cases where there is a substantial public service need, State or local governments, the users of the line, regional transportation authorities, or even solvent railroads for which the line might have value might more properly accept the costs of operations and maintenance. In fact, the 4R Act provides a program to assist States in providing funds to continue local rail services that would otherwise be abandoned.

In an attempt to remedy these problems posed by the existing abandonment procedure, the bills would give the court the power to decide abandonment petitions after the ICC had an opportunity to review and advise the court concerning the petition. The court would have the power to set a deadline for ICC review, based on, among other things, the complexity of the proposal. We support the abandonment provisions of these bills, but believe they ought to be modified to provide for, among other things, discontinuances of passenger service, including that of Amtrak and the opportunity to preserve service when an adequate subsidy is offered. They should also give priority to other public uses, where appropriate.

These additional provisions we propose would simply conform all abandonment and discontinuance procedures and standards before the court to those before the ICC in nonbankruptcy cases.

Third, Payment of Prepetition, Interline Charges.

Section 1168 of the Senate bill provides that the trustee is required to pay in cash pursuant to statutory, ICC, or reorganized rail industry settlement procedures, or ICC orders of general applicability, the current net

balances owed by the debtor to other carriers on its interline freight, passenger and per diem accounts for both the pre- and post-filing period. The section recognizes the right of the court to establish a payment schedule, with respect to the balances owed by the debtor for the pre-filing period, so as not to jeopardize the debtor's continued rail operations or the operations of the other carriers. The Department supports this provision.

Fourth, Six Month Claimants

The Senate bill presently requires cash payment for all allowed claims for operating expenses incurred in the six month period immediately preceding the filing of the petition in bankruptcy. This is apparently an attempt to retain the so-called six months priority rule according creditors who supplied necessities to the debtor within the six month period and who expected to be paid out of current operating receipts (rather than relying on the railroad's general credit) priority over the claims of mortgages and other secured creditors. However, the bill makes several undesirable changes to the existing six month rule.

First, the courts have established equitable restrictions which must be met by creditors seeking this priority status. See In re N.Y., N.H., & H.R.R., 278 F. Supp. 592 (D. Conn. 1967), aff'd 405 F. 2d 50 (2d Cir. 1978), cert denied, 394 U.S. 999 (1969). The bill does not retain

these restrictions. Secondly, the bill requires that six month claims be paid in cash. Under existing law, such claims can be satisfied in cash or with a lien on the assets of the reorganized company. Ecker v. Western Pacific Railroad, 318 U.S. 448, 488 (1943).

Fifth, Equipment Obligations

As you know, this is the only sure source of private capital for the railroads. Section 77 specifically protects the creditor's rights to repossess equipment. Unfortunately, the current wording of §1166 of H.R. 8200 may have the effect of threatening, to some degree, the protections now afforded by §77.

A railroad's failure to meet its non-financial obligations (i.e., proper maintenance of equipment, reporting of casualty occurrences and the concomitant deposit of money with the equipment trustee) under most equipment trust agreements does not mature into an event of default unless the railroad after written notice of such failure, fails to cure the default by honoring its obligations under the equipment trust agreement. There is very often, therefore, a considerable period of time between a "default" and an "event of default". Only events of defaults give rise to lenders' remedies of acceleration of payment of the principal of, and interest on, outstanding trust certificates and the repossession of the railroad's financed equipment.

Under section 1166, unless at the time of the trustee's assumption of the equipment trust agreement there exists an event of default (which the statute would require the trustee to cure), it is arguable that the trustee is not required to assume responsibility for the debtor railroad's defaults in performance of its obligations to properly maintain the equipment and to deposit with the equipment trustee, in the case of destroyed equipment, the value thereof. The Senate bill eliminates this ambiguity by requiring the trustee to assume responsibility for all the debtor railroad's obligations under existing equipment financing agreements. The Department, therefore, favors the Senate language.

Sixth, Undue Length of Railroad Reorganization Proceedings.

Historically, railroad reorganizations have been plagued with inordinate delays. One, that of the Missouri Pacific took 23 years. In addition, the northeast rail crisis would probably still be with us without Congressional action. Accordingly, we support the provisions of the Bankruptcy Act bills which provide the court with the powers to resolve problems within reasonable time frames.

One source of delay under section 77 has been the provision that only the debtor is required to file a plan of reorganization. Although other parties are permitted to file a plan with the consent of the ICC, they have generally hesitated to file one until the debtor has done so. Unfortunately, section 1121(c) of the Senate bill precludes any party in interest from filing a plan of reorganization until the debtor

has had 120 days within which to file a plan, thus retaining a primary role for the debtor in the development of a plan.

Another factor contributing to the delay in railroad reorganization proceedings is the absence of time restrictions on the planning process and the express authority to convert the reorganization to a straight bankruptcy liquidation.

Section 77 presently requires that the plan of reorganization be filed by the debtor with the court and the ICC within six months after approval of the petition. In practice, it is rarely, if ever filed that early. The court has power to grant extensions of time and does so liberally. While section 77 permits dismissal of reorganization proceedings, and while in some cases the equity receivership which may follow may eventually lead to liquidation, section 77 itself lacks any express provision for conversion of the reorganization to a straight bankruptcy liquidation. This reflects the underlying premise of section 77 -- that it is absolutely necessary to continue indefinitely the operation of a bankrupt railroad.

Both the Senate and the House bill would change this by making a liquidation a permissible alternative. This is in recognition that it is senseless to try and force the income-based reorganization of a railroad which has no reasonable chance for economic survival. In addition, the Senate bill contains time frames on the planning process which

would contribute to early decisions on whether a reorganization of the debtor can be achieved and, if not, would allow a liquidation to take place.

While the Department basically supports the Senate provisions, we believe that several safeguards are needed to adequately protect the public's interest in continued rail service. First, we recommend that a court finding that a debtor is not reorganizable as a railroad, taking cognizance of the constitutional rights of the creditors of the debtor, be included as a prerequisite to ensure that liquidation only becomes an option if all else fails. In addition, the Department recommends that before ordering a conversion to liquidation, the court be required to hold a hearing and consider the views of the ICC and DOT so as to best assure an adequate record concerning the impact of liquidation on continuation of essential rail services.

Lastly, Applicability of the Bills to Existing Railroad Reorganization Proceedings.

Both of the bills provide that existing reorganization proceedings shall continue to be governed by section 77 as if the Act were not enacted. As I have pointed out, section 77 does not provide a workable solution for many of the problems confronting present day railroad reorganizations. The Department believes that existing railroad reorganizations should be governed by the procedural provisions of any new legislation in order to ensure that the problems associated with such proceedings are dealt with in a more efficient manner. However, changes in the Bankruptcy Act which would modify substantive creditor rights should not be applicable to proceedings commenced under section 77.

FREIGHT CAR SHORTAGES

The current shortage of grain cars began last September, with the harvest of corn and soybeans. The recurrent peak-period shortage normally eases by the end of the year, giving way to a surplus which lasts until the hard winter wheat harvest the following summer. However, this past winter a number of events caused the shortage to intensify seriously rather than disappear:

- 0 Export demand increased, bidding up prices. In addition to the new crop, there were large carryovers from the previous year. The higher prices attracted large quantities of this grain onto the market suddenly. The transportation system was asked to move two crops in one year.

- 0 The severe winter weather hampered both rail and barge operations. The weather caused poor locomotive performance and delays in the freight car movement cycle in both the Midwest and Northeast. An excessive number of covered hoppers remained on Conrail's lines longer than they should have. Barge operations were more than normally restricted by ice formation.
- 0 In December, explosions destroyed major grain elevators in Westwego, Louisiana, and Galveston, Texas, reducing capacity at the Gulf ports. Rail cars on hand were reshipped to other elevators, and hoppers which were enroute were reconsigned. The Westwego elevator received most of its grain by barge. Since the explosion, some of its business has been shifted to facilities served by rail, creating new demands on the rail system.
- 0 There has been a large increase in the amount of corn being exported through the Pacific ports (part of this has resulted from the elevator explosions). While the amount is still relatively small in comparison with total corn exports, the longer rail shipments are likely to tie up equipment longer.

0 The ICC, carrying out its mission to assure equal treatment for all shippers, has issued Car Service Orders restricting the use of grain cars in unit trains. This has reduced the utilization rate of cars in grain service and thereby reduced total transportation capacity.

The shortage has begun to recede. However, it will almost certainly intensify during the current wheat harvest. Inland waterway operations have returned to normal, and we understand the spot rates for barge transportation have begun to decline from their peaks of more than 350% of the base tariff, indicating that demand is falling. Additionally, most fertilizer movements have been completed, freeing more covered hoppers for grain service.

The situation regarding barge rates highlights the methods the barge industry had traditionally used to smooth out demand for transportation. The spot market rate is now four times higher than it was during the off-peak season last summer. It is extremely difficult for the rail industry to compete with its unregulated competitors. Rail carriers cannot afford to maintain a large enough hopper fleet to cope with the overflow of barge traffic during times of high demand, only to see that fleet stand idle in the off-season, when barges, offering lower rates, attract most of the business.

Recognizing this, Congress included in the 4-R Act a provision designated to encourage the railroads to establish rates based on seasonal, regional or peak-period demand for rail services. The freedom which has been achieved thus far under this provision has been entirely inadequate. Only four demand sensitive rates have been filed, three of these on grain. Two of these provide a clear picture of the failures of this section of the 4-R Act. The Southern Freight Association published a peak-period rate increase of 20% on grain and grain products, to be applicable from September 15 through December 15, 1977. This time period, which includes the Fall harvests, is normally the time of peak demand. However, as discussed above, the export demand and the serious car shortages were most severe during the several months immediately after the peak period rate expired. Water and motor carriers continued to raise their rates as the shortage worsened, while the SFA rate reverted to the lower, off-peak level. In the second case, the Illinois Central Gulf, faced with a growing car shortage resulting from unforeseen and unpredictable causes, unsuccessfully sought ICC approval of a 20% peak period rate increase on one day's notice (to be cancelled when the car shortage receded). The ICG planned to try using the pricing mechanism to allocate the available supply of cars, rather than rationing them. This is precisely what the competing modes do, and they are not required to give even one day's notice.

I would like to mention one other item in connection with grain car shortages. One action which might help to mitigate such shortages somewhat would be to resolve the problems with existing customs regulations which affect the temporary importation of Canadian hoppers into the U.S. Canada's harvest is later than ours, and the railroads have at times leased both cars and locomotives from the Canadian railroads. However, they have found the current customs regulations so burdensome that it is not worthwhile to lease a car on a very short-term basis. I understand that the AAR is working with the Customs Service to resolve these problems. We will be following this and assisting when we can.

RATE FLEXIBILITY

As you know, Senator Cannon has introduced at our request S. 3260, which would re-institute the so-called yo-yo provision of the 4R Act with modifications. This provision, which expired in February, 1978, had allowed carriers to adjust rates up or down by 7% without fear of suspension, unless one of four conditions was found to exist: (1) the rate would violate the anti-discrimination provisions of the Interstate Commerce Act; (2) the applicant had market dominance over the traffic in question; (3) the proposal constituted an unfair or predatory competitive practice; or (4) the proposal was of general, not specific, applicability. Rates could still be investigated by the ICC and could be denied and refunds with interest ordered.

A combination of industry inertia, regulatory lag, and restricted flexibility limited the filings under this two-year experiment. The ICC's regulations defining market dominance did not become final until September, 1977, six months before the provision expired. In addition, the regulations are unrealistic in that they consider only rail-rail competition and ignore consideration of actual and potential competition from other modes. Other provisions of the Act also appeared to offer more freedom on non-market dominant traffic. Specifically, the carriers can increase a rate by more than 7% if they do not violate Sections 2, 3 and 4 of the Act, therefore, filings covering only about 500 specific point-to-point rates were made under the yo-yo provision as of February, 1978.

DOT proposes continuing the provision for five more years, with one modification. We believe that, within the 7% band, market dominance should be omitted as a test for rate flexibility without suspension. This would allow the carrier, rather than the ICC, to make the determination in the first instance whether the rate increase would be lawful even if the carrier were dominant in the relevant market. It is important to realize that our proposal in no way diminishes the ICC's power to investigate and declare unlawfully high any rate increased under the provision. It merely limits the Commission's ability to suspend a protested rate while the investigation is going on. Furthermore, carriers using the provision will be subject to strict accounting procedures

and may be required to rebate, with interest, rate increases found to be illegal. The cost of accounting and refunding payments ultimately declared unlawful will itself act as a deterrent to frivolous use of this provision.

We believe that this modification will allow the carriers to more effectively use the yo-yo provision's experimental flexibility to quickly respond to changed conditions with respect to individual commodities.

That concludes my statement, Mr. Chairman.

STATEMENT OF JOHN M. SULLIVAN, ADMINISTRATOR,
FEDERAL RAILROAD ADMINISTRATION
BEFORE
THE SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE OF
THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
HOUSE OF REPRESENTATIVES
JULY 12, 1978

Mr. Chairman and Members of the Committee:

It is my pleasure to appear today in support of H.R. 11979 and 11981. I believe that the objectives of these pieces of legislation are shared in large part by the Congress, the States, and the railroad industry.

Passage of these bills will improve local rail freight service and aid in the restructuring of the nation's rail system contemplated in the 4R Act. They will enable the States to deal with marginal branch lines that are deteriorating toward total abandonment but which still provide essential local rail freight service. Although many of these lines show the promise of future viability if rehabilitated, their owners do not have the resources to perform the maintenance required to turn the lines around.

H.R. 11979 will provide one time public assistance to rehabilitate the lines, but the lines will remain in the private sector where operation and maintenance will be the responsibility of the railroad owners. It will contribute to the States' overall ability to address local freight problems irrespective of mode--whether to make rail or highway improvements will become a meaningful chore. The bill will also provide tools which, when used in concert with our 4R Act section 401 restructuring powers and our Title V financial assistance authority, as amended by H.R. 11981, will assist our efforts to alleviate the railroad problems of the Midwest.

Changes to the Branch Line Program

The present branch line program limits Federal assistance to branch lines which have been abandoned, either under authority by the Final System Plan or after the ICC has found that the public convenience and necessity no longer require their operation. These lines are generally in very poor physical condition and carry only a minute portion of the nation's rail freight traffic. In many cases their continued operation beyond the time needed for shippers to seek alternate transportation serves no valid purposes.

We believe that the public interest would be better served if the program were aimed at assisting the more valuable branch lines which are still owned and operated by the railroads but which continue to deteriorate because they are not profitable enough to attract private capital for their improvement.

H.R. 11979 meets this problem. It will permit States to assist lines not yet abandoned that are included in State rail plans and that can satisfy public sector benefit/cost criteria established by DOT after consultation with the States. Such assistance would be available for rehabilitation, or for construction of alternate facilities, on lines which the railroads have indicated they either plan to seek permission from the ICC to abandon, or intend to study for future abandonment. The railroads would be required to maintain the rehabilitated line for the useful life of the improvement. On the other hand, only lines which the ICC had permitted to be abandoned would be eligible for operating subsidies, and such assistance could continue for only two years. All presently eligible lines would remain eligible for operating subsidy assistance until September 30, 1981. This includes the

have decided that it could result in their receiving insufficient funds for project purposes. We would not object to a minimum percentage entitlement if it were small enough (for example, one quarter of one percent) so that we do not waste money by sending it to States with no branch line problems. A portion of any guaranteed State grant should continue to be earmarked for planning.

Several States also have expressed a concern that the consolidated planning provision of the bill would result in money for branch line planning, a basically rural issue, being made directly available to Metropolitan Planning Organizations, which operate in urbanized areas. We agree that rail planning can generally be performed more effectively at the State level. Under our consolidated planning fund proposals, the major portion of funds now allocated to States for rail planning would remain with the States for multi-modal transportation planning, including rail planning. States also will be able to use money now earmarked for highway and mass transit planning for rail planning if they so choose. We firmly believe that States and Metropolitan Planning Organizations should have the flexibility to use their planning resources on priority needs, regardless of mode.

Another important provision of the bill is section 10. It would give States the option, in connection with the rehabilitation or improvement of eligible lines, to provide funds to the carrier in the form of either a grant or a loan. If funds were loaned, the State would establish all of the financial terms (including the interest rate, if any, and the conditions for repayment) without Federal control. Repaid funds, together with any

former Title IV lines under the 3R Act and those which have become eligible as a result of ICC action between February 5, 1976, and the date of enactment of this amendment. The new program itself, however, would not end in 1981 but would be an on-going Federal/State transportation effort.

Under the existing program, the Federal share declines over four years from 100 percent to 70 percent. As part of the Department's effort to set a uniform Federal share for State transportation programs to induce rational allocation of scarce resources, the bill would set the Federal share at 80 percent for the life of the program. The 20 percent non-Federal share could be provided through "in-kind" benefits, which, however, would be limited to forgiveness of taxes or the provision of real property or tangible personal property for use in the program. These benefits could be provided by the State or by others, such as shippers or localities, on the State's behalf.

The formula used to allocate funds among the States would be revised to reflect the proposed change in program emphasis. The revised formula would give eligible lines in the private sector two-thirds of the formula weight while lines eligible for post-abandonment aid are weighted at one-third. The present one percent minimum entitlement for each State would be eliminated and instead a minimum grant of \$100,000 for planning purposes only would be provided. I should note that we have received a number of comments from individual States on the elimination of the minimum entitlement. We proposed this change on the basis of the earlier recommendation by the National Conference of State Railway Officials. Some of the States have apparently reconsidered the earlier position, and

interest earned, would remain in the program to be used for further program loans or grants. Funds remaining at the end of any state loan program would be returned to the Government.

We believe the requirement that the Secretary, in consultation with the States, develop a public sector benefit/cost methodology for use in evaluating capital projects is a very important feature of the bill. It not only will ensure uniform treatment of all State applications but it will also guarantee that the funds invested in private corporations provide public benefits and do not simply increase railroad profits. We intend that the criteria will address tangible quantifiable public benefits (including benefits to the local economy such as added or retained employment) and will not be limited to savings to the railroads. We view the criteria as a way of increasing program efficiency similar to the approach utilized by the State of Iowa in that State's own railroad rehabilitation program.

I must emphasize the importance of this bill in dealing with the severe railroad problems we are facing in the Midwest. Our on-going discussions in that area under the authority of section 401 of the 4R Act have emphasized the need for active State participation in the railroad restructuring process. The expanded branch line program will go hand in hand with the Midwestern railroad restructuring process. By giving the States a role in determining which rail services are essential and therefore should be retained, the combined process will ensure the best expenditure of private and public funds. It may be possible to provide the States even greater ability to aid in the restructuring process, through use of program funds for projects which will facilitate a merger, consolidation or coordination proposal of mutual benefit to the carriers and the public.

Railroad Restructuring Under Section 401

I would like to report to you on our progress in implementing section 401 and Title V of the 4R Act. A significant amount of activity is under way and a lot is about to happen. Minor changes to our Title V programs are included in H.R. 11981.

We must understand that dealing with uneconomical rail branch lines falls short of solving the serious problems which affect the railroad industry. One way to improve the industry's cost structure is to restructure the system. Section 401 of the 4R Act encourages solutions to the basic problems of the railroad industry by allowing the Secretary of Transportation to assist the industry in self-help measures. The section permits the Secretary to foster communication, both public and private, between railroads, shippers, public officials and other interested parties in order to achieve the objectives of the section.

After the Milwaukee Railroad bankruptcy in December, Secretary Adams initiated a 401 conference to address some of the problems which have caused two Midwestern railroads to go bankrupt. In the last six months, extensive communication between interested parties, including railroads, State and local officials, shippers and rail labor has occurred. We have discussed the problems besetting the railroads serving the Midwest, and we have jointly considered the range of possible solutions. The single most frequently cited problem has been the overbuilding of the rail network in that region of the country. We are investigating changes such as coordinated main line operations, new trackage rights agreements, coordinated yard and terminal operations, and coordinated abandonments. We feel these are all

appropriate ways of reducing duplicate rail facilities, while still providing essential rail service.

In June, the Secretary announced tentative agreements, reached under the 401 process, between the Chicago and North Western Transportation Company and the Milwaukee Road. The subjects of the agreements are projects involving the withdrawal of one of the two carriers from certain markets where there is insufficient traffic to support the economic operation of both railroads, and a trackage-rights agreement which will permit the Milwaukee to abandon a section of track without abandoning service to its shippers.

The North Western will withdraw from Dubuque, Iowa and Red Wing, Minnesota; the Milwaukee will operate over the North Western's line between Green Bay and Marinette, Wisconsin; and the Milwaukee will withdraw from Rapid City, South Dakota.

The benefits from these projects are substantial: nearly 330 miles of track can be abandoned, saving \$42 million in prospective rehabilitation costs and \$2 million in excess annual maintenance and operating expenses. At the same time, shippers in the affected communities will be served by stronger lines.

While these projects by themselves might not be of startling magnitude, they break new ground in addressing critical issues which face the railroad industry. I believe that the planning process we have undertaken in the Midwest can, and will, succeed in dealing effectively with the need to reduce redundant facilities by decisions made in the private sector while providing improved railroad service to this important area of our country.

Title V Assistance

I would like to report to you on the progress which has been made in the Title V programs for financial assistance to the railroads. To date, \$62 million has been obligated under section 505, the low-cost preference share program, and \$42 million has been obligated in loan guarantees. We are close to approving several new agreements which will amount to more than \$250 million. These funds will be used to start some new projects and to continue track work which was begun in 1977. By the end of the calendar year we anticipate signing additional agreements which will bring total obligations to over \$450 million.

Railroads which have received assistance are: the Missouri-Kansas-Texas, the Milwaukee, the Illinois Central Gulf (ICG), the Chicago & North Western (C&NW) and the Columbus and Greenville. Additional requests are pending from the Milwaukee, the Boston and Maine (B&M), the CNW, the ICG and the Rock Island. In addition, the Louisville and Nashville Railway has advised FRA that it is considering the filing of an application for track rehabilitation assistance after October 1.

The C&NW project will be especially important to our restructuring effort because it will combine the benefits of a major rehabilitation of an important east-west mainline system with savings to be generated by separate coordinations with two other railroads. The project will involve traffic coordination and track consolidations with the Milwaukee Railroad over a 135 mile stretch between Clinton and Tama, Iowa, and with the ICG between Council Bluffs and Denison, Iowa. The lines will carry substantial traffic density and will result in significant service improvements and

cost savings for the three railroads involved. The C&NW has actually started work on the project under an arrangement which permits certain costs now being incurred to be reimbursed once a formal agreement has been signed.

We are also in the final stages of detailed project-specific negotiations with the B&M Railroad. The ICC's recent decision on B&M's plan to reduce its debt through a \$33 million tender offer will enable us to resolve any question of adequate security. We expect to sign an agreement shortly.

I am pleased to say we have also reached agreement in principle with the Milwaukee on \$50 million for car and locomotive repair and track rehabilitation. The Trustee received the approval of the reorganization court on July 7, and has begun incurring certain costs which will be reimbursed after the signing of the formal agreement this month. Processing of the ICG application for major track rehabilitation is following slightly behind the others, but we hope to sign an agreement with that railroad by the end of the fiscal year. The agreement will provide funding over the next two years to continue the track rehabilitation work which we are funding during this work season.

In addition to these agreements and pending applications, we have offered the Rock Island \$33.5 million for equipment rehabilitation and anticipate that a loan guarantee agreement will be consummated soon after a July 17 court hearing. The Rock Island's Trustee is also discussing with us his application for up to \$50 million of track work to stimulate a major track consolidation, and those discussions are continuing.

In the latter regard, we have sought to develop a security arrangement with the Rock Island which will protect the Federal Government and will also be

acceptable to the bankruptcy court. Because of anticipated continuing annual deficits, we thought it necessary to propose a special approach to the security problem. One of the options we have proposed to the Trustee is that segments of the Rock Island's track system linking Kansas City and the Quad Cities, and possibly other properties, be separated from the estate into a new corporation. This would facilitate the consolidation of the operation of two or three railroads into a single rehabilitated trackage system.

It may still be possible to find a way to reach an agreement with the Rock Island within the statutory requisites of the Title V program, and we are working with Rock Island management toward that end. We believe it is important to have a rehabilitated line linking the grain belt and the Chicago Gateway with Kansas City, but we must continue to insist on adequate security for the Government's investment, as required by the 4R Act.

It is also essential that a rehabilitated property in this market be open to use by other carriers operating in the area. I am increasingly convinced that consolidated and improved yards at Des Moines and Kansas City should be part of a rehabilitation plan.

Track consolidation and traffic coordination projects such as those I've just discussed are one facet of our total rail assistance effort. The Title V programs, the section 401 restructuring authority, and the expended branch line program proposed in the bill before this Committee are complementary. Each will contribute to the physical restructuring of the rail industry and thus serve the goal of safe, efficient, and profitable rail service in the private sector. The branch line assistance program,

in particular, should provide the flexibility needed by State governments to aid the rehabilitation of valuable local freight lines before they deteriorate to the point of abandonment. Careful selection of lines to be upgraded on the one hand, coupled with abandonment of nonessential lines on the other, will be an important part of future rail restructuring efforts.

This concludes my prepared statement, Mr. Chairman. I would be pleased to answer any questions.