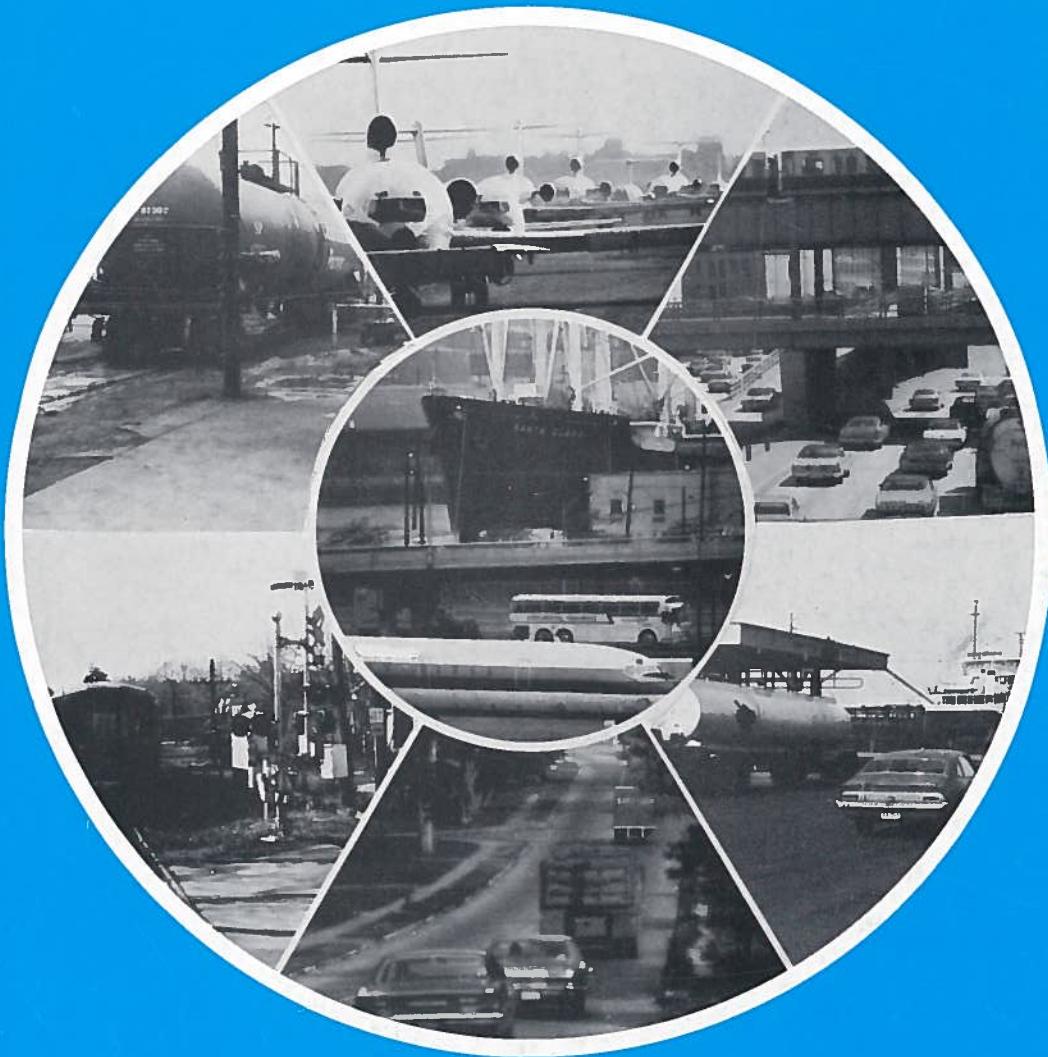




U.S. Department
of Transportation
**Research and
Special Programs
Administration**

Transportation Safety Information Report 1982 Annual Summary



Transportation Systems Center

Technical Report Documentation Page

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16. Abstract The "Transportation Safety Information Report" is a compendium of selected national-level transportation safety statistics for all modes of transportation. The report presents and compares data for transportation fatalities, accidents, and injuries for the current and preceding years. The report is based on data input to the Transportation Information Safety System (TRANSIS) by representatives in each of DOT's modal administrations and the National Transportation Safety Board. Featured in this report is the annual summary of modal safety hazards and safety program highlights for 1982, as well as summary charts detailing modal safety trends from 1972-1982. It should be noted that 1982 data are not yet available for selected tables and graphs.			
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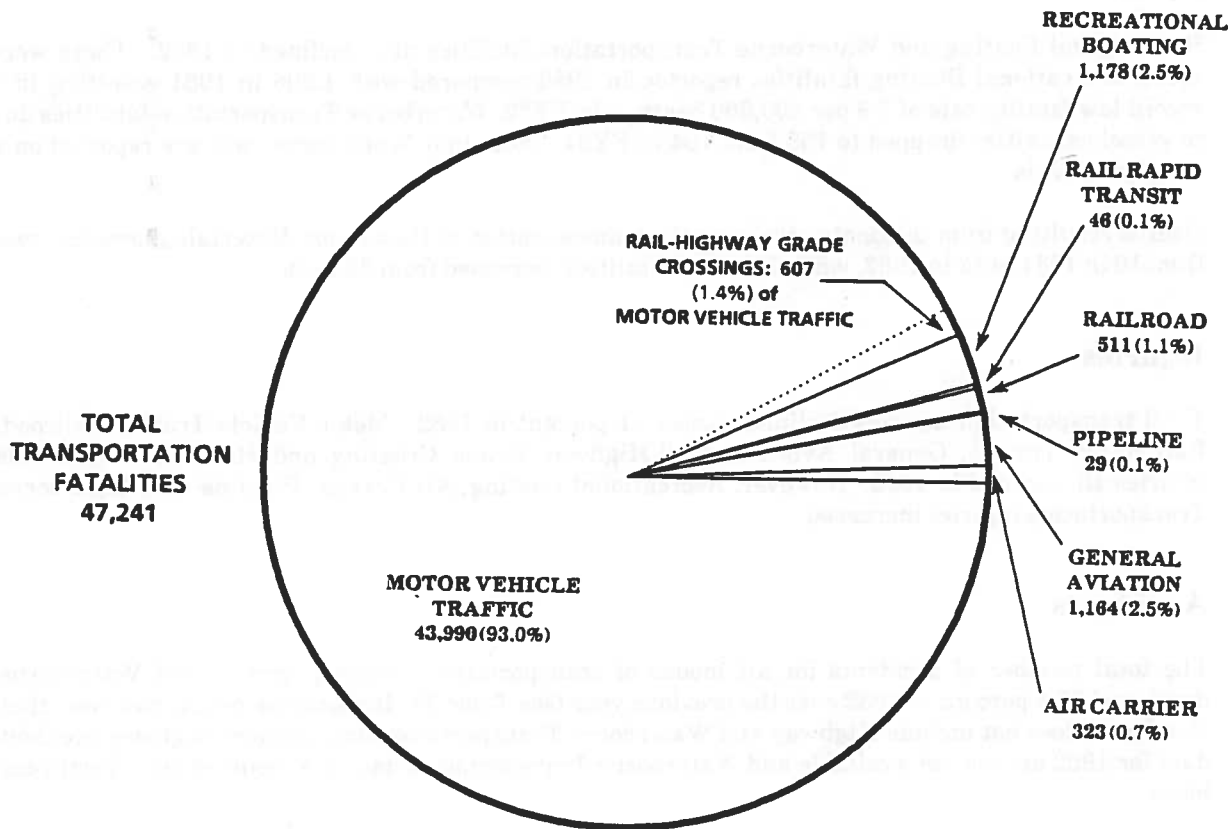
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SUMMARY STATISTICS OF TRANSPORTATION SAFETY

- o Total Transportation fatalities declined in 1982 to 47,241 from 52,608 in 1981, a decrease of 10.2 percent.
- o Motor Vehicle Traffic, Railroad, Rail-Highway Grade Crossings, General Aviation, Recreational Boating, Waterborne and Rail Rapid Transit all experienced a decline in fatalities in 1982. At the same time, Air Carrier, Pipeline and fatalities resulting from Hazardous Materials operations increased.
- o Injuries dropped in the Motor Vehicle Traffic, Railroad, General Aviation, Rail Rapid Transit, Hazardous Materials and Rail-Highway Grade Crossing modes in 1982, while increasing in Air Carrier, Recreational Boating, Pipeline, and Waterborne Transportation.
- o The total number of Motor Vehicle Traffic accidents was not available for 1982. However, the Railroad, Air Carrier, General Aviation, Pipeline, Rail Rapid Transit, Hazardous Materials and Rail-Highway Grade Crossing modes all experienced a decline in the number of reported accidents in 1982, while accidents in Recreational Boating and Waterborne Transportation increased.

CHART 1. TRANSPORTATION FATALITIES*, 1982



* Does not include Waterborne Transportation fatalities.

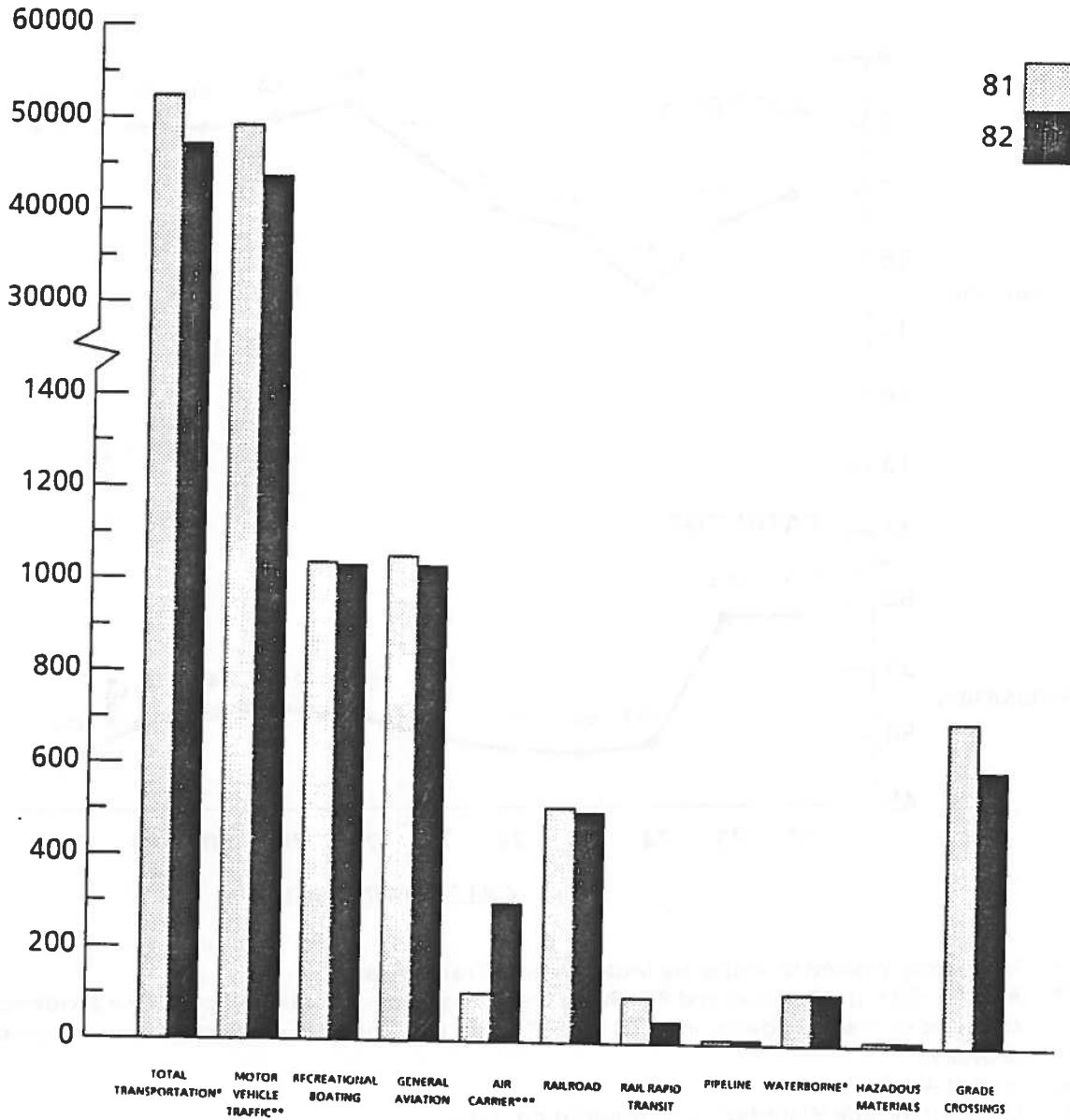
In 1982, accidents decreased in all modes for which there are data, except Recreational Boating and Waterborne Transportation. There were 182 accidents reported in 1982 for Air Carriers compared with 213 in 1981. Rail Rapid Transit accidents dropped to 3,759 in 1982 from 6,271 in 1981, a 40 percent decrease.

In the other modes, General Aviation accidents decreased 6.5 percent, and the number of Pipeline accidents decreased 1.3 percent. Reported incidents involving the transportation of Hazardous Materials also dropped from 9,165 in 1981 to 6,487 in 1982, a 29.2 percent decrease. Railroad accidents totaled 41,882 in 1982 compared with 55,002 in 1981, a 23.9 percent decline; while Rail-Highway Grade Crossing accidents totaled 7,763 in 1982, a 16.5 percent decrease over the same period a year earlier.

In the only two modes in which accidents increased in 1982, Recreational Boating accidents rose from 5,208 to 5,377, a 3.2 percent increase, while in FY82, Waterborne Transportation accidents totaled 5,414 compared to the FY81 total of 5,217, a 3.8 percent increase.

CHART 2.

TRANSPORTATION FATALITIES BY MODE 1981-1982



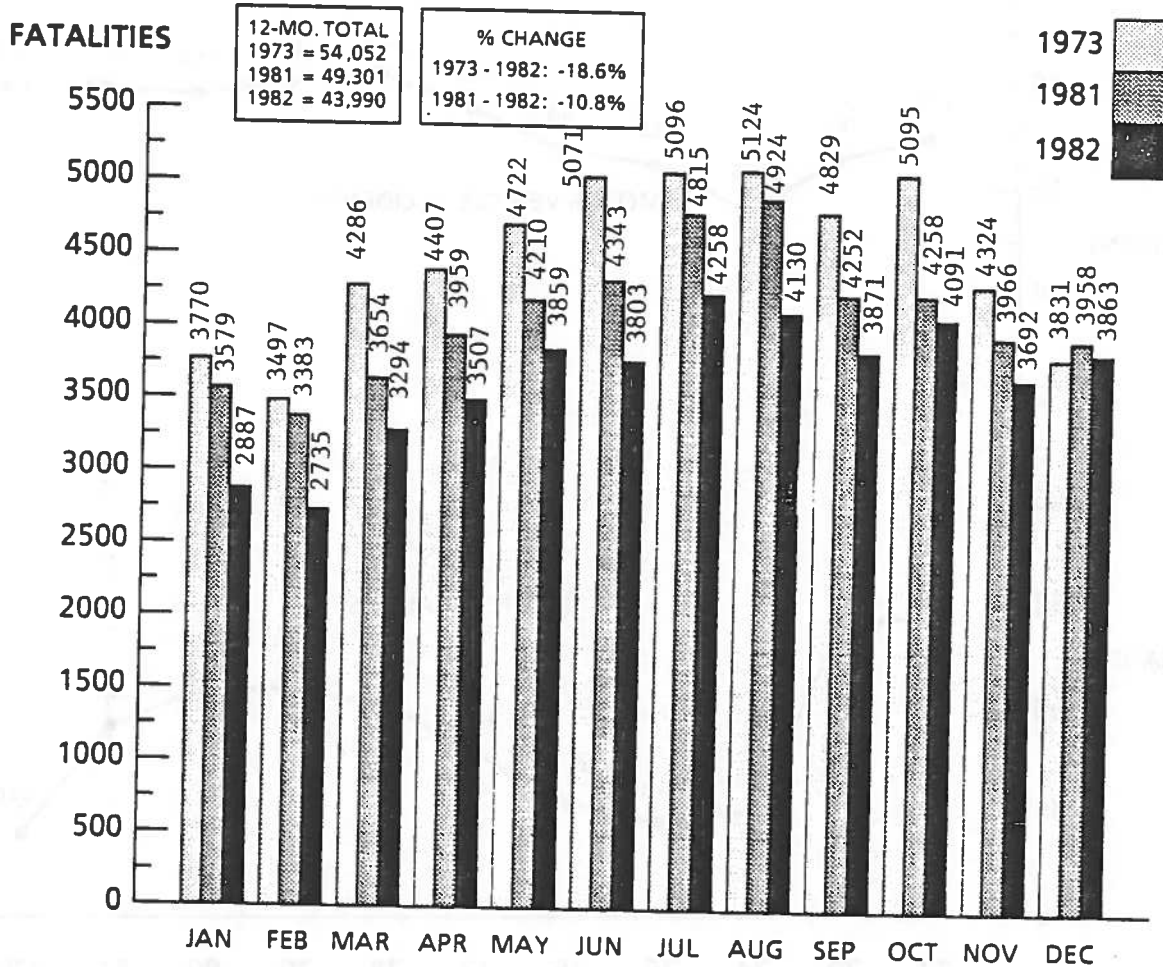
- NOTE: Data for individual modes are shown on Table 1. 1982 Data are preliminary.
- * Waterborne fatalities (reported on a fiscal year basis) are not included in Total Transportation figures.
 - ** Traffic fatalities are NHTSA's estimates based on a 30-day definition (see Glossary).
 - *** Air Carrier includes Commuter Carriers and Air Taxi.

HIGHWAY

- o Motor vehicle traffic fatalities in the U.S. experienced a significant 10.8 percent decrease during 1982 as compared to the prior year. The total of 43,990 fatalities in 1982 was the lowest since 1963.
- o Preliminary estimates of travel show a small 1.2 percent increase during 1982. The resulting fatality rate decreased almost 12 percent to a value of 2.8 deaths per 100 million vehicle miles of travel which is the lowest value on record.
- o The number of licensed drivers increased 22.6 percent from 1973 to 1982. The number of registered vehicles increased 23.4 percent during the same period.
- o Occupants of passenger cars account for more than one-half of the total fatalities in 1982. They showed a 13 percent overall decrease compared to 1981 and preliminary data indicate a decrease in every passenger car size, except compact models which increased only 0.1 percent.
- o Non-occupant fatalities declined 9.5 percent in 1982 while occupants of all vehicles dropped 11.1 percent.

CHART 4.

MOTOR VEHICLE TRAFFIC FATALITIES BY MONTH 1973, 1981 AND 1982

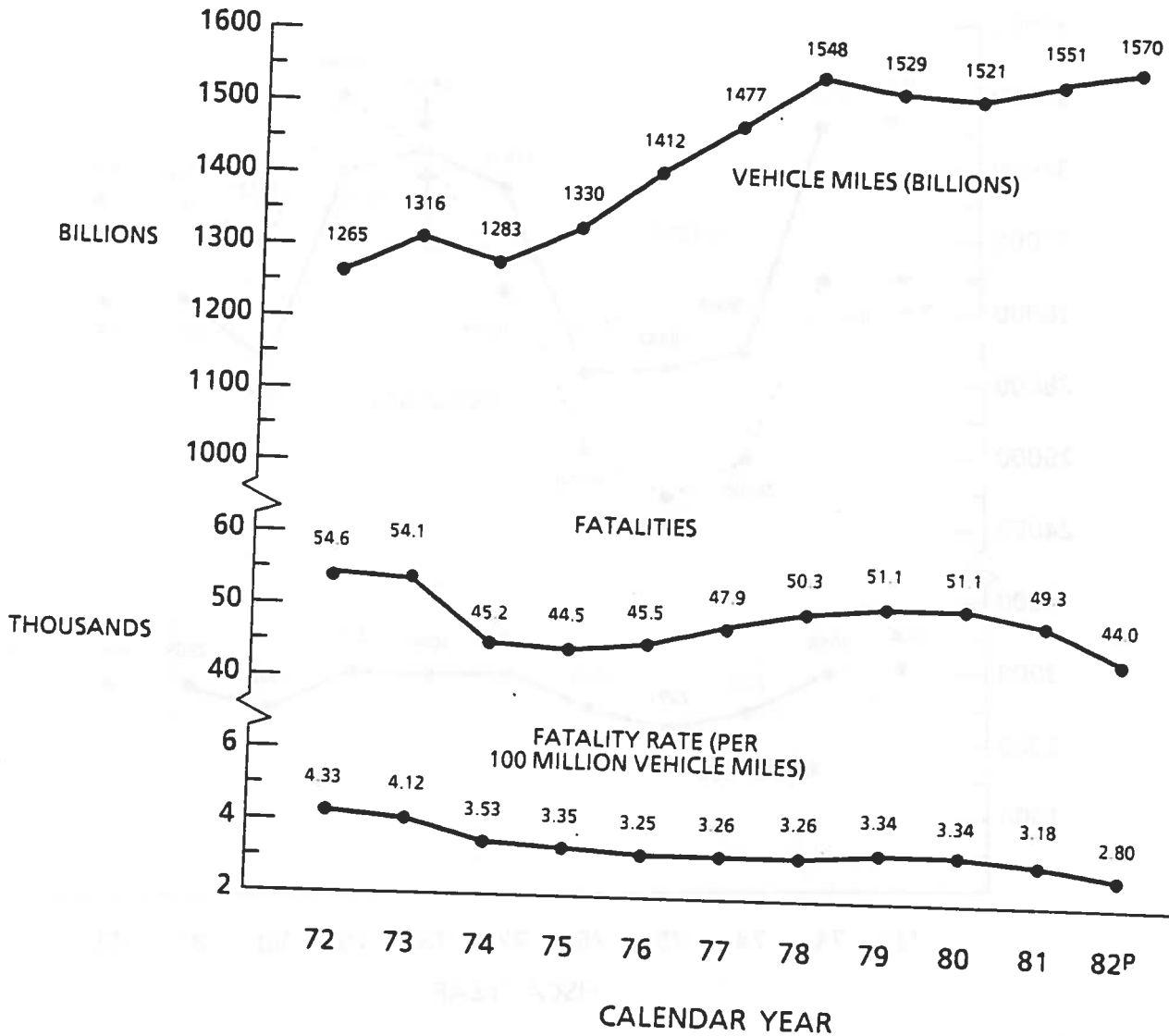


NOTE: Figures are based on 30-day fatality definition (see Glossary).

SOURCE: 1973 Data from State Annual Summaries (adjusted to 30-day definition).
 1981 Data from NHTSA's Fatal Accident Reporting System (FARS).
 1982 Data are estimates from FARS.

CHART 6.

MOTOR VEHICLE TRAFFIC FATALITY RATES 1972 - 1982



P = Preliminary, NHTSA.

N.A. = Not Available.

NOTE: Fatalities in this chart are based on a 30-day definition, and include 50 states and the District of Columbia.

SOURCE: 1972-1974 Fatalities, State Annual Summaries (Adjusted to 30-Day Definition).
1975-1982 Fatalities, NHTSA, Fatal Accident Reporting System (FARS).
Vehicle-Mile Data is from FHWA, Office of Highway Planning.

TABLE 3. FATAL ACCIDENTS BY POSTED SPEED LIMIT, 1980 - 1982

	1980	1981	1982*	% Change 1980-82	% Change 1981-82
Under 55 MPH					
0-25 MPH	2,865	2,532	2,137	-25.41	-15.60
26-35 MPH	8,527	7,868	7,331	-14.03	-6.83
36-45 MPH	6,256	6,104	5,757	-7.98	-5.68
46-54 MPH	2,431	2,322	1,988	-18.22	-14.38
Total Under 55	20,079	18,826	17,213	-14.27	-8.57
55 MPH	20,352	19,913	19,235	-5.49	-3.40
Unknown	4,853	5,261	2,668	-45.02	-49.29
Total	45,284	44,000	39,116	-13.62	-11.10

* Preliminary.

SOURCE: NHTSA, FARS.

TABLE 5. MOTOR CARRIER* FATALITIES, ACCIDENTS, AND INJURIES, BY TYPE OF CARRIER, 1976-1981

CLASSIFICATION	1976	1977	1978	1979	1980	1981
Motor Carriers of Property						
Fatalities	2,520	2,983	2,998	3,072	2,528	2,810
Accidents	25,666	29,936	33,998	35,541	31,389	32,306
Injuries	26,794	31,698	32,757	32,126	27,149	28,533
Motor Carriers of Passengers						
Fatalities	62	87	68	60	74	95
Accidents	624	830	728	719	748	832
Injuries	1,723	1,929	1,917	1,977	1,711	2,041
All Motor Carriers						
Fatalities	2,582	3,070	3,066	3,132	2,602	2,905
Accidents	26,290	30,766	34,726	36,260	32,137	33,138
Injuries	28,517	33,627	34,674	34,103	28,860	30,574

* Includes only those motor carriers operating in interstate or foreign commerce.

SOURCE: FHWA, Bureau of Motor Carrier Safety.

TABLE 7A. TREATMENT ADMINISTERED TO SURVIVING ACCIDENT-INVOLVED PEOPLE, 1979-1981 ANNUAL AVERAGE

	Number	Percent
Persons Hospitalized	433,600	2.6
Persons Treated and Released at Emergency Room	1,315,300	7.8
Persons Receiving No Treatment	14,718,300	87.3
Persons Receiving Other Treatment ¹	387,100	2.3
Total	16,854,300	100.0

¹ Private physicians or outpatient clinics other than emergency rooms.

TABLE 7B. HOSPITALIZATION INCURRED BY SURVIVING ACCIDENT-INVOLVED PEOPLE 1979-1981 ANNUAL AVERAGE

Injury Severity	Persons ¹	Days ²	Average Days Lost Per Injured Person
Minor and Moderate (A.I.S. 1,2)	3,190,200	1,842,200	0.6
Serious and Severe (A.I.S. 3,4)	153,000	2,098,200	13.7
Critical and Maximum (A.I.S. 5,6)	8,600	369,200	42.9
Total	3,351,800	4,309,600	1.3

¹ Persons with unknown number of days hospitalized are calculated using average number of days for each injury level.

² Assumes all persons with greater than 31 days hospitalized as follows:

Number of days assumed hospitalized

AIS 1	34.73
AIS 2	45.00
AIS 3	54.40
AIS 4	59.04
AIS 5 and 6	67.86

SOURCE: NHTSA, National Center for Statistics and Analysis (NCSA).

**TABLE 9. ACCIDENTS CLASSIFIED BY TYPE OF VEHICLE
OR PERSON INVOLVED**

1981

	Number of Accidents¹	Percent of Total Accidents²
Pedestrians	160,500	2.5
Pedalcycle	64,500	1.0
Motorcycle	186,800	2.9
Passenger Car		
Non-Towaway	3,614,400	56.0
Towaway	1,941,400	30.1
Light Truck or Van		
Non-Towaway	1,101,400	17.1
Towaway	319,700	5.0
Medium and Heavy Truck	336,300	5.2
Trucks - Unknown Weight	33,800	0.5
Other Motor Vehicles	255,100	4.0
Unknown Vehicle Type ³	224,700	3.5
Total Accidents	6,457,000	

¹ Categorical numbers do not sum to the total because an accident is counted for each type of vehicle or person involved. For example, an accident in which a passenger car strikes a heavy truck and is towed from the accident scene is listed once under "Passenger Car - Towaway" and once under "Medium and Heavy Truck."

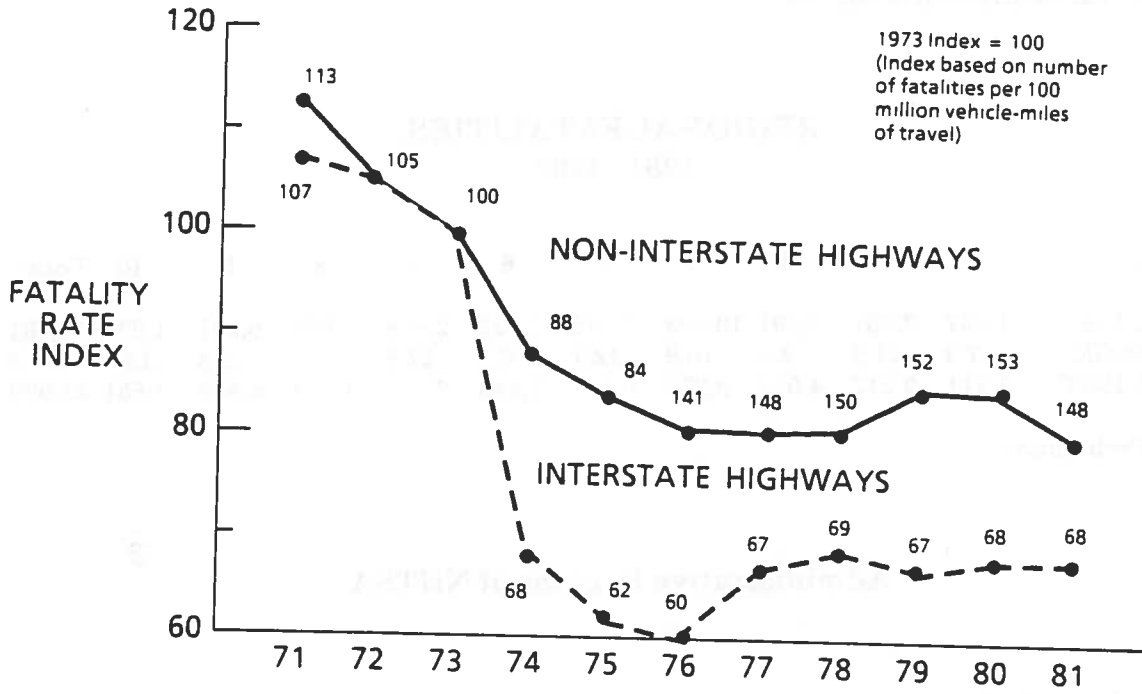
² Percent of the total number of accidents. Total categorical percents exceeds 100 (See footnote above).

³ Vehicles of unknown type arise in this classification because of hit-and-run accidents and similar reporting problems.

SOURCE: NHTSA, National Center for Statistics and Analysis (NCSA).

FIGURE 2.

FATALITY RATE TRENDS, 1971 - 1981



SOURCE: FHWA, Office of Highway Safety.

SAFETY PROGRAM HIGHLIGHTS

National Safety Belt Usage Promotional Program (National Statistics)

- o On April 14, 1982, the White House announced its Safety Belt Awareness Campaign. During the past year, survey evidence indicates that there has been a significant increase in awareness of safety belt use advertisements. Before the White House campaign, 52 percent of those surveyed were aware of safety belt advertisements. After the White House announcement, the survey indicated that from May 1982 through February 1983, an average of 61 percent were aware of the advertisements, with a peak of 65 percent in January.
- o Preliminary data indicates a positive movement in public attitude changes toward the use of safety belts. (Example: "If you drive defensively, you don't have to wear your safety belt." The number of people who strongly disagree with this statement has increased from 40 percent in October 1981 to 57 percent in February 1983.)
- o The national safety belt usage rate for drivers, based on a survey of 19 cities has increased from 11.4 percent in 1981 and most of 1982 to 13.6 percent during the latter part of 1982 and the early part of 1983. Passenger data is currently being collected but it appears that usage will increase to 10 percent from the present 7 percent.
- o The utilization of child safety seats during the latest usage survey (December 1982 - February 1983) indicated that 37% of all infants and 25% of all toddlers were secured.
- o Examples of State, Community, and corporate efforts to promote safety belt usage are given below.

State and Community Accomplishments

- Occupant Protection Obligations - Section 402 Funds increase continues.

Fiscal Year	Amount	% of NHTSA Total
1979	\$3,534,000	2.1
1980	\$4,721,000	2.5
1981	\$5,116,000	3.0
1982	\$3,714,000	4.0
1983 (Planned)	\$6,932,000	7.7

- Child Restraint Legislation has passed in 26 States and DC (as of 3/30/83); 6 of those this year.
- Safety Belt Use Legislation has been proposed in 13 States.
- New York will administratively require safety belt usage under all provisional licenses issued.
- San Antonio, Texas

A coalition of civic, business, and government leaders known as CARS (Community for Automobile Responsibility and Safety) has embarked on a community-wide outreach program in safety belts and alcohol.

DOT Incentive Program

- At the DOT Headquarters Building, the base usage rate of 23 percent was increased to 43 percent after employee involvement in an education program and there was a further increase to 47 percent after a one-week incentive program.

SOURCE: NHTSA.

Rail-Highway Grade Crossing Improvements

In 1973, there were 1,077 fatalities associated with motor vehicle accidents at rail-highway grade crossings. In that same year the Rail-Highway Crossings Program was established to provide funds for flashing light signals, automatic gates, grade separation, and other safety improvements at the most hazardous grade crossings. As of September 30, 1982, almost 14,500 hazardous crossings had been improved throughout the United States. Fatalities decreased to 623 in 1981, a reduction of 42 percent from the number of fatalities in 1973. Crossings where improvements were made showed fatality reductions of about 70 percent.

Although crossings remain that are in need of improvement, progress since 1973 has been such that less than 1.5 percent of all fatalities are now associated with rail-highway grade crossing accidents. Only about 4 percent of the public crossings experience an accident of any kind in any one year.

SOURCE: FHWA, Office of Highway Safety.

Highway Information Systems

The FHWA provides technical assistance to States to encourage and suggest improvements in their highway information safety systems. State information systems can be used to assist State program managers in establishing project priorities. An integrated highway information system can link highway inventory data, highway traffic volume data and highway traffic accident data.

In 1982, two State highway information systems were reviewed to document information which encourage improvements in highway information systems of other States. Overviews of these two systems and updates of five other State highway information systems reviewed in 1981 were combined in a report titled, "A Synopsis of Seven Integrated Highway Information System." This report was distributed in March 1982, and some findings include:

- o All States use their systems to identify high accident locations and establish project priorities.
- o Some States use high accident locations as a defense in tort liability cases.
- o All States were more efficiently able to meet general and specific accident reports analyses.
- o All States were more efficient in producing routine and special State accident reports analyses.
- o States do not use their systems to determine hazardous elements to identify Statewide highway safety problems.

The major problems these five States encountered in implementing these systems were:

grants under section 408 will be awarded on a sliding matching scale, reimbursing a State for up to 75 percent of the costs of its drunk driving program during the first year of the award, up to 50 percent during the second year, and up to 25 percent during the third year.

The bill provides the incentive grant program with contract authority and authorizes \$25 million for FY 1983 and \$50 million each year for FY 1984 and 1985. The program is not subject to the obligation limitation on "State and Community Highway Safety Programs" contained in annual Departmental appropriations unless the appropriation specifically includes section 408 within the limitation. Under the terms of the bill, the Department must conduct a rulemaking to implement the basic requirements and to decide the content of the supplementary requirements. The agency published a proposed rule on November 1, 1982, and the final rule on February 1, 1983. These rules became effective by statute February 7, 1983, except the supplementary requirements became effective by statute on April 1, 1983.

National Driver Register

Title II requires the upgrading of the National Driver Register (NDR), in existence since 1960 and designed to list and identify drivers whose licenses have been suspended or revoked as a result of serious driving violations. Under the new law, the NDR will rely on advanced computer technology so that information on bad drivers can be exchanged between States in a matter of minutes rather than the one to two weeks required with the present system. The new system will operate as a "pointer" system. Inquiries from States to the NDR will be routed electronically, or "pointed," to the State where an adverse driver's record exists. Because of its complexity, the system will be established in four States on an experimental basis. This pilot test is scheduled to commence in the spring of 1985 and will continue for one year, at which time the results will be evaluated and a report prepared and sent to Congress. The law also establishes a National Driver Register Advisory Committee to advise the Secretary on the effectiveness and efficiency of the NDR.

SOURCE: NHTSA.

Cargo Tank Integrity Program

In consonance with its hazardous materials modal responsibilities, the Federal Highway Administration's Bureau of Motor Carrier Safety (BMCS) is continuing its long-range Cargo Tank Integrity Program which was initiated in 1975.

Due to the results of the recent MC-305 and 306 cargo tank research, it was determined to continue the evaluation of cargo tanks and the accident/product retention problem to the next most widely used series of cargo tanks. These are the MC-330 and 331 cargo tanks which primarily are used for the transportation of compressed gases. The contract is scheduled for completion in June 1983.

Recently the BMCS awarded a contract to Dynamic Science, Inc., of Phoenix, Arizona, to conduct a study entitled "Integrity of MC-307/312 Cargo Tanks." This study is the third in a series of studies designed to evaluate the integrity of cargo tanks presently authorized by regulations for the transportation of hazardous materials in bulk. The MC-307 type cargo tank is typically used by the petrochemical industry for the transportation of flammable liquids. The MC-312 type cargo tank is typically used for the transportation of corrosive liquids. The maintenance of cargo tank integrity is imperative to prevent product loss which could result in catastrophic effects to life, property and the environment.

SOURCE: FHWA, Bureau of Motor Carrier Safety.

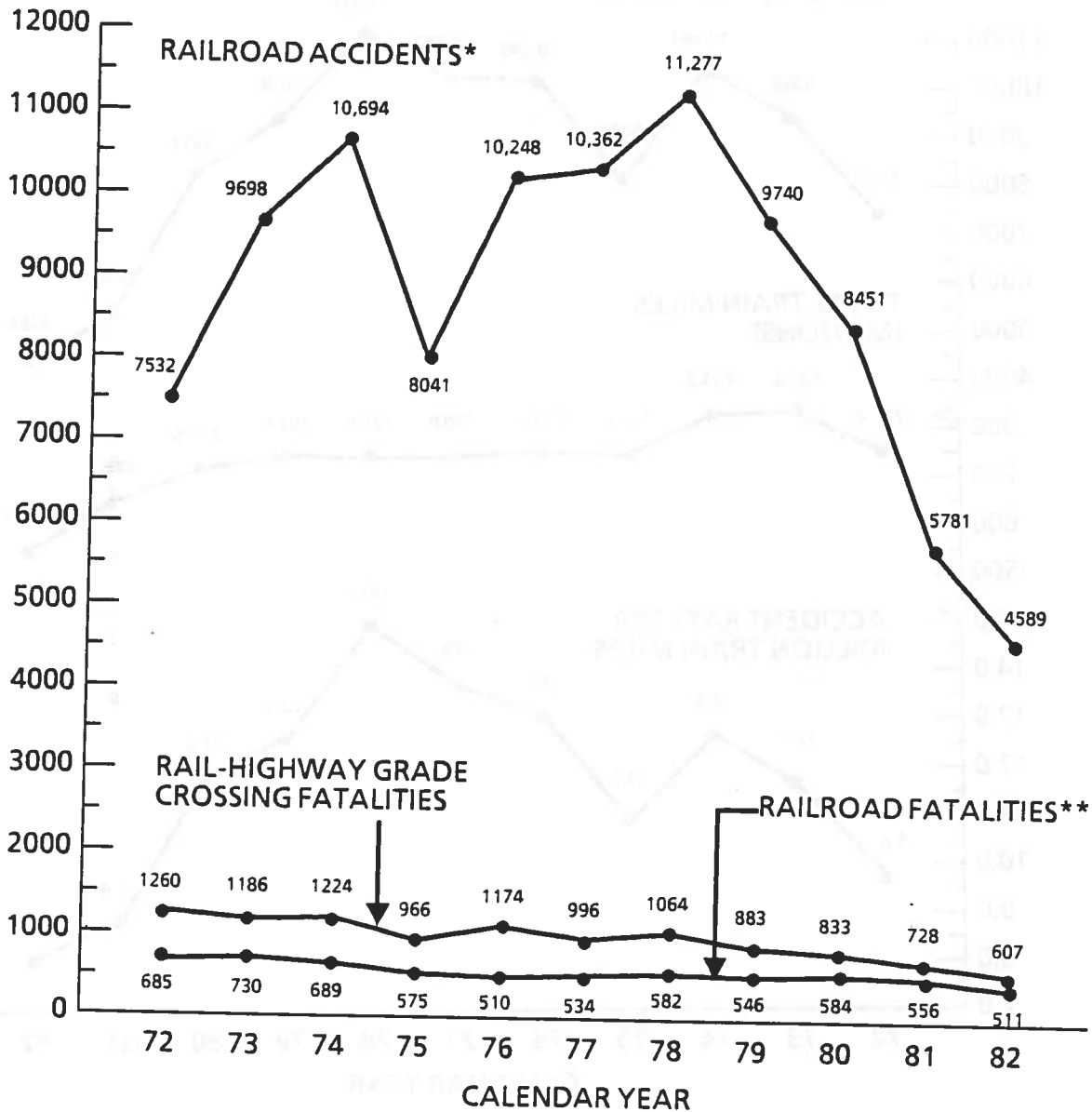
4. Develop a course which identifies and applies microcomputer technology to local highway safety improvements. The development and implementation of microcomputer technology in the many cities and counties has created a need for this information.

Additional information on the survey results is provided in the report entitled "1982 Highway Safety Training Needs Survey."

SOURCE: FHWA, Office of Highway Safety.

CHART 8.

RAILROAD ACCIDENTS AND FATALITIES AND RAIL-HIGHWAY GRADE CROSSING FATALITIES 1972 - 1982



* Train accidents only--also includes those Rail-Highway Grade Crossing accidents which have been classified as Train accidents.

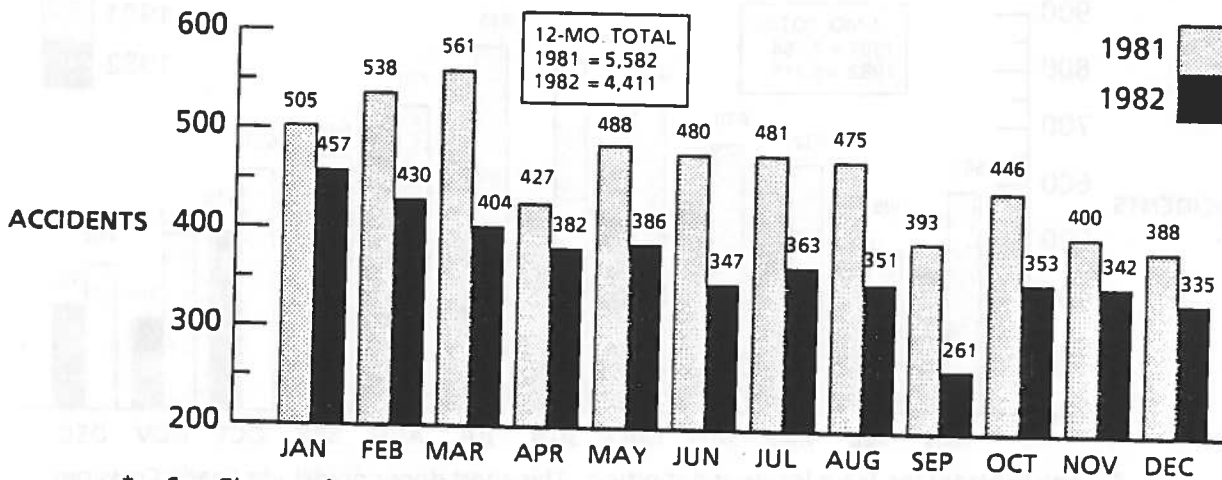
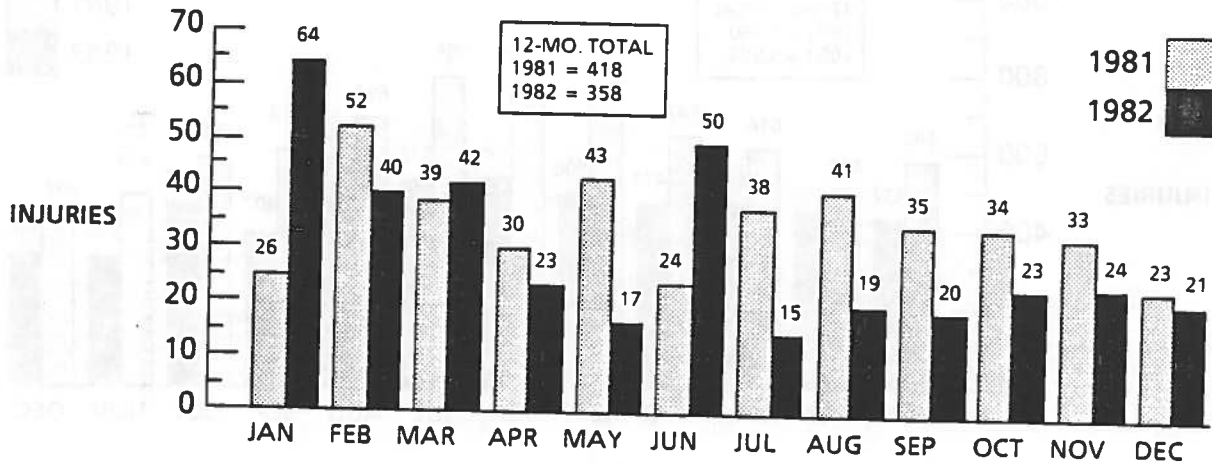
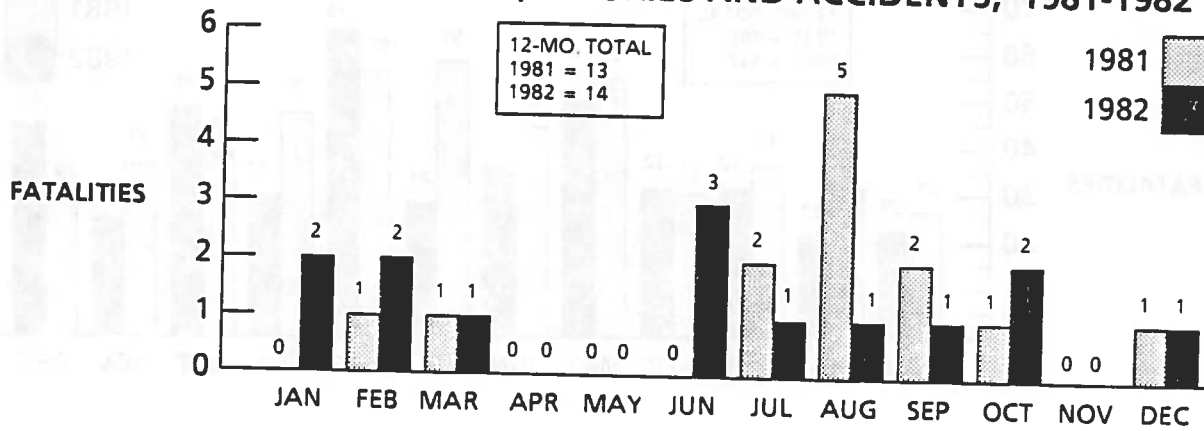
** Fatalities resulting from Train accidents, Train incidents and Nontrain incidents.

NOTE: Reporting threshold for Train accidents was raised from \$750 to \$1,750 in 1975, to \$2,300 in 1977, to \$2,900 in 1979 and to \$3,700 in 1981.

SOURCE: FRA, Office of Safety Analysis, RRS-20.

CHART 10.

TRAIN ACCIDENT*, FATALITIES, INJURIES AND ACCIDENTS, 1981-1982

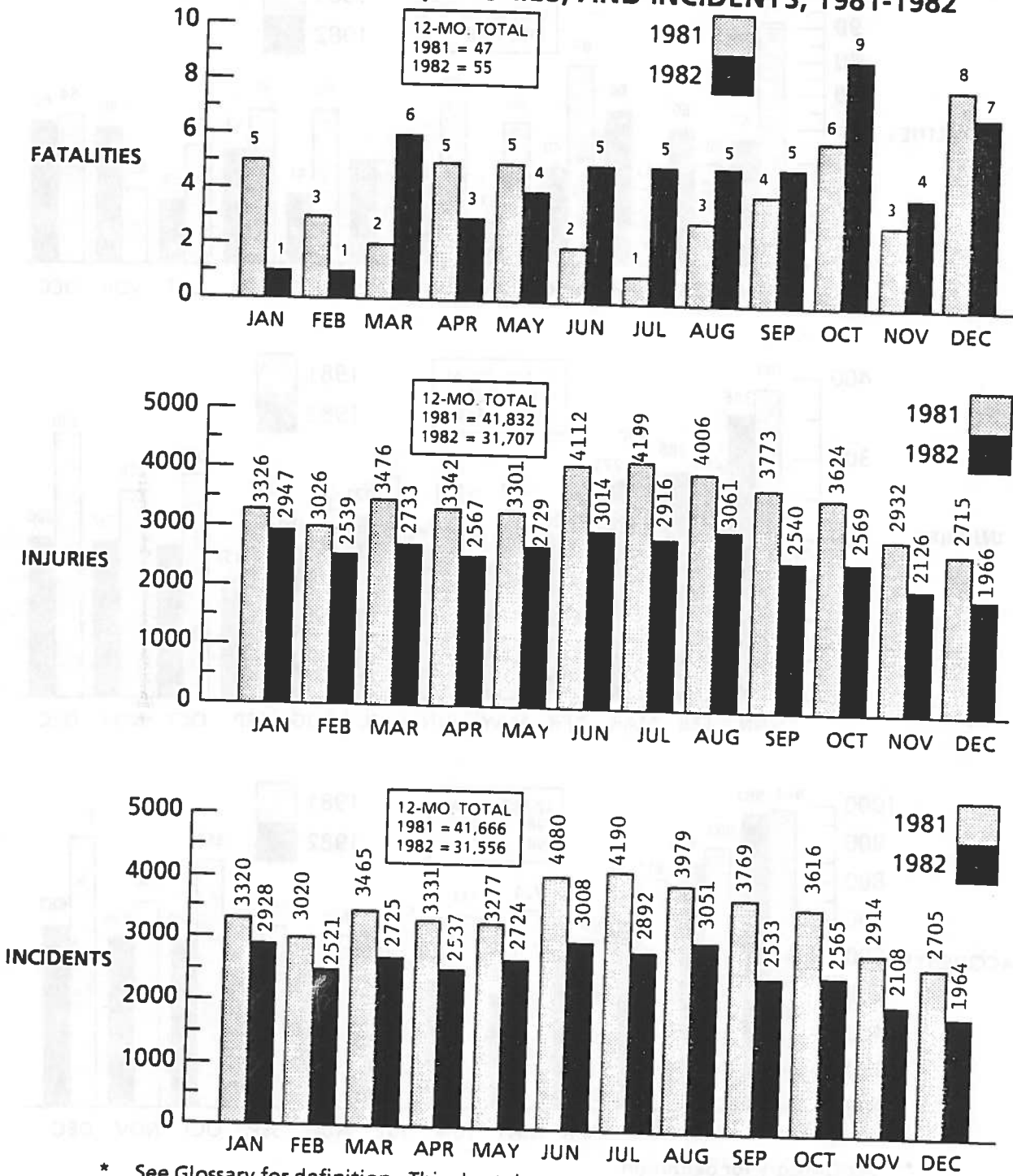


* See Glossary for Train Accident definition. This chart does not include Grade Crossings.
 NOTE: 1982 Data are preliminary.

SOURCE: FRA, Office of Safety Analysis, RRS-20.

CHART 12.

NONTRAIN* FATALITIES, INJURIES, AND INCIDENTS, 1981-1982

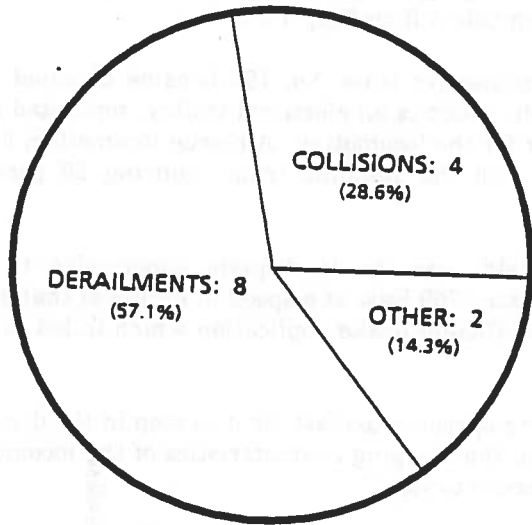


* See Glossary for definition. This chart does not include Grade Crossings.
 NOTE: 1982 Data are preliminary.

SOURCE: FRA, Office of Safety Analysis, RRS-20.

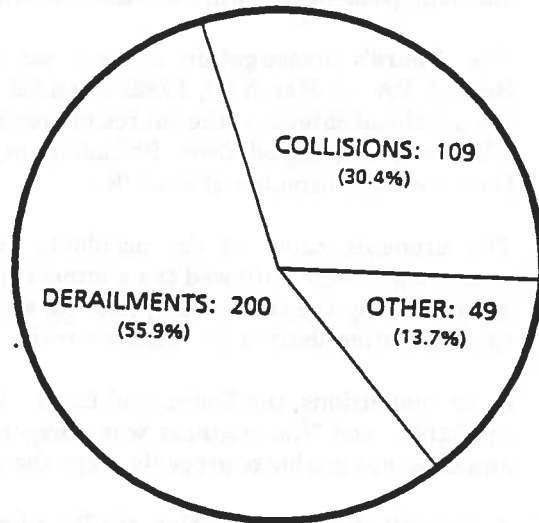
CHART 14.
TRAIN ACCIDENT* FATALITIES, INJURIES, AND
ACCIDENTS BY TYPE, 1982

Fatalities



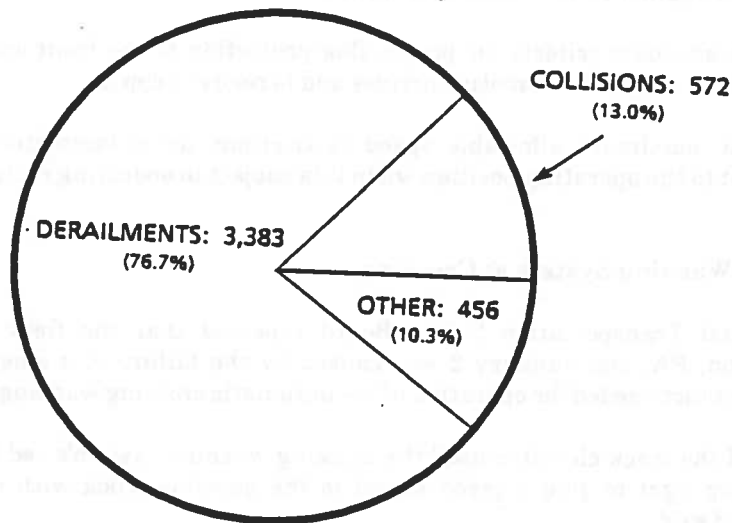
TOTAL FATALITIES: 14

Injuries



TOTAL INJURIES: 358

Accidents*



TOTAL ACCIDENTS: 4,411

* See Glossary for Train Accident Definition (does not include Train and Nontrain Incidents and Grade Crossing Accidents).
 SOURCE: FRA, Office of Safety Analysis, RRS-20.

The Board found that "single rail diesel cars have a history of failure to shunt track circuits because of their light weight." Thus, the Board concluded, the accident car "apparently did not hold a constant shunt, most likely due to the no-use of the track during the two days before the accident and the possibility of a film of dirt and rust building up on the rails from frost and dew."

The Safety Board recommended that SEPTA modify its automatic grade crossing warning system to insure that all rail cars activate them as intended. The Board already had issued safety recommendations during its investigation. Their goals included a statewide "Operation Lifesaver" program for improved grade-crossing safety, and a new SEPTA program to reduce the likelihood of grade-crossing accidents involving trucks hauling hazardous material.

Commuter Car Axle Failure

In April 1982, a commuter car wheel bearing overheated, caused the axle to fail and the wheel to fall off the car during normal operations. Immediately after the incident, FRA, Conrail, the Metropolitan Transportation Authority and the Connecticut DOT adopted interim bearing inspection measures. After a second similar failure in November 1982, enroute inspections, lower speeds and a retrofit program were initiated.

SAFETY PROGRAM HIGHLIGHTS

Rail Safety through Cooperation

The FRA has reoriented the major thrust of its safety program from individual inspections to a system assessment approach. The objective of a systemwide railroad assessment is to comprehensively appraise all aspects of safety on that railroad. The assessment process is the most effective way of directing top railroad management's attention to existing problems. It also enables FRA and railroad personnel to develop a joint solution to problems.

In 1982 system assessments were conducted on the Southern Pacific, Kansas City Southern, Boston and Maine, Soo Line and all the railroads in New York State.

Four safety analysis conferences were conducted. At each conference FRA headquarters and regional personnel worked with top railroad management to address the railroad's overall safety record and trend differences between their railroad and other railroads. FRA will continue to stress these comprehensive carrier safety conferences as part of its safety program.

FRA transferred one Automated Track Inspection Program vehicle under licensing agreement to Conrail and one to Amtrak. These railroads will provide the data collected to FRA.

**TABLE 12. RRT TRAIN FATALITIES, INCIDENTS AND INJURIES
1981-1982**

	1981			1982*		
	Incidents	Injuries	Fatalities	Incidents	Injuries	Fatalities
JAN	62	58	8	+	20	1
FEB	77	71	12	+	22	1
MAR	73	80	3	+	37	1
APR	74	64	8	+	28	1
MAY	67	70	6	+	36	1
JUN	96	93	5	+	39	0
JUL	72	88	5	+	41	1
AUG	120	117	7	+	68	6
SEP	101	110	2	+	75	5
OCT	57	55	5	+	63	6
NOV	75	72	6	+	67	3
DEC	76	51	6	+	54	5
TOTAL	950	929	73	536	550	31

**TABLE 13. RRT NONTRAIN FATALITIES,
INCIDENTS AND INJURIES, 1981-1982**

	1981			1982*		
	Incidents	Injuries	Fatalities	Incidents	Injuries	Fatalities
JAN	526	539	1	+	201	0
FEB	504	514	0	+	220	0
MAR	555	563	2	+	235	0
APR	425	447	2	+	234	0
MAY	413	417	2	+	197	0
JUN	398	400	4	+	261	0
JUL	362	435	4	+	194	1
AUG	454	465	3	+	334	3
SEP	367	388	0	+	329	2
OCT	453	413	2	+	377	5
NOV	359	339	1	+	297	0
DEC	428	376	7	+	338	0
TOTAL	5,244	5,296	28	3,173	3,217	11

* Preliminary.

+ Not Available.

SOURCE: UMTA, Safety and Security Staff, URT-6.

SAFETY PROGRAM HIGHLIGHTS

The following Safety Program Highlights were submitted by UMTA's Safety and Security Staff.

Safety Information Reporting Analysis

- o The Safety Information Reporting and Analysis System (SIRAS) forms and instruction manual were printed in preparation for voluntary SIRAS implementation on January 1, 1983.
- o A workshop was held at the Transportation Systems Center (TSC) for training representatives from all RRT systems in filling out the forms associated with the operation of voluntary SIRAS.
- o The Rail Transit Safety 1981 Annual Report was published and distributed.
- o Data entry procedures from the original version of SIRAS to the voluntary version of SIRAS were developed.
- o The 1975-1980 FRA Train Accident/Incident and Personal Casualty data bases were updated to include reports of accidents and casualties made after data tapes were compiled by the FRA and sent to UMTA.

System Safety Support

- o A draft "Safety Certification Program Plan" on the Metropolitan Dade County rapid rail transit system was reviewed by TSC and comments were communicated to Miami.
- o A peer safety review of the Southern California Rapid Transit District, Metro Rail System Development Program was conducted.
- o New York City Transit Authority R-46 transom arm crack data was received at TSC and analyzed.
- o TSC personnel met with representatives from Bay Area Rapid Transit (BART), the California Public Utilities Commission (PUC) and UMTA Region IX to define the scope of the BART Fire Hardening Program and to review the role of TSC's technical assistance in the independent assessment of the program.
- o Results of the BART Fire Hardening Assessment were documented in a working paper and presented to representatives from BART and the California PUC.

Safety Research and Development

- o A report "Polychlorinated Biphenyls (PCB) in Transit Properties" was drafted.
- o A draft report "Evacuation and Rescue of Elderly and Handicapped Passengers from Public Transportation Vehicles and Structures" was completed and reviewed at TSC.
- o A Deceleration Alert System cooperative research grant was awarded to the Florida Department of Transportation.

AVIATION

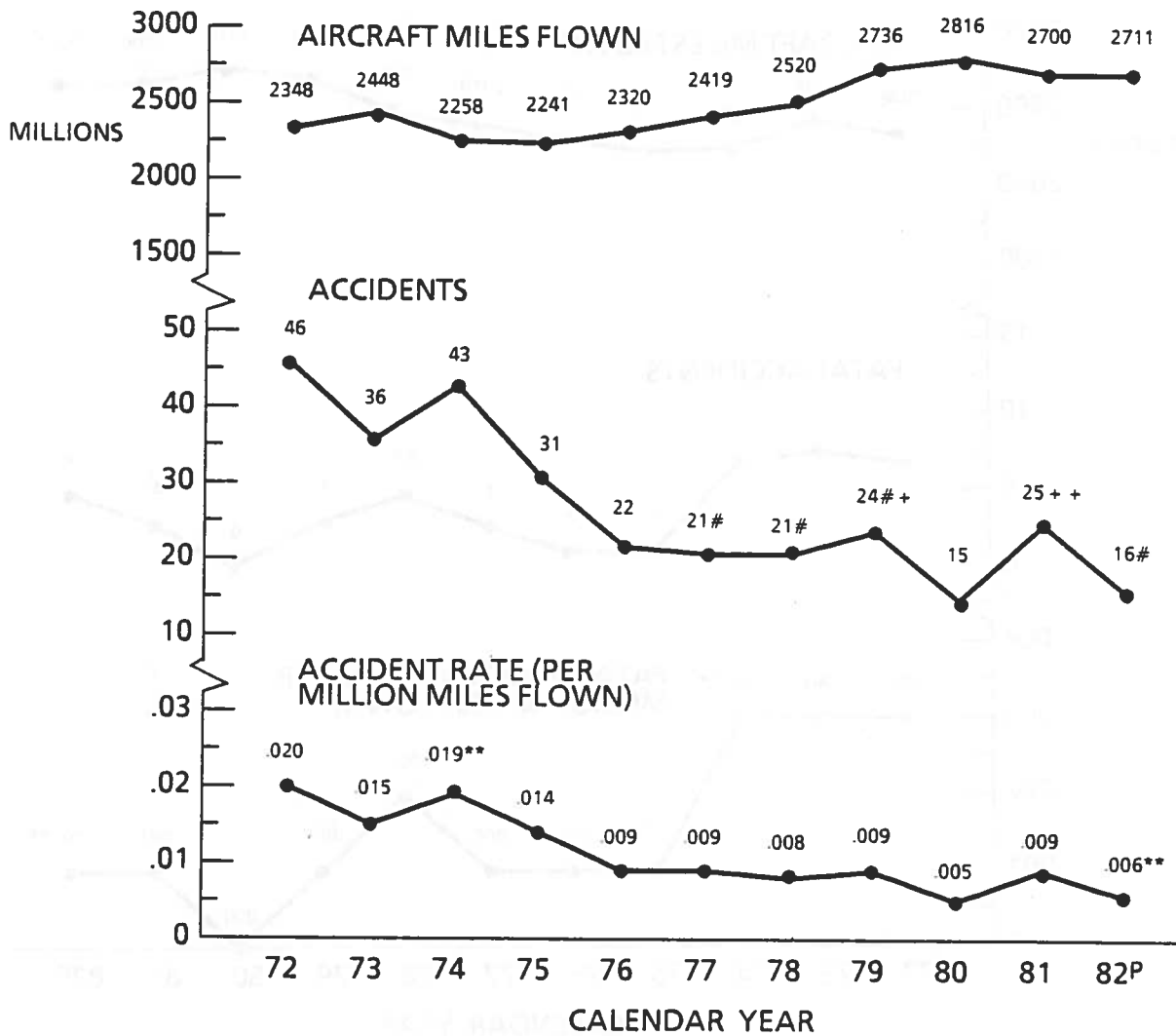
Beginning in January 1982, the National Transportation Safety Board began reporting aviation accident data according to the Federal Aviation Regulations under which the aircraft was operated at the time of an accident. Revenue operations of Air Carriers, Commercial Operators and deregulated All Cargo Carriers, using large aircraft, are conducted under 14 CFR 121. Commuter Air Carriers' (scheduled) and On-Demand Air Taxi Operators' (unscheduled) revenue operations (using small aircraft) are conducted under 14 CFR 135. Accidents involving flights not being conducted under either 14 CFR 121 or 14 CFR 135 are grouped by the Safety Board into the "General Aviation" category. It is anticipated that classifying aviation accidents according to the operating rules will better serve aviation safety because they set the minimum levels of such safety-related areas as pilot experience, flight and duty time, and maintenance of aircraft. Further exposure data now obtained from the CAB will be obtainable in less and less detail until the CAB's demise, at which time much of this data will be obtained from the FAA. Therefore, it is appropriate to begin using FAA definitions of such terms as air carriers and general aviation.

AIR CARRIER

- o Two single-fatality accidents, in addition to the crashes in Washington, Boston and New Orleans, gave the airlines (carriers operating large aircraft) five fatal accidents in 1982. There had been no fatal accidents in 1980, and only a series of four bizarre single-fatality accidents in 1981. Those four accidents produced a distorted rate of 0.061 fatal accidents in every 100,000 aircraft hours flown in 1981. Last year's fatal accidents resulted in a similar rate of 0.062.
- o The airlines' total accident rate dropped from 0.381 to 0.232 per 100,000 hours--down 39 percent. There were 16 accidents of all kinds, as compared to 25 in 1981. The accident rate of 0.232 was only 5 percent above the record low of 0.221 recorded in 1980.
- o Commuter air carriers had their safest year in eight years for which their accident statistics are available. Their total accidents dropped from 33 to 21; their fatal accidents from 10 to 4. As a result, total and fatal accident rates were 1.12 and 0.21 per 100,000 departures--the rate most often used to measure safety in the commuters' short-haul operations. These were respective 38 and 61 percent reductions from commuters' 1981 rates. Total commuter fatalities were down 64 percent, from 36 in 1981 to 13 last year. It was the fourth successive year of decrease in the commuters' total accident rate.
- o On-demand air taxis had 145 total accidents--the second lowest total in the eight years recorded. Thirty-two of these were fatal. The fatality toll of 75 persons similarly was the second lowest. The lower accident totals produced a total accident rate of 5.09 per 100,000 aircraft hours, down 5 percent from 1981, and a fatal accident rate of 1.12 per 100,000 aircraft hours, down 17 percent.

CHART 16.

U.S. AIR CARRIER* ACCIDENT RATES 1972 - 1982

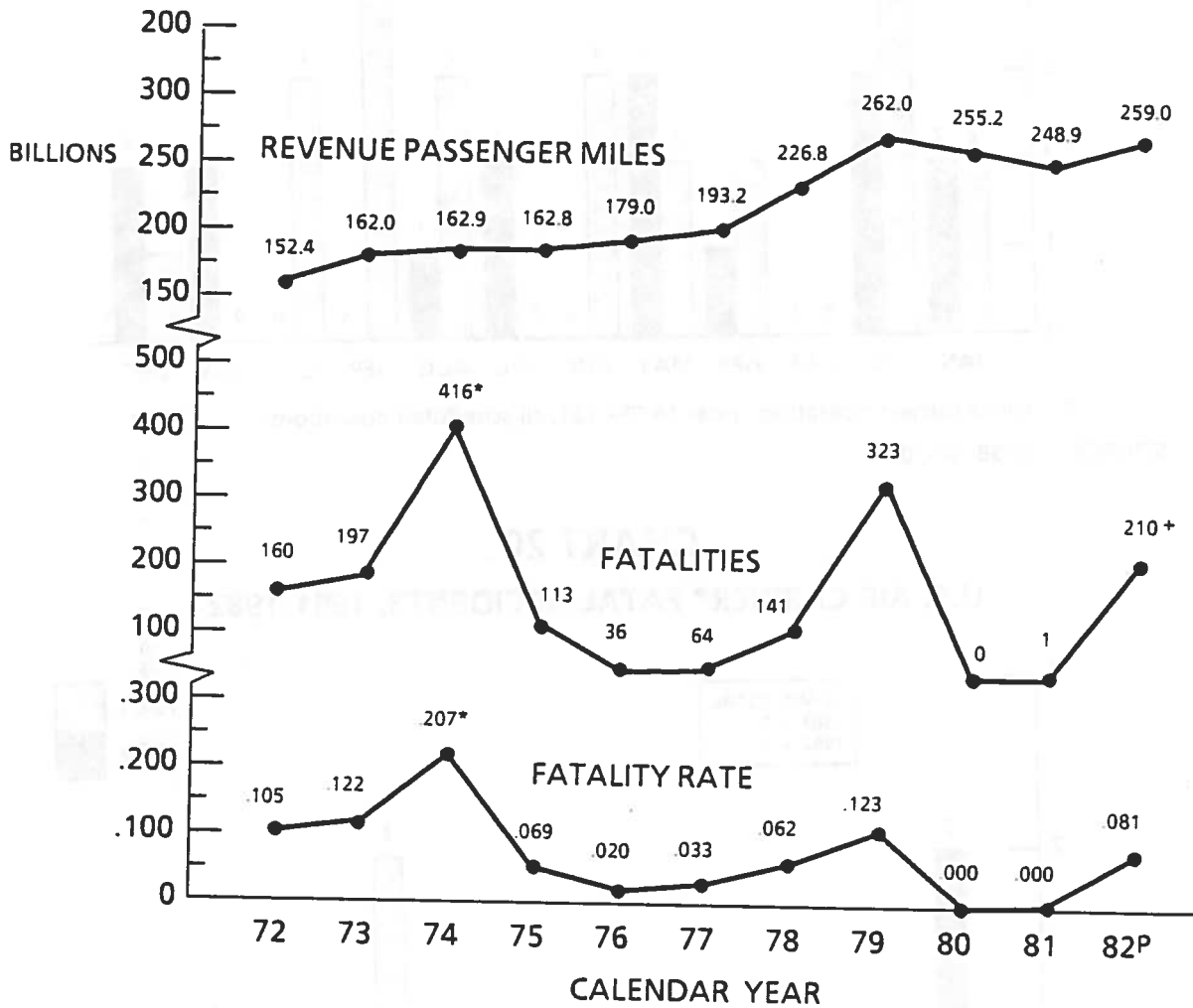


- P = Preliminary.
- * Large carriers operating under 14 CFR 121 only, all scheduled service (airlines).
- ** Sabotage accident not included in rate computation.
- # Contains one accident involving a scheduled commercial operator.
- + Contains one accident involving a deregulated all cargo air carrier.
- ++ Contains two accidents involving deregulated all cargo air carriers.

SOURCE: NTSB, SP-10.

CHART 18.

U.S. AIR CARRIER PASSENGER FATALITY RATES ALL SCHEDULED REVENUE PASSENGER SERVICE UNDER 14 CFR 121 1972 - 1982



P = Preliminary.

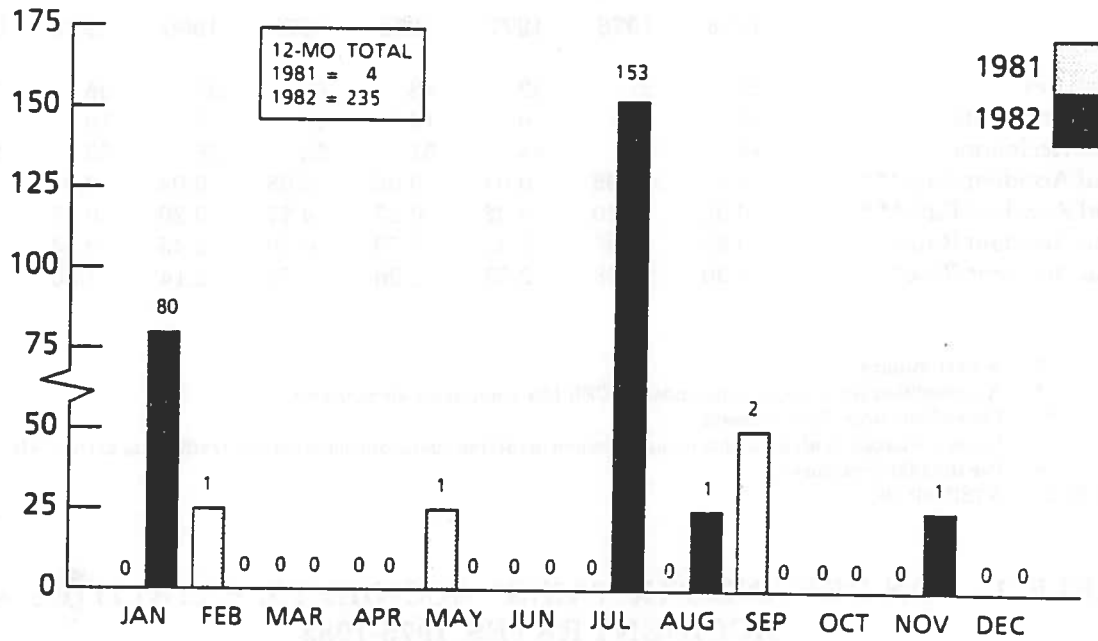
* 79 Passenger fatalities (resulting from sabotage 9/8/74 in Cephalonia, Greece) were deducted from this total in computing rates.

+ 209 Passenger fatalities were used in computing rates (1 fatality resulting from sabotage 8/11/82 in Honolulu, HI, was excluded).

SOURCE: NTSB, SP-10.

CHART 21.

U.S. AIR CARRIER* FATALITIES, 1981-1982

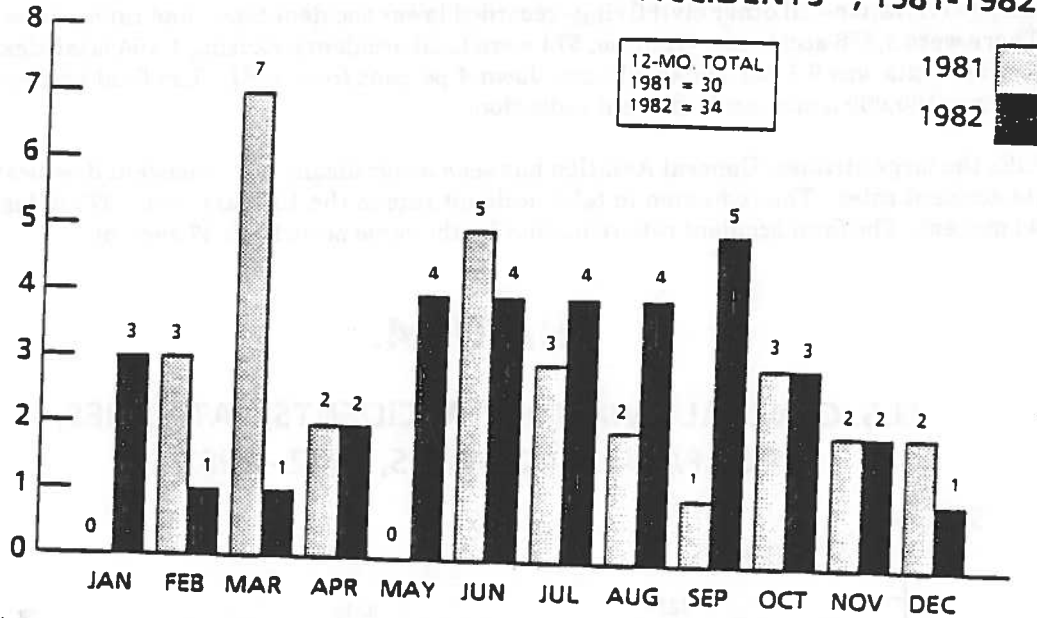


* Large carriers operating under 14 CFR 121, all scheduled operations.

SOURCE: NTSB, SP-10.

CHART 22.

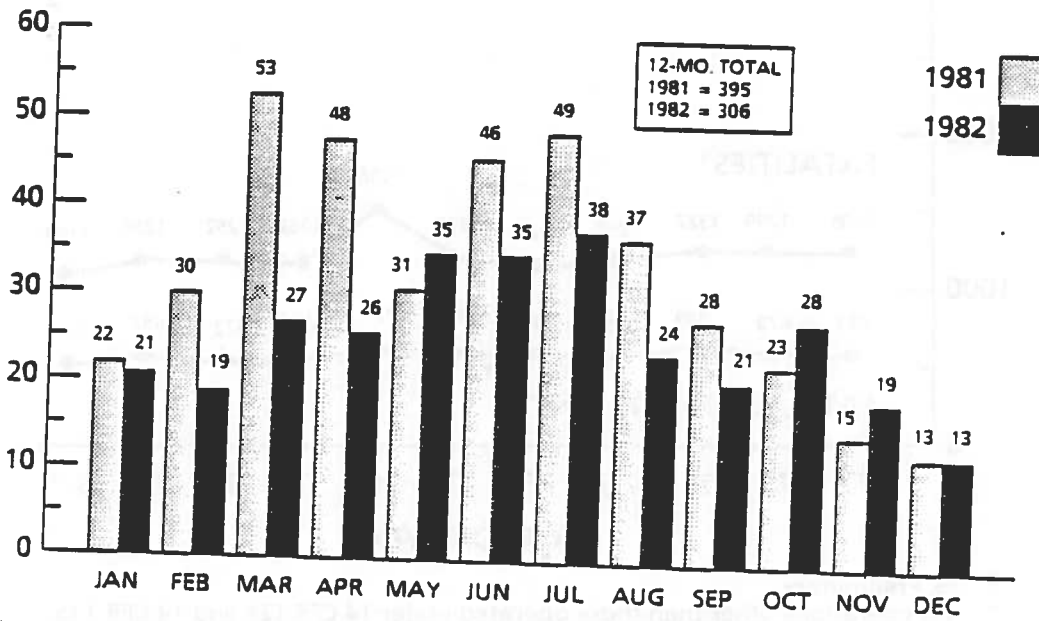
U.S. CIVIL AVIATION MID-AIR COLLISION ACCIDENTS* , 1981-1982



* Both Aircraft Airborne, Includes General Aviation and Air Carrier.
 SOURCE: NTSB, SP-10.

CHART 23.

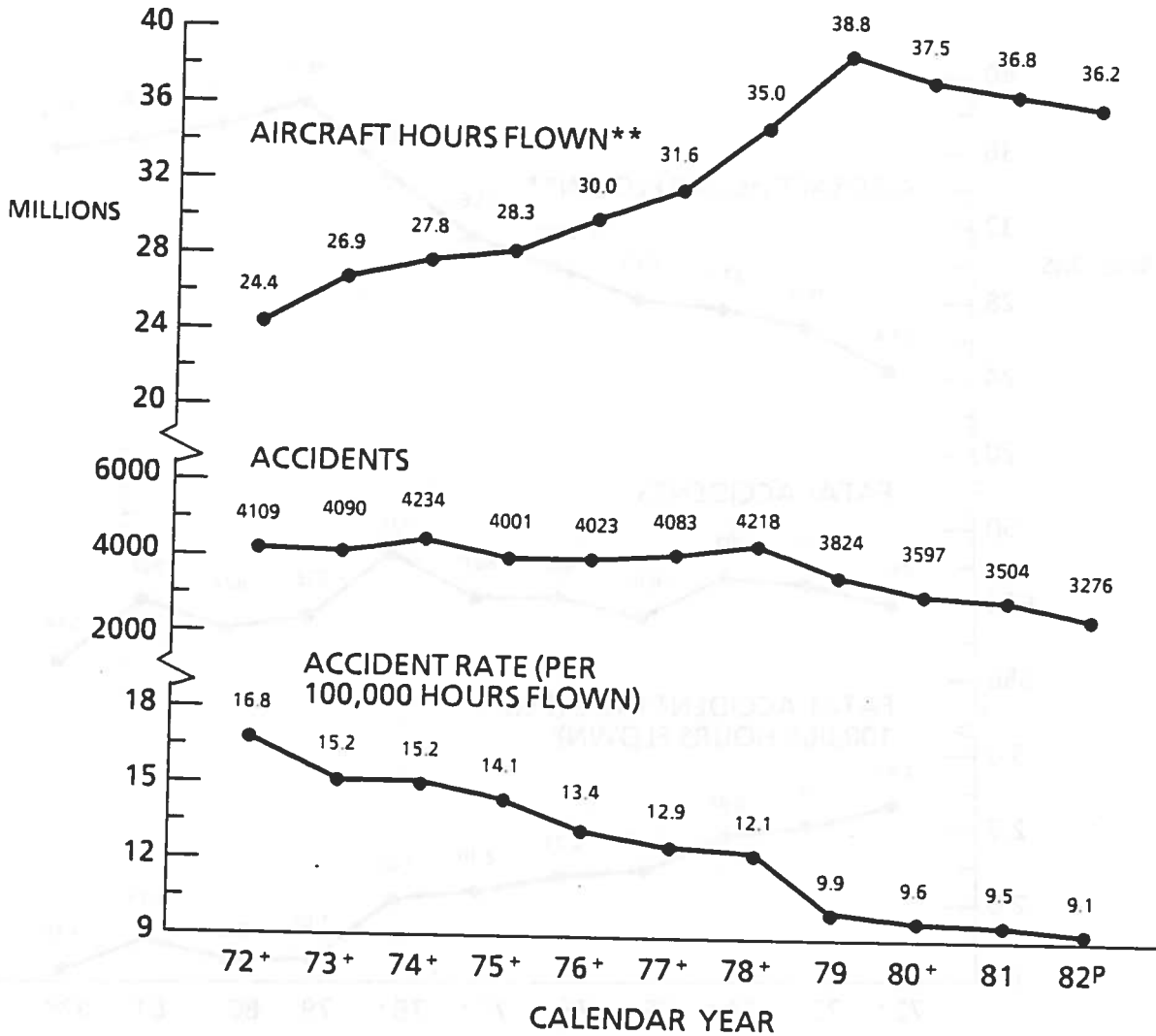
U.S. CIVIL AVIATION NEAR COLLISIONS* , 1981-1982



* Both Aircraft Airborne, Includes General Aviation and Air Carrier.
 SOURCE: FAA, ASF-200.

CHART 25.

U.S. GENERAL AVIATION* ACCIDENTS AND RATES 1972 - 1982



P = Preliminary.

* All operations other than those operated under 14 CFR 121 and 14 CFR 135.

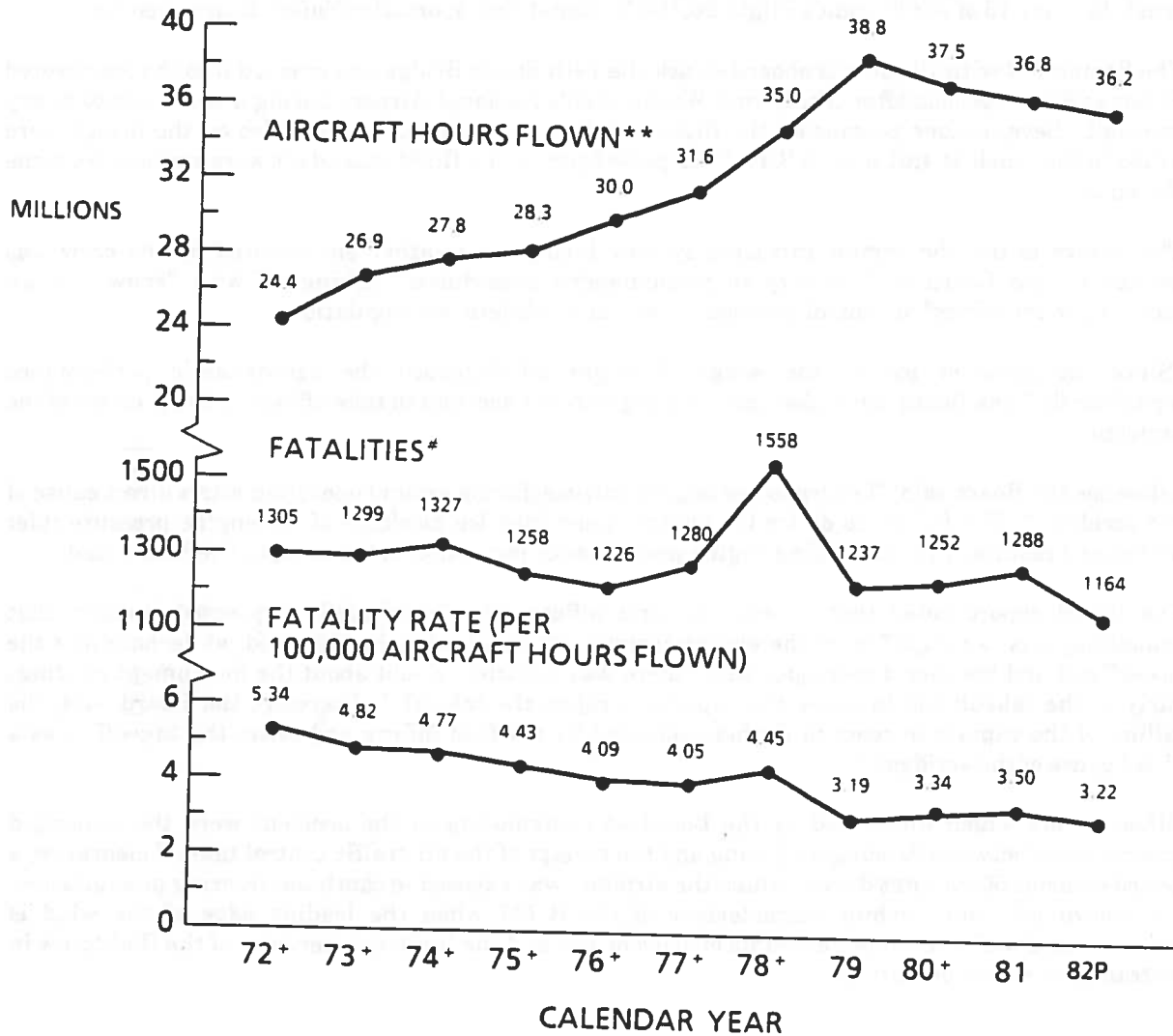
** Source of estimate: FAA.

+ Suicide/sabotage accidents included in all computations except rates (1973 - 2, 1974 - 2, 1975 - 2, 1976 - 4, 1977 - 1, 1978 - 2, 1980 - 1).

SOURCE: NTSB, SP-10.

CHART 27.

U.S. GENERAL AVIATION* FATALITIES AND RATES 1972 - 1982



P = Preliminary.

* All operations other than those operated under 14 CFR 121 and 14 CFR 135.

** Source of estimate: FAA.

+ Suicide/sabotage accidents included in all computations except rates (1973 - 2, 1974 - 2, 1975 - 2, 1976 - 4, 1977 - 1, 1978 - 2, 1980 - 1).

Includes air carrier fatalities when in collision with General Aviation aircraft.

SOURCE: NTSB, SP-10.

which spells out in considerable technical detail specific improvements in facilities and equipment that must be made in the immediate future to meet the projected needs and demands of aviation safety between now and the year 2000. Some of the key elements of the plan include replacement of the present air traffic control computers to permit introduction of higher levels of automation; modernization of the agency's flight service station network to improve the dissemination of flight and weather data to pilots; and the deployment of new radar, communications, and landing systems to further enhance safety and provide more efficient traffic flow. Implementation of the National Airspace System Plan will benefit the airlines, general aviation community, commuters, the military, airport operators, manufacturers, aircraft owners, passengers, the international aviation community, local communities and the general taxpayer. The expected benefits from the plan are:

- o Increased safety through collision avoidance and improved weather and flight information
- o Reduced fuel consumption
- o More direct routings
- o Easier access to FAA services
- o Increased coverage
- o Greater flexibility in the use of the airspace
- o Better quality service
- o Lower operating costs

Certification Of Boeing 757/767 Aircraft

Of major significance to the aviation world was the certification by the Federal Aviation Administration (FAA) of the new generation Boeing 757 and 767 aircraft. Final approval was given to the Boeing Commercial Airplane Company on July 30, 1982, for certification of the 255-passenger B-767 and on December 21, 1982, for certification of the 219-passenger B-757 aircraft. These events led to the first all-new Boeing airliners to be certificated since the approval of the 747 aircraft in December 1969.

The Boeing 757/767 series airplanes are medium-range aircraft both having low, swept wings with two wing-mounted engines. The airplanes are the first Boeing members of a family of new technology fuel efficient airplanes utilizing a high aspect ratio wing planform, advanced airfoil technology, high bypass ratio engines and advanced electronics. The new airliners are certificated for operation by a crew of two. Originally designed for a crew of three including a flight engineer, the basic design was changed to adopt a configuration of a two-crew flight deck, following the favorable findings of a U.S. Presidential Task Force regarding safety of two-crew airliner operation.

In an effort to maintain stringent certification requirements, the FAA levied stiff demands for proof of safety on the Boeing Commercial Airplane Company. The agency required unusual tests of the planes' resistance to stress and its safeguards. Mr. Charles R. Foster, Director of the Northwest Mountain Region and the Transport Airplane Directorate, in discussing the FAA's role in the certification process, stated: "This has been the most demanding certification activity the FAA has been engaged in with simultaneous type certificate programs for the Boeing 767 and 757."

As a result of extensive metallurgical, quality, and analytical reviews conducted in the development of the April 9 AD, more stringent inspection intervals were required.

Since issuance of AD T82-08-51, there have been no reported failures of the high pressure turbine stage one disk.

SOURCE: FAA,ASF-200



CHART 29.

WATERBORNE TRANSPORTATION FATALITIES NON-VESSEL-CASUALTY-RELATED, 1972-1982

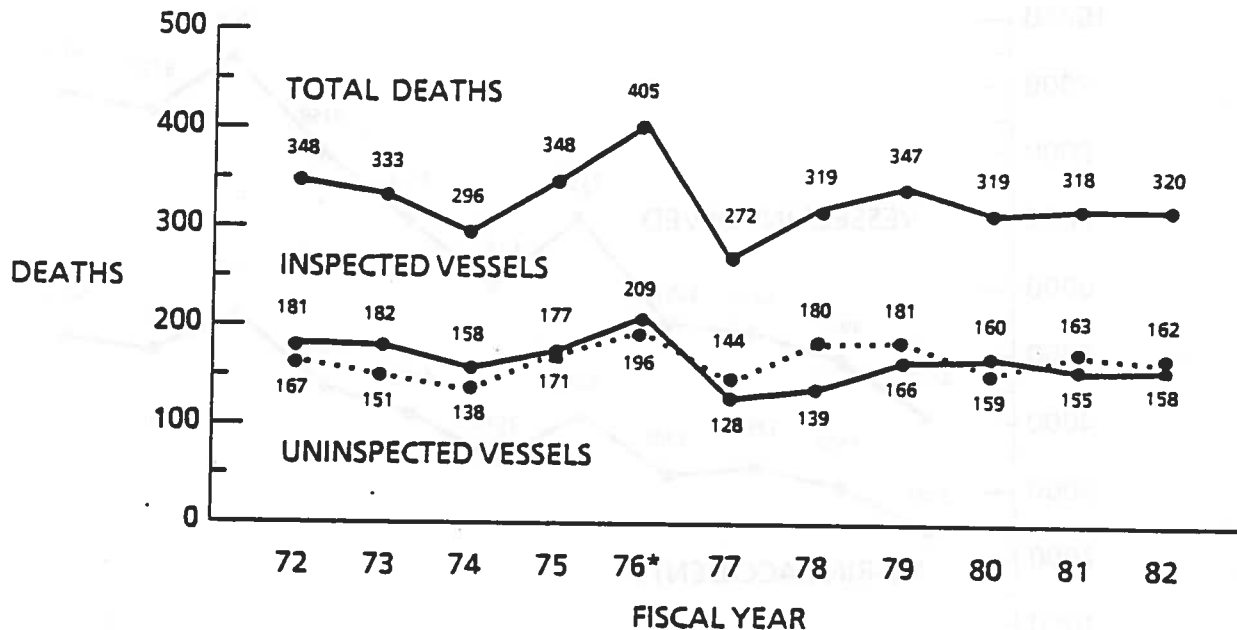
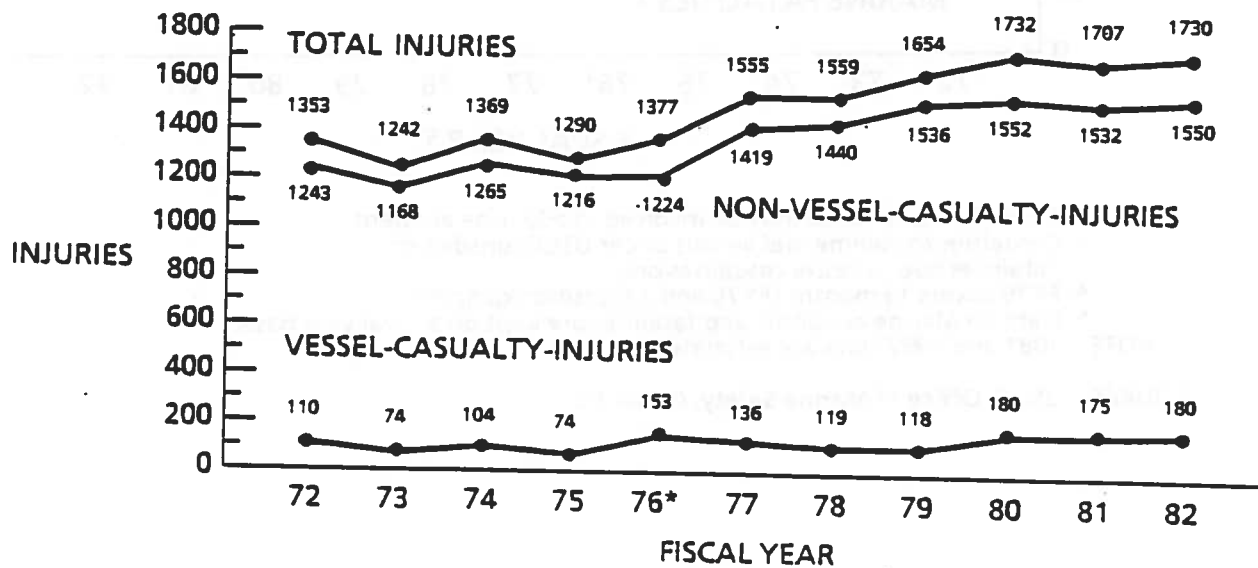


CHART 30.

WATERBORNE TRANSPORTATION PERSONNEL INJURIES REPORTED, 1972-1982



* FY76 covers 15 months (FY76 and a transition quarter).

NOTE: 1981 and 1982 Data are estimated.

SOURCE: USCG, Office of Marine Safety, G-MA-15.

MODAL SAFETY HAZARDS

Marine Board of Investigation Concerning the Foundering of the SS OGDEN WILLAMETTE

On June 16, 1982, the SS OGDEN WILLAMETTE's engine room flooded in the Caribbean Sea 33 miles southeast of Jamaica. All 34 crewmen successfully abandoned ship. The Marine Board of Investigation that convened to investigate the casualty has completed the major portion of its fact-finding and is preparing its report. After dewatering the engine room, a large crack was found in the underside of the 20-inch-diameter rubber expansion joint located just inboard of the main seawater intake valve. Back flooding through an auxiliary seawater discharge valve allowed the uncontrollable flooding. The vessel was towed to New Orleans and is undergoing repairs.

Fishing Vessel JOAN LA-RIE III Capsizes

On October 25, this 47-foot charter boat with 22 people on board capsized in rough seas nine miles east of Manasquan Inlet, New Jersey. The JOAN LA-RIE III had turned back, after encountering rough weather, and intended to return to Point Pleasant, New Jersey. The vessel was struck by a large wave and capsized immediately. The Brazilian freighter ITAPE witnessed the incident, radioed for help, and then rescued six of the people. Four H-52 helicopters from Coast Guard Air Station Brooklyn and a 41-foot utility boat and a 44-foot motor life boat from Coast Guard Station Manasquan Inlet, along with Coast Guard Cutters POINT BATAAN and CAPE STRAIT, were dispatched. Coast Guard helicopters rescued eight people and the Coast Guard boats recovered five. Nineteen people were transferred ashore to local hospitals, of which five were dead on arrival, including the master and mate. None of the people were wearing life jackets when the vessel capsized. That evening, the search for the three missing passengers was suspended. A joint Coast Guard/National Transportation Safety Board Marine Board of Investigation was convened in New York on October 27, 1982, to determine the causes of this casualty.

SAFETY PROGRAM HIGHLIGHTS

Foreign Tank Vessel Examination Program

The U.S. Coast Guard expanded the scope of the tank vessel examination program in January 1977 with initial emphasis on the examination of cargo venting and handling systems and proper transfer procedures. The program includes an examination to insure that each foreign flag vessel entering U.S. waters is in compliance with the general safety controls of the Safety of Life at Sea Convention (SOLAS 74) and its 1978 protocol, the applicable international Load Line Convention and all applicable U.S. regulations. The vessel's safety and pollution prevention equipment and operations must be proven satisfactorily to the United States.

In 1982, the U.S. Coast Guard examined 407 foreign tankers. The age distribution for the tankers examined in 1982 is shown in Table 11. This distribution shows that 79% of the foreign tankers examined are 15 years old or younger; compared to 1981, this shows an increase of 3% towards a younger fleet of tankers visiting U.S. ports. The data in the table show that for tankers 15 years old or less, 25% are five years old or younger and 14% are between 11 and 15 years old.

TABLE 13. NUMBER OF EXAMINATIONS BY FLAG IN 1982

Flag	No. of Examinations	Percent
Liberia	148	36.4
United Kingdom	32	7.9
Greece	64	15.7
Panama	37	9.1
Norway	26	6.4
Japan	14	3.4
Singapore	26	6.4
Italy	7	1.7
France	1	0.3
Germany	7	1.7
Other	45	11.0
Total	407	100.0

TABLE 14. NUMBER OF DEFICIENCIES BY FLAG IN 1982

Flag	No. of Deficiencies	Percent
Liberia	146	30.7
United Kingdom	35	7.4
Greece	101	21.2
Panama	52	10.9
Norway	17	3.6
Japan	14	2.9
Singapore	15	3.2
Italy	6	1.3
France	0	0.0
Germany	3	0.6
Other	87	18.2
Total	476	100.0

The distribution of the number of deficiencies by flag for 1982 is shown in Table 14. A percentage comparison of this distribution with the distribution obtained in 1981 shows there has been considerable improvement in the inspection results for both Liberia and Norway flag tankers. The opposite is true for tankers flying the Greece and United Kingdom flags; here there has been a degradation in performance since the proportion of deficiencies found on tankers flying these two flags increased in 1982.

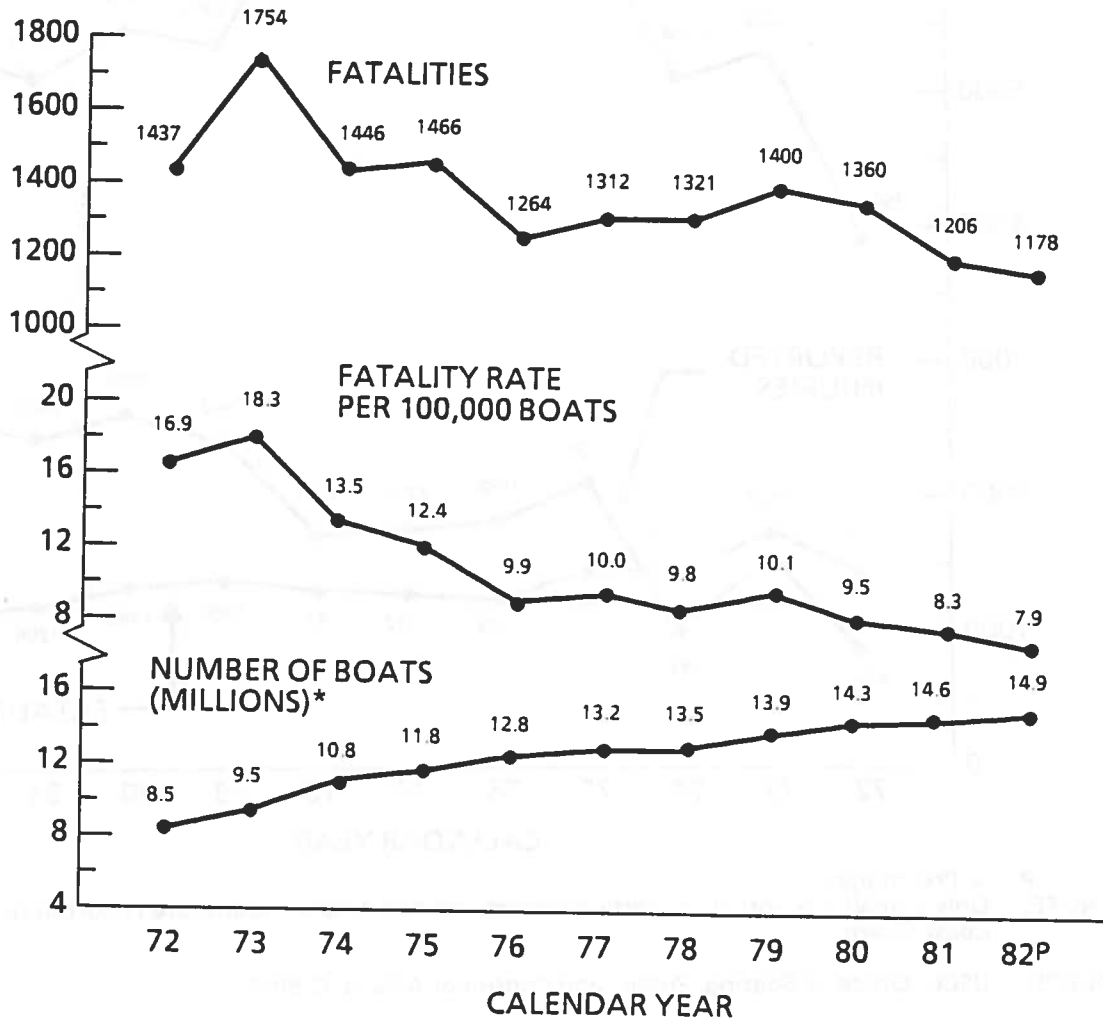
A more absolute comparison of performance by flag can be obtained by computing a rate based on the average number of deficiencies per examination for each flag. The rates computed for 1982 are shown in Table 15. A comparison of these rates with those for 1981 shows that the performance for those tankers flying Norwegian, Liberian, Italian, French and German flags has improved from a rate near or above the average for all flags in 1981 to a rate which is below the average for 1982. This comparison also shows that the performance for Panama and Greece declined in 1982 so that their deficiency rate is above the group average. Greece also had a rate above the average in 1981.

RECREATIONAL BOATING

- o A record low number of fatalities and the corresponding fatality rate per 100,00 boats were recorded in 1982. Recreational Boating fatalities dropped 2.3 percent from 1,206 in 1981 to 1,178 in 1982 while the fatality rate decreased from 8.3 percent per 100,00 boats in 1981 to 7.9 percent in 1982.
- o Reported injuries increased to a record high of 2,682 in 1982, 8.4 percent higher than in 1981.

CHART 32.

RECREATIONAL BOATING FATALITY RATES, 1972 - 1982



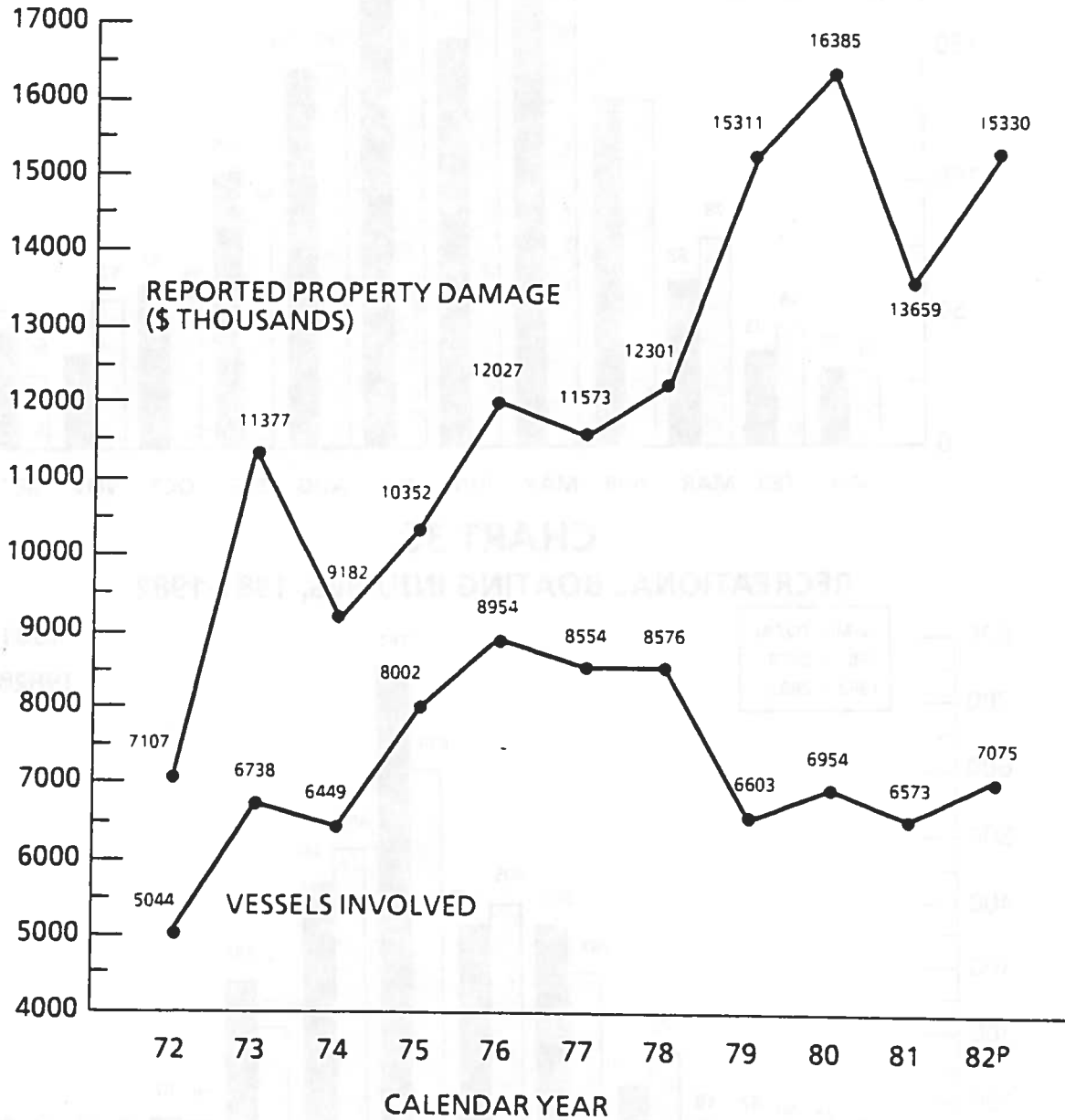
P = Preliminary.

* The total number of boats are estimated by the USCG each year.

SOURCE: USCG, Office of Boating, Public, and Consumer Affairs, G-BP-1.

CHART 34.

REPORTED PROPERTY DAMAGE AND VESSELS INVOLVED IN RECREATIONAL BOATING ACCIDENTS 1972 - 1982

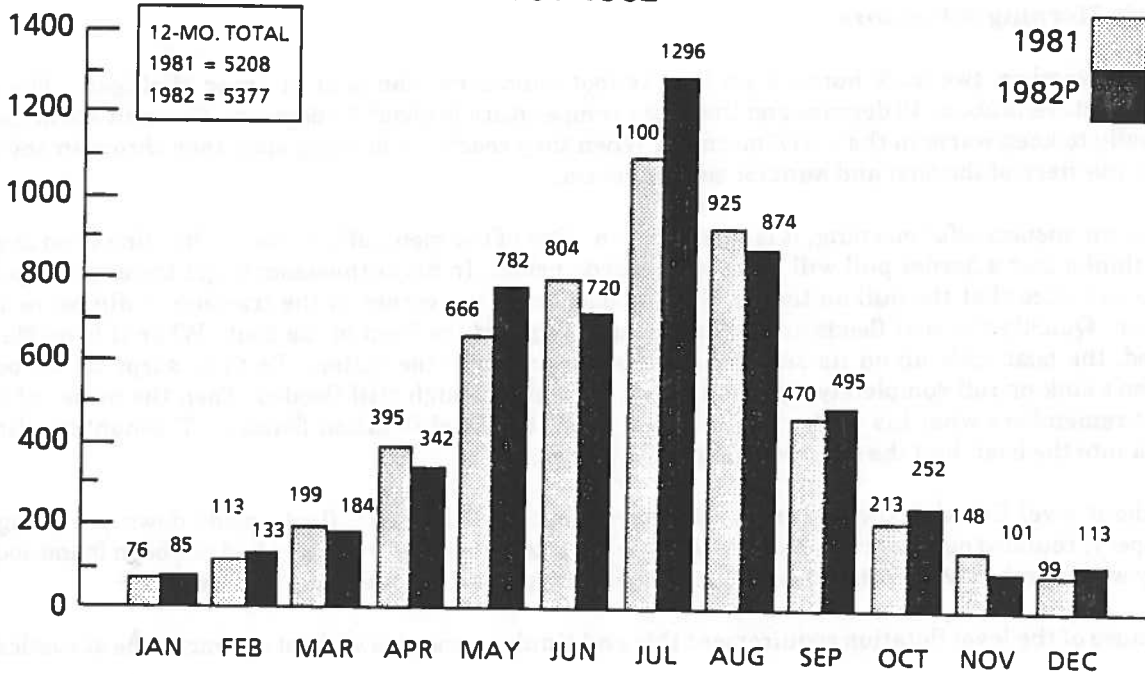


P = Preliminary.

NOTE: Only a small fraction of property damage--only accidents--is reported to the Coast Guard.

SOURCE: USCG, Office of Boating, Public, and Consumer Affairs, G-BP-1.

CHART 37.
RECREATIONAL BOATING, REPORTED ACCIDENTS
1981-1982



P = Preliminary.

SOURCE: USCG, Office of Boating, Public, and Consumer Affairs, G-BP-1.

SAFETY PROGRAM HIGHLIGHTS

Recreational Boating Fatality Rate

The recreational boating fatality rate (expressed as fatalities per estimated 100,000 boats) fell from a fairly constant 20 deaths per 100,000 boats during the decade before enactment of the Federal Boat Safety Act of 1971 to about 10 deaths per 100,000 boats at the end of the 1970's. The Federal Boat Safety Act (FBSA) is the primary authority for the present National Recreational Boating Safety Program, melding the efforts of Federal, state and voluntary safety organizations.

The fatality rate curve is based on USCG boat population estimates. It shows a dramatic drop during the early-to-mid 1970's which levels off in the late 1970's. 1980, 1981, and 1982 data indicate a resumption of a substantial downward trend. This is probably exaggerated by the recessionary economy of the late 1970's and early 1980's. We feel that the underlying, long-term trend is presently only slightly downward, due in good part to safer boats, those built to more recent safety standards, making up an increasing part of the active U.S. boat population.

Level Flotation Standard

The Level Flotation Standard applies to rowboats and outboards under twenty feet in length built after August 1, 1978. It requires swamped boats to float approximately level with all of the passengers sitting inside the boat in water up to their waists. The standard is intended not only to prevent drowning, but also to reduce greatly the risk of death due to hypothermia.

This standard is expected to save more than two hundred lives per year as boats built in accordance with it grow to comprise the dominant portion of the total active boat population. Boats which are able to remain upright and on the surface, even after an accident, are effective in saving lives that would otherwise be lost when boats capsize, flood, or sink.

Recall Campaigns

The Coast Guard tests recreational boats to ensure that they are built in compliance with federal regulations. Recreational Boating Safety personnel visit boat factories to see how boats are being constructed. They may recommend that a particular boat model be tested, primarily to see if it complies with flotation standards. A boat of that particular model is then purchased from a dealer and sent to one of several independent test laboratories. The laboratory puts the boat in a test tank and loads it with weights in a prescribed manner. Measurements are then taken to see if the boat floats in an acceptable attitude.

If a boat fails a test, the Coast Guard subjects that model to a recall campaign, similar to an automobile campaign. The Coast Guard also may conduct a campaign when it determines, on the basis of a study after a consumer complaint, that there is a substantial risk of injury to the public. The boat manufacturer is required to contact the original purchasers of that model, notify them of the defect, and make the necessary corrections to the boats. All this is done at the expense of the manufacturer. The recall campaign continues until corrections are made to all boats which the manufacturer can locate. More than one hundred campaigns, the largest of which may involve half a million boats, are opened each year.

CHART 38A.

LIQUID AND GAS PIPELINE LEAKS/FAILURES, 1972 - 1982

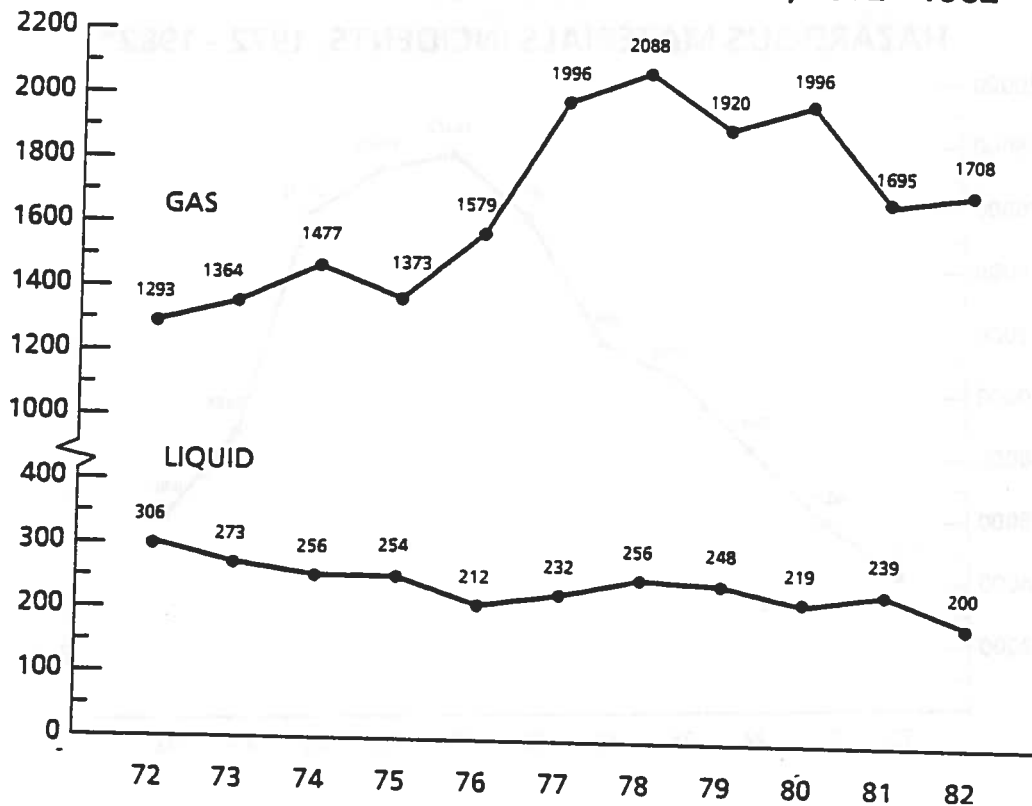
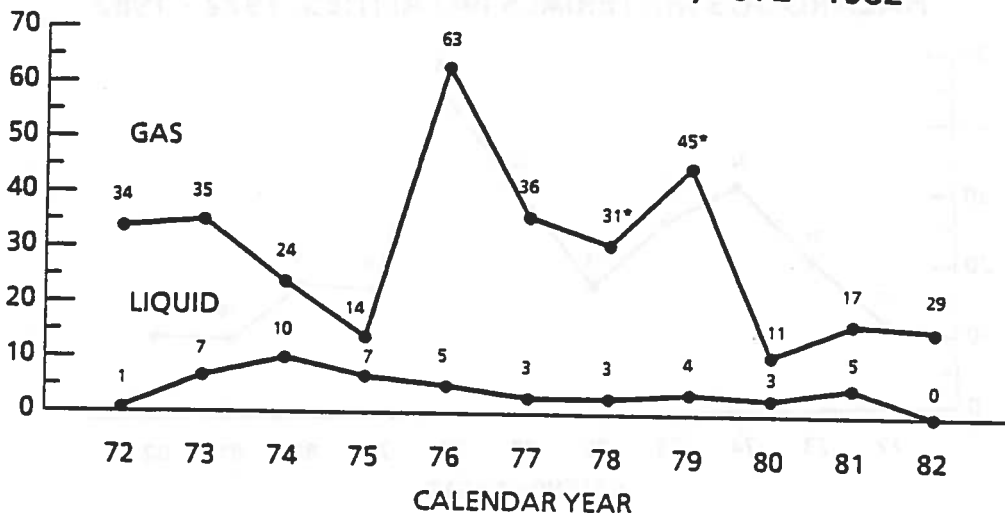


CHART 38B.

LIQUID AND GAS PIPELINE FATALITIES, 1972 - 1982



* Includes preliminary notification of Pipeline leaks via telephonic reports.
 SOURCE: Liquid Pipeline: DOT F7000-1 Pipeline carrier accident report.
 Gas Pipeline: DOT F7100.1, F7100.2 and telephone reports.
 RSPA, DMT-63.

CHART 40A.

HAZARDOUS MATERIALS FATALITIES, 1981-1982

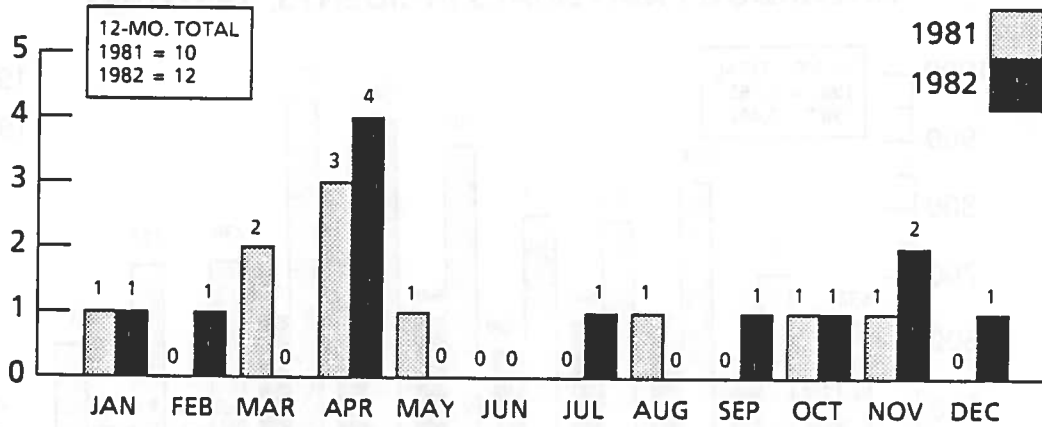
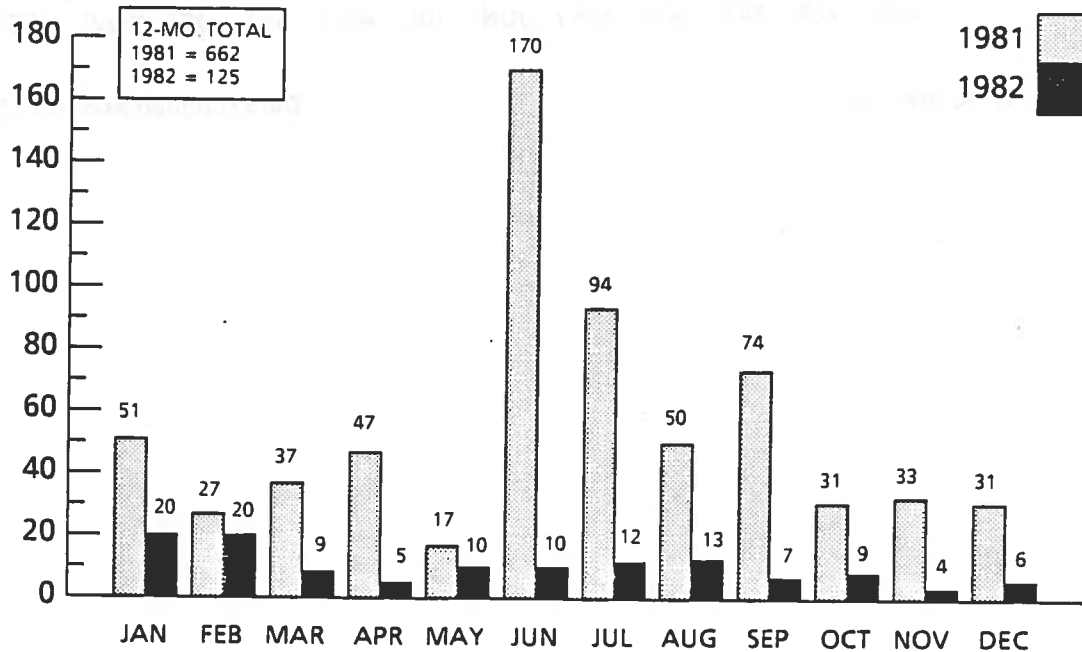


CHART 40B.

HAZARDOUS MATERIALS INJURIES, 1981-1982



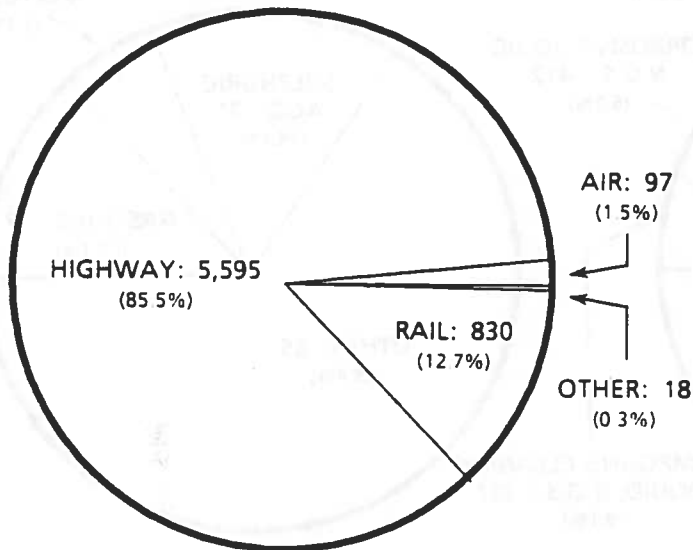
SOURCE: RSPA, DMT-63.

Data supplied as of 03/17/83

CHART 41.

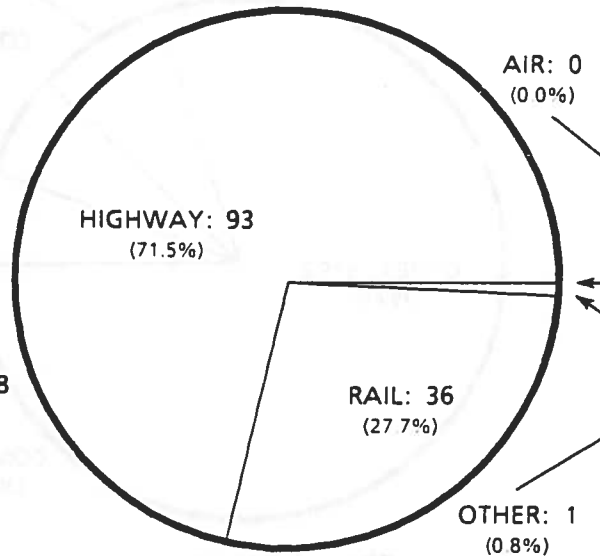
HAZARDOUS MATERIALS INCIDENTS, INJURIES, AND DAMAGES BY MODE, 1982

Incidents



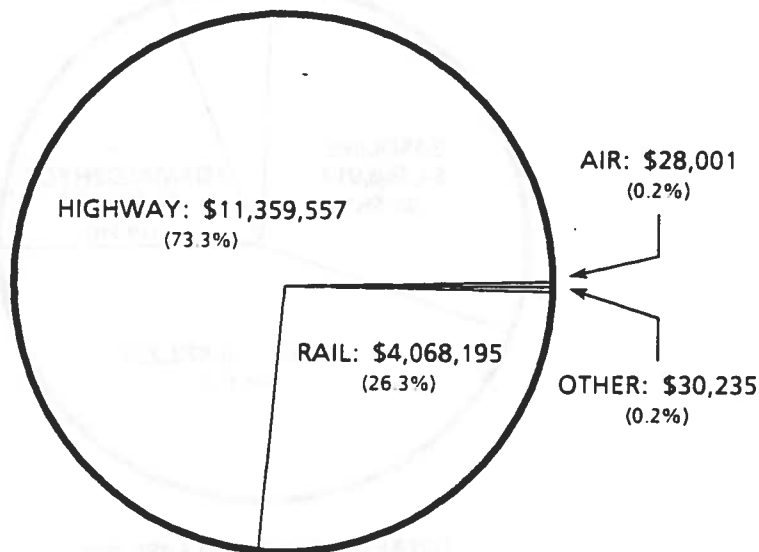
TOTAL INCIDENTS: 6,540

Injuries



TOTAL INJURIES: 130

Damages



TOTAL DAMAGES: \$15,485,988

SOURCE: RSPA, DMT-63.

Data supplied as of 06/17/83

MODAL SAFETY HAZARDS

Identification of Problems with Hazardous Materials in Railroad Piggyback Derailments

The National Transportation Safety Board is recommending industry and government action to help rescue forces cope with railroad derailments that involve hazardous materials shipments in piggyback trailers or containers.

The Safety Board made a series of 18 recommendations to seven industry organizations and government agencies in its report on the derailment of 14 piggyback cars of a 56-car Southern Pacific freight train at Thermal, Calif., January 7, 1982. Fourteen of the recommendations address the problem of proper identification of hazardous materials shipments mixed with other freight in truck trailers or containers moving on railroad flatcars.

The derailment killed one of the train's numerous unauthorized riders. Four others were seriously injured. All five train crewmen escaped injury. Damage was estimated at more than \$1 million.

The Safety Board determined that the probable cause of the accident was "the inadequate company evaluation" of track defect data gathered in an inspection of the track nine months before the derailment. The Board held that the defect data "should have indicated that the rail in the vicinity of the derailment was approaching service-life limit for main track use." The Board also cited as a causal factor "the consequent failure of the company to initiate an accelerated inspection program to detect incipient fatigue fractures on the rail."

There was no fire. The train had an identification number indicating there were no hazardous materials in any of its cars. Nor did the train "profile" that the conductor reviewed immediately after the derailment list any hazardous materials. Thus fire and rescue forces at the accident scene at first took no special precautions.

An hour later, however, the conductor found a waybill listing a radioactive material as part of the cargo of one trailer involved in the derailment but inaccurately describing its hazard potential. The accident scene and an adjacent section of highway were evacuated and closed off, the precautions against radioactive contamination were taken at the scene and at the hospital where the injured were being treated.

It was nearly six hours before officials could determine that there had been no radioactive contamination from the derailment, and Southern Pacific could trace the shipment and confirm that although it was radioactive material, its size and packaging made it significantly less hazardous than the waybill indicated.

The radioactive material actually involved in the derailment--a small shipment of americium in a certified 17-by-21-inch container--posed no significant hazard after the derailment, the Board said, yet the accident demonstrated that "derailments may occur in which erroneous waybill information could fail to disclose the presence of extremely hazardous material and that as a result, proper emergency procedures might not be implemented." This is "especially true" for piggyback trailer and container shipments, the Board said.

46 CFR Parts 56, 73, and 74 -- Passenger Vessel Subdivision and Damage Stability; Alternative Regulations

The Coast Guard is amending the regulations for watertight subdivision and damage stability of passenger vessels by adopting parts of the Inter-Governmental Maritime Consultative Organization (IMCO) Resolution A.265 (VIII) as an alternative to the existing regulations. IMCO Resolution A.265 (VIII) contains a method of assessing damage stability based on the principles of probability, using actual damage statistics as a data base. This new method allows more flexible subdivision design without diminishing the level of safety provided by the previously existing regulations, which are based on a floodable length criteria. These alternative regulations permit passenger vessel designers to use either the new or the existing method to evaluate the damage stability of their ships. Effective date September 27, 1982. (47 FR 37551, August 26, 1982.)

33 CFR Part 164 -- Navigation Safety Regulations; Radar Requirement for Certain Tankers of 10,000 Gross Tons or More

This regulation contains requirements for dual radar systems to be carried on oil and bulk hazardous materials tankers of 10,000 gross tons or more when operating on the navigable waters of the United States. These requirements are mandated by the Port and Tanker Safety Act, and will contribute to the safety of navigation. Effective date August 9, 1982. (47 FR 34388, August 9, 1982.)

FEDERAL AVIATION ADMINISTRATION

14 CFR Part 91 -- One Engine Inoperative Ferry Flight Authorization

This amendment changes the regulations to allow certificate holders under Part 125 to conduct ferry flights with one engine inoperative without a special flight authorization. This change is necessary to preclude discontinuing this authorization for commercial operators, when Part 125 becomes applicable to them on January 1, 1983, since Part 125 does not contain such authorization. This amendment responds to requests from commercial operators who have become certificated under Part 125 and provides relief for these operators. This amendment is consistent with Executive Order 12291 and the Regulatory Flexibility Act. Effective date July 12, 1982. (47 FR 25116, June 10, 1982.)

14 CFR Part 39 -- Airworthiness Directives: McDonnell Douglas Model DC-10-40 Airplanes Equipped with Pratt and Whitney JT9D-20 Series Engines

This amendment adopts a new Airworthiness Directive (AD) which requires replacement of the 20 nose cowl attachment bolts and nuts with higher strength parts on each wing mounted engine installed on McDonnell Douglas Model DC-10-40 airplanes equipped with Pratt and Whitney JT9D-20 series engines. This AD is needed to minimize the possibility of nose cowl separation from the engine in the event of a fan blade failure during high power operation. Effective date March 4, 1982. (47 FR 7621, February 22, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Beech Model 76 Airplanes

This amendment adopts a new Airworthiness Directive (AD), AD 82-02-03, applicable to certain Beech Model 76 airplanes. The AD requires prior to further flight, a onetime visual inspection of the elevator down cable for condition and proper routing. This action is necessary because two separate incidents of inflight elevator control cable failure due to a misrouted cable have occurred on Beech Model 76 airplanes. Cable failure can result in loss of elevator control which could prove to be catastrophic during critical flight maneuvers. Effective Date February 14, 1982. (47 FR 5707, February 8, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Bell Model 222 Helicopters

This amendment makes effective for all persons an airworthiness directive (AD) that was previously made effective for all known United States owners and operators of Bell Model 222 helicopters by telegraphic AD. This amendment adopts a new AD which requires immediate replacement of the main rotor swashplate drive links on Bell Model 222 helicopters. This AD is needed to prevent possible in-flight failure of the drive links which could result in loss of helicopter control. Effective date August 19, 1982. (47 FR 34357, August 9, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Lockheed-California Company Model L-1011 Series Airplanes

This amendment adopts a new Airworthiness Directive (AD) applicable to Lockheed-California Company L-1011 Series airplanes which requires the installation of a wire harness shield and a one-time inspection of the APU generator feeder cables to check for either insufficient or excessive slack and corrective action, if necessary. This action is prompted by reports of incidents of arcing related to abrasion and chafing of the cable harness. This AD is needed to ensure the integrity of the auxiliary power unit (APU) electrical generating system and to prevent a possible fire hazard. Effective date August 27, 1982. (47 FR 33248, August 2, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Hughes 269 Series Helicopters

This document adopts a new Airworthiness Directive (AD) that requires visual inspection of the drive belt idler pulley support bracket assembly for cracks or damage on certain Hughes Helicopters, Inc., Model 269 series helicopters. The AD is needed because there have been reports of cracks and fractures of the pulley bracket support arm. These cracks and fractures could result in loss of drive belt tension and loss of power to the entire rotor system. Effective Date July 16, 1982. (47 FR 30051, July 12, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Hughes Helicopters Models 269 Series Helicopters

This amendment adopts a new airworthiness directive (AD) which requires a one-time inspection, rework or replacement as required, and increased torque of the attaching hardware for the main transmission ring gear/carrier assembly on certain Hughes Model 269 series helicopters. The AD is needed because there have been reports of main transmission ring gear attachment bolts coming loose in service. This could result in main transmission jamming, loss of power to the rotors, and loss of control of the helicopter. Effective date July 12, 1982. (47 FR 30050, July 12, 1982.)

14 CFR Part 39 -- Airworthiness Directives; McDonnell Douglas Model DC-9 Series and C-9 Series Airplanes

This document amends an existing Airworthiness Directive (AD) which requires eddy current or dye-penetrant inspection for cracks in the upper fuselage skin in the area of the aft pressure bulkhead tee on McDonnell Douglas Models DC-9 and C-9 series airplanes. These cracks, if left unattended, could result in a structural failure of the fuselage shell and rapid decompression of the aircraft. This amendment is needed to clarify certain provisions of that AD and add an additional alternate inspection procedure. Effective date June 8, 1982. (47 FR 23697, June 1, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Boeing Model 727 Series Airplanes

This amendment adopts a new Airworthiness Directive (AD) applicable to Boeing Model 727 airplanes which requires either color-coding or modification of the ground spoiler hydraulic lines to eliminate the possibility of cross-connecting them. Cross-connection of these lines will cause inadvertent, asymmetric extension of the ground spoilers, resulting in a hazardous flight condition if

14 CFR Part 39 -- Airworthiness Directives; Boeing Model 747 Series Airplanes Equipped With Pratt and Whitney JT9D Engines, Except JT9D-70

This amendment supersedes an existing Airworthiness Directive (AD) 80-03-09, applicable to Boeing Model 747 series airplanes. The existing directive requires repetitive inspections of the nacelle strut forward engine mount bulkhead for loose fasteners and cracks, and provides for termination of the repetitive inspections if a specified repair is accomplished. Subsequent service experience has shown that parts provided for this repair had improper heat treat. Accordingly, this amendment is being issued requiring continuation of the repetitive inspection or, alternatively, accomplishment of a new permanent repair. This action is necessary to prevent failure of the forward engine mount bulkhead and possible separation of an engine from the airplane. Effective date October 27, 1982. (47 FR 46842, October 21, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Boeing Model 737 Series Airplanes, Line Number 1 Through 208

This amendment adds a new Airworthiness Directive (AD) which requires inspection and repair or replacement, as necessary, of the Boeing Model 737 horizontal stabilizer center section rear spar upper chord on aircraft with 35,000 or more landings. Two operators have reported cracked horizontal stabilizer center section rear spar upper chords. Continued operation of the airplane with undetected chord cracks could ultimately result in failure of the horizontal stabilizer and loss of the aircraft. Effective date October 18, 1982. (47 FR 44713, October 12, 1982.)

14 CFR Part 39 -- Airworthiness Directives; McDonnell Douglas Model DC-9 and C-9 (Military) Series Airplanes Equipped With Upper Cargo Doors

On July 24, 1981, the FAA issued a Telegraphic Airworthiness Directive (AD), T81-16-51, effective upon receipt, to all known operators of McDonnell Douglas Model DC-9 and C-9 (Military) series airplanes certificated in all categories. This AD requires inspection for cracked or failed upper cargo door latch hooks and latch spool bolts and replacement of defective parts, if necessary. This action was prompted by reports of cracked and separated upper cargo door latch spool bolts and a failed latch hook. Failure of one or more latch hooks may result in loss of cabin pressurization. This AD is hereby published in the Federal Register to make it effective to all persons. Effective date September 21, 1982. (47 FR 40789, September 16, 1982.)

14 CFR Part 39 -- Airworthiness Directives; Boeing Model 747 Series Airplanes

This amendment adds a new Airworthiness Directive which requires modification of the existing main deck smoke sampling tube on certain Boeing 747 airplanes. This action is necessary to prevent snagging of the rudder cables during hard application of rudder pedal force. A production freighter was found to have a rudder control cable which could snag on the smoke detection tube during limit load application of rudder control. This interference could require excess application of rudder pedal forces and, at worst, loss of rudder control. Effective date September 30, 1982. (47 FR 37373, August 26, 1982.)

FEDERAL HIGHWAY ADMINISTRATION

49 CFR Part 393 -- First Aid Kits on Buses

The FHWA is rescinding the requirement for first aid kits on buses operated in interstate or foreign commerce. This action is in keeping with the FHWA's goal of reducing and simplifying regulations which may be unnecessarily costly or burdensome. Effective date May 26, 1982. (47 FR 17820, April 26, 1982.)

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

23 CFR Parts 1205 and 1252 -- Highway Safety Programs; Determination of Effectiveness

This notice identifies, in accordance with section 1107(d) of the Omnibus Budget Reconciliation Act of 1981 (Pub. L.97-35), those State and local highway safety programs most effective in reducing accidents, injuries and fatalities. This final rule identifies the six most effective NHTSA and FHWA highway safety programs, provides for the continued eligibility of those programs for Federal funding under the State and Community Highway Safety Grant Program (23 U.S.C. 402), and establishes a mechanism by which additional programs identified by a State may be eligible for Federal funding. In addition, it continues the requirement that each State administer its highway safety program through a central State agency and specifies the Federal share for the planning and administration costs of the State Highway Safety Agencies. Effective dates October 1, 1982 and October 1, 1983. (47 FR 15116, April 8, 1982.)

49 CFR Part 571 -- Federal Motor Vehicle Safety Standards; Occupant Crash Protection

The purpose of this notice is to amend the fuel loading test conditions of Safety Standard No. 208, Occupant Crash Protection. The amendment is in response to a petition for rulemaking submitted by Mercedes-Benz of North America. Standard No. 208 currently specifies that vehicles are to be crash tested with their maximum capacity of fuel. Several other NHTSA safety standards only require fuel tanks to be filled from 90 to 95 percent of capacity. This amendment makes the fuel loading conditions of Standard No. 208 consistent with these other standards. This change will enable manufacturers to simultaneously determine compliance with several standards during the same crash tests, thereby reducing compliance test costs. In connection with this change, this notice also adds a definition for "fuel tank capacity" to the agency's general definition list in 49 CFR 571.3. Effective date October 28, 1982. (47 FR 47839).

49 CFR Part 581 -- Bumper Standard

This notice amends the Bumper Standard to reduce the test impact speeds required by that standard to 2.5 mph for longitudinal front and rear barrier and pendulum impacts and 1.5 mph for corner pendulum impacts. The notice also amends the damage resistance criteria of the standard to eliminate limitations on the damage which may be incurred by the bumper face bar and associated components and fasteners in bumper testing. The agency finds that under this action net benefits will accrue to the public and to the nation's consumers. This action is thus required by the mandate of the Motor Vehicle Information and Cost Savings Act that any bumper standard issued under that statute "seek to obtain the maximum feasible reduction in costs to the public and to the consumer," taking into account the costs and benefits of implementation, effects on insurance and legal costs, savings in consumer time and inconvenience and considerations of health and safety. Any reduction in costs related to bumper systems, including savings from reduced fuel consumption, will exceed any reduction in benefits which may occur because of increases in damage, insurance costs, delay and inconvenience, and other matters. This action will thus increase and seek to maximize the net consumer and public benefits of the standard. The agency also finds that this action will cause no reduction in vehicle safety. Effective date July 6, 1982. (47 FR 21820, May 20, 1982).

49 CFR Part 571 -- Federal Motor Vehicle Safety Standards; Standard No. 201, Occupant Protection in Interior Impact

Standard No. 201, Occupant Protection in Interior Impact, sets requirements for instrument panels, interior compartment doors, seat backs, sunvisors, and arm rests to lessen injuries to persons thrown against them in crashes. At the request of Blue Bird Body Co., the agency proposed excluding school buses from the standard since they have to meet the requirements of Standard No. 222, School Bus

49 CFR Parts 171 and 173 -- Transportation of Liquefied Petroleum Gas in Intrastate Commerce

This final rule authorizes the continued use in intrastate service of certain nonspecification cargo tanks for the carriage of liquefied petroleum gas (LPG) in States where this practice was permitted prior to the adoption of the Department's Hazardous Materials Regulations (HMR) by those States. This action is necessary because, in the past, individual States have permitted LPG to be transported in intrastate service in cargo tanks which were not built to the requirements of DOT Specification MC-330 or MC-331. When States adopted the HMR, these nonspecification cargo tanks were no longer authorized for the transportation of LPG. These amendments will allow the continued use of nonspecification cargo tanks for the transportation of LPG in intrastate commerce until they are taken out of service and replaced with new tanks that meet DOT requirements. Effective date April 19, 1982. (47 FR 7242 February 18, 1982.)

49 CFR Part 192 -- Transportation of Natural and Other Gas by Pipeline; Metal Alloy Fittings in Plastic Pipelines

This final rule removes the requirement in 192.455(f)(3) that a means be provided for identifying the location of each metal alloy fitting that is installed without coating and cathodic protection in plastic pipelines. The identification requirement is unnecessary for safety and hinders the use of corrosion resistant metal alloy fittings to mechanically join plastic pipe and components. Effective date April 7, 1982. (47 FR 9842, March 8, 1982.)

Rail-Highway Grade-Crossing Accident/Incident - is any impact between railroad on-track equipment and an automobile, bus, truck, motorcycle, bicycle, farm vehicle, or pedestrian, at a rail-highway grade crossing.

Train Incident - is a collision, derailment, fire, explosion, act of God, or other event involving operation of railroad on-track equipment, which results in a reportable death, injury, or illness, but involves more than \$3,700 in damages to railroad on-track equipment, signals, track, track structures, or roadbed. Prior to 1981, this threshold stood at \$2,900, prior to 1979, at \$2,300; prior to 1977, at \$1,750; and prior to 1975, at \$750.

Nontrain Incident - is any event arising from the operation of a railroad, but not from the movement of equipment, which results in a reportable death, injury or illness.

Fatality -

- (1) The death of any person from an injury within 365 days of the accident/incident;
- (2) The death of a railroad employee from occupational illness within 365 days after the occupational illness was diagnosed by a physician.

Injury -

- (1) Injury to any person other than a railroad employee that requires medical treatment;
- (2) Injury to a railroad employee that requires medical treatment or results in restriction of work or motion for one or more workdays, one or more lost workdays, termination of employment, transfer to another job, or loss of consciousness; or
- (3) Occupational illness of a railroad employee, as diagnosed by a physician.

Nontrespassers - are persons who are lawfully on that part of railroad property which is used in railroad operation and persons adjacent to railroad premises and injured as the result of the operation of a railroad.

Trespassers - are persons who are on that part of railroad property used in railroad operation, and whose presence is prohibited, forbidden or unlawful. A person on a rail-highway grade crossing is classified as a trespasser if the crossing is protected by gates or other similar barriers which were closed when the person entered the crossing. He is also a trespasser if he attempts to pass over or under trains or cars at the crossings.

WATERBORNE TRANSPORTATION

Waterborne Transportation - is the transport of freight and/or people by commercial vessels under USCG jurisdiction.

Casualty - casualties involving commercial vessels are required to be reported to the Coast Guard whenever the casualty results in the following:

- a. Actual physical damage to property in excess of \$1,500.
- b. Material damage affecting the seaworthiness or efficiency of a vessel.

- (3) **Commercial Operator (of large aircraft)** - one of a class of air carriers operating on a private for-hire basis, as distinguished from a public or common air carrier, holding a commercial operator certificate, issued by the Administrator of the Federal Aviation Administration (pursuant to Part 45 of the Civil Air Regulations) authorizing it to operate (large) aircraft in air commerce for the transportation of goods or passengers for compensation or hire.

General Aviation - refers to all civil aircraft operations except those classified as air carrier operations.

General Aviation Flying:

- o **Personal** - any use of an aircraft for personal purposes not associated with business or profession, and not for hire. This includes maintenance of pilot proficiency.
- o **Business** - any use of an aircraft, not for compensation or hire, by an individual for the purposes of transportation required by a business in which he is engaged.
- o **Commuter operator** - any operator who performs, pursuant to published schedule, at least five round trips per week between two or more points, or carries mail on contract.
- o **Executive** - any use of an aircraft by a corporation, a company or other organization for the purposes of transporting its employees and/or property not for compensation or hire and employing professional pilots for the operation of the aircraft.
- o **Air Taxi** - any use of an aircraft by the holder of an air taxi operating certificate which is authorized by the certificate.
- o **Instructional** - any use of an aircraft for the purposes of formal flight instruction with or without the flight instructor aboard.
- o **Aerial Application** - any use of an aircraft in agriculture to discharge material in flight and to perform activities such as antifrost agitation, agitating fruit trees, chasing birds from crops, checking crops, restocking of fish, animal and other wildlife, etc.
- o **Other** - any use of an aircraft not specified in the preceding uses. It includes research and development, demonstration, sport parachuting, ferry flight and industrial/special.

Aircraft Accident - is an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage.

Fatal Injury - is any injury which results in death within seven days of the accident.

Serious Injury - an injury on an Air Carrier which:

- (1) Requires hospitalization for more than 48 hours commencing within seven days from the date when the injury was received;
- (2) Results in a fracture of any bone except fractures of fingers, toes or nose;
- (3) Involves a laceration which causes a severe hemorrhage, nerve, tendon or muscle damage;