

Jeep CJ-5 Has Highest Rollover Crash Rate

Utility vehicles had the highest rate of involvement in single-vehicle rollover crashes, and the Jeep CJ-5 was found to be the worst performer, a new report from the Highway Safety Research Center (HSRC) at the University of North Carolina indicates.

The HSRC study, which dealt with rollover crashes of passenger cars, pickup trucks, and utility vehicles, was based on data from Maryland, North Carolina, and the federal Fatal Accident Reporting System. Specific utility vehicles studied included the AMC Jeep CJ-5, Ford Bronco, and Chevrolet Blazer. Pickups in the study were Ford F-100 and F-150, Chevrolet C-10 and K-10, Toyota, and Datsun.

NHTSA Survey Shows Car Ratings in Demand

Consumers have endorsed the idea of federal government ratings of new cars — and have indicated their willingness to pay for such ratings — in a survey conducted for the National Highway Traffic Safety Administration (NHTSA).

Participants in the survey said their greatest interest in the ratings program focused on crash-worthiness information and the safety a vehicle can afford a prospective car purchaser. While they showed that the make of a car, its price, and its fuel mileage are the prime decision-making factors in buying a car, survey responses indicated crashworthiness ratings will guide, if not determine, a buyer's vehicle choice.

These findings resulted from a national survey of 2,331 recent or prospective new car purchasers by National Analysts, a division of Booz-Allen & Hamilton, Inc., a Philadelphia company.

Automotive ratings were ordered by Congress in Title II of the Motor Vehicle Information and Cost Savings Act of 1972. The program was

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“In virtually every category of comparison — crash involvement rates (particularly single vehicle), serious. . . driver injuries, rate of overturn, serious driver injuries in rollover crashes, serious injuries for belted and unbelted drivers — the Jeep CJ-5 had the least favorable results of the various vehicles studied,” the researchers reported.

The study focused on single-vehicle crashes because rollovers occur more than 10 times as often in these as in multi-vehicle crashes. The findings on the comparative vulnerability of utility vehicles to rollover were consistent with findings of an earlier study by the Highway Safety Research Institute at the University of Michigan (see *Status Report*, Vol. 15, No. 7, May 6, 1980), and the Jeep CJ-5 experience had been indicated by tests conducted for the Insurance Institute for Highway Safety last year (see *Status Report*, Vol. 15, No. 19, Dec. 22, 1980).

In each of the three groups of vehicles studied, the researchers found that smaller vehicles had higher rates of rollover than larger vehicles. For passenger cars the smaller models had four to five times the involvement in rollover crashes than the larger cars.

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"Among utility vehicles, size was also a factor," the report said; "the largest utility vehicle studied - the Chevrolet Blazer - had a much lower rollover rate than the smaller utility vehicles. Among the smaller utility vehicles, the Jeep CJ-5 had a generally worse experience than the pre-1978 Ford Bronco although both were about the same size."

Mindful of the argument that crash-involved Jeep CJ-5's are more often driven by young drivers than the other crash-involved vehicles, possible effects of driver age on rollover rates were studied. "It was found that any age effect was at most marginal," the study reported.

"The track width and center of gravity of a vehicle are very important factors with respect to roll-overs," the researchers concluded. "Thus, it is not surprising that utility vehicles, which typically have higher centers of gravity than passenger cars and pickup trucks, are more likely to roll over."

The research, supported by the Insurance Institute for Highway Safety, was conducted by Donald W. Reinfurt, Livia K. Li, and Carol L. Popkin of HSRC, and by Brian O'Neill, Phyllis F. Burchman, and JoAnn K. Wells of the Institute staff. Copies of the study, "A Comparison of the Crash Experience of Utility Vehicles, Pickup Trucks, and Passenger Cars," are available from the Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.

Jeep CJ-5 Has Highest Injury Claim Frequency Results

The Jeep Cherokee had the best record, but the Jeep CJ-5 had by far the worst, in a Highway Loss Data Institute (HLDI) report of personal injury claim frequency results for 1977 through 1980 model utility vehicles.

The Cherokee's claim frequency was 22 percent better than the all-vehicle average, but the CJ-5 claim frequency was 122 percent worse than the average, with the frequencies rising to three times the average for claims with medical costs exceeding \$1,000. "The frequency of claims exceeding \$250, \$500, and \$1,000 for the Jeep CJ-5 were all higher than those for any other vehicle in this report and were also higher than those for any of the passenger cars reported for the same model years," HLDI reported.

Utility vehicle results came in a report also covering vans and pickup trucks. As a group the pickups had the lowest claim frequencies, vans next, followed by utility vehicles. The Volkswagen Kombi/Campmobile had the worst results for vans and the Chevrolet G20 Sportvan (¾T) had the best. For pickups, the Subaru Brat had the worst results and the GMC C2500/K2500 (¾T) had the best.

Copies of the report, "Automobile Insurance Losses; Personal Injury Protection Coverages; Injury Claim Frequency Results by Size of Claim; Vans, Pickup Trucks, and Utility Vehicles, 1977-1980 Models" (HLDI V80-2), are available from Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

Escort Wagon Is A Leader In Collision Coverage Experience

The 1981 model high-volume car with the best collision coverage loss experience for the first nine months of the model year was the Ford Escort station wagon, the Highway Loss Data Institute (HLDI) has reported.

The Escort, a small subcompact, had the smallest relative average loss payment per insured vehicle year of the high-volume cars (those with at least 1 percent of the total exposure). Considering 100 as the average for all 1981 models, the Escort led the high-volume list at a relatively favorable 56.

Worst performer on the high-volume list was the Chevrolet Camaro, a compact specialty model, with a relative average loss payment per insured vehicle year of 169, or 69 percent above the average for all cars.

Among the low-volume cars (those with more than 1,000 insured vehicle years of exposure but less than 1 percent of total exposure) the Oldsmobile Omega four-door led the list with an average loss payment exactly half the average for all 1981 models. Worst performer by far among the low-volume cars was the Chevrolet Corvette, a sports model, with a relative average loss payment per insured vehicle year 3½ times the average for all 1981 models.

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**RELATIVE AVERAGE LOSS PAYMENTS PER INSURED VEHICLE YEAR
FOR THE 1981 MODEL YEAR CARS WITH THE BEST AND WORST
COLLISION COVERAGE LOSS EXPERIENCE**

	BEST CARS				WORST CARS			
HIGH VOLUME (At least 1% of total exposure)	Ford Escort	S.W.	SS	56	Chevrolet Camaro	Spec.	C	169
	Buick Skylark	4 Dr.	SC	65	Toyota Celica	2 Dr.	S	163
	Buick Century	4 Dr.	C	66	Toyota Corolla	2 Dr.	SS	128
	Chevrolet Citation	4 Dr.	SC	66	Ford Mustang	2 Dr.	S	122
	Oldsmobile Cutlass	4 Dr.	C	69	Toyota Corolla Tercel	2 Dr.	S	115
LOW VOLUME (Less than 1% of total exposure)	Oldsmobile Omega	4 Dr.	SC	50	Chevrolet Corvette	Sport	S	350
	Dodge Aries	S.W.	S	52	Datsun 280ZX	Sport	SS	279
	Buick LeSabre	2 Dr.	I	54	Mazda RX-7	Sport	SS	216
	Ford Fairmont	S.W.	SC	55	Datsun 200SX	2 Dr.	SS	189
	Dodge Aries	4 Dr.	S	56	Pontiac Firebird	Spec.	C	173

NOTES:

- SS (Small Subcompact): Wheelbase ≤ 96 inches
S (Subcompact): 96 inches < Wheelbase ≤ 101 inches
SC (Small Compact): 101 inches < Wheelbase ≤ 106 inches
C (Compact): 106 inches < Wheelbase ≤ 111 inches
I (Intermediate): 111 inches < Wheelbase ≤ 120 inches
- Results are relative to the overall result for 1981 models.

- Results are standardized to the following distribution:

DEDUCTIBLE	YOUTHFUL OPERATOR	NO YOUTHFUL OPERATOR
< \$150	10%	60%
≥ \$150	5%	25%

Escort Wagon Is A Leader In Collision Coverage Experience (Cont'd from page 3)

Six of the 10 cars with the best collision coverage loss experience were either small compact or compact models, and all were domestic products. Eight of the 10 cars with the worst experience were either small subcompact or subcompact models, and six of them were imports.

HLDI analysts noted that seven of the ten 1981 cars found to have the worst collision loss experience were also on the "worst" list a year ago for 1980 models. (See *Status Report*, Vol. 15, No. 15, Oct. 9, 1980.)

Budget Cuts Scuttle Parts-Return Program

Budget cuts have ended a little-noticed program to encourage auto repair shops to ship allegedly defective auto parts to safety experts for review.

The 10-year-old parts-return program run by the Office of Defects Investigation of the National Highway Traffic Safety Administration (NHTSA) had been organized to help collect information on safety-related defects. The program died with the start of the federal government's 1982 budget year beginning October 1.

Nearly 10,000 auto repair shops have participated in the program since its inception, NHTSA said, but far fewer - 100 to 200 shops - were active participants at the time of its demise.

The program never sparked a recall campaign, George Anikis, head of the defects office, told *Status Report*, but it did help engineers obtain defective parts for inspection during preliminary engineering analyses. Engineering analysis is the first step in the long chain of events sometimes leading to a safety recall. While the parts mailed in were occasionally useful to engineers, Anikis said, the agency also "got a lot of junk."

Anikis said in the future the office would write repair shops which had participated in the parts-return program for assistance in obtaining allegedly defective parts for engineering analyses. The revised approach would be more efficient, Anikis said, and would cost the agency less money.

In a previously-instituted efficiency move, the Office of Defects Investigation said it is conducting fewer engineering analyses than it has in the past. In recent years, the agency has opened far more engineering investigations into alleged defects than it could reasonably carry out, a NHTSA spokesman said. Engineering analyses are now undertaken only after careful screening has verified consumer complaints, said the spokesman.

In the 1980 fiscal year, 118 engineering analyses were undertaken by NHTSA engineers. In 1981 the number fell to 55. Out of 167 recalls in 1980 and 142 recalls in the first 9 months of 1981, there were 19 NHTSA-influenced recalls in both years, the NHTSA spokesman said.

Intermediate Models Have Best Personal Injury Experience

Intermediate-sized cars (those with 111- to 120-inch wheelbase) had the best claims experience for occupant injuries, the Highway Loss Data Institute (HLDI) has reported after studying claim frequencies for 1978 through 1980 model cars.

With one exception, the 19 cars with the best injury loss experience were station wagons or four-door sedans, all were domestic models, and 15 of them were from General Motors. The 17 models with the worst results all were subcompacts or small subcompacts, most were two-door models, and 14 were imports.

Two Oldsmobiles, the Custom Cruiser station wagon and the Toronado, a specialty model, led the list of cars with the best injury loss experience, with an overall claim frequency 42 percent below the average for all cars combined. The Buick Estate station wagon had the lowest frequency of claims exceeding \$250, the Oldsmobile Custom Cruiser and the Buick Century station wagon had the lowest frequency of claims greater than \$500, and the Chevrolet Caprice station wagon had the lowest frequency of claims greater than \$1,000.

The Japanese-made Dodge Challenger had the highest overall claim frequency (62 percent above average), and the Japanese-made Plymouth Arrow had the highest frequency of claims exceeding \$250 (65 percent above average).

Copies of the report, "Automobile Insurance Losses; Personal Injury Protection Coverages, Claim Frequency Results by Size of Claim, 1978-1980 Models" (HLDI I 80-1), are available from the Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

**1978-1980 MODELS WITH THE WORST LOSS EXPERIENCE
RELATIVE INJURY CLAIM FREQUENCIES - PERSONAL INJURY PROTECTION COVERAGES**

Model Years	Make and Series	Body Style	Car* Size	Exposure	RELATIVE CLAIM FREQUENCIES BY SIZE OF CLAIM			
					All	>\$250	>\$500	>\$1,000
1978-1980	Dodge Challenger	2 Dr.	S	7,717	162			
1978-1980	Fiat Brava	**	S	6,572	156			
1980	Toyota Corolla Tercel	2 Dr.	S	9,378	153			
1980	Datsun 200SX	2 Dr.	SS	7,159	150			
1978-1980	Plymouth Sapporo	2 Dr.	S	6,941	149			
1978-1980	Plymouth Arrow	2 Dr.	SS	14,403	148	165		
1979-1980	Dodge Omni	2 Dr.	S	18,214	142	139	143	
1979-1980	Honda Prelude	2 Dr.	SS	11,926	140	146		
1978-1980	Mazda GLC	**	SS	33,258	139	142	133	139
1978-1980	Honda Civic	2 Dr.	SS	80,170	135	139	137	136
1978-1980	Datsun 210	**	SS	82,618	135	133	126	118
1979-1980	Plymouth Champ	2 Dr.	SS	10,793	134	132		
1979-1980	Mazda RX-7	Sports	SS	18,088	132	142	146	
1978-1980	Mercury Bobcat	2 Dr.	SS	19,136	131	125	107	
1980	Toyota Corolla	**	SS	19,445	130	129	126	
1979-1980	Ford Mustang	2 Dr.	S	109,383	128	130	133	121
1978-1980	Honda Civic	S.W.	SS	16,269	119	130	146	

*SS (Small Subcompact): Wheelbase ≤ 96 inches
S (Subcompact): 96 inches < Wheelbase ≤ 101 inches

** Body Style cannot be determined from Vehicle Identification Number.

Those results at least 30 percent *above* the all-vehicle results (100) are shown in bold print. Only cars with 1980 models are included.

Minimum exposure requirements for reporting:

All claims	5,000 vehicle years
Claims > \$250	10,000 vehicle years
Claims > \$500	15,000 vehicle years
Claims > \$1,000	25,000 vehicle years

Crash Rating Results Reviewed

A government review of crash test results published recently by the National Highway Traffic Safety Administration (NHTSA) apparently has resulted in good news for Audi and bad news for Ford.

While the results are unofficial, NHTSA sources say an engineering review of crash test data indicates the 1981 Audi 5000 will probably be added to the agency's list of 1981 cars deemed capable of providing adequate protection to front-seat occupants in 35 mph impacts, but Ford's new EXP fell short in one test.

When test results were first announced last month, Chrysler's 2-door Imperial, AMC's 2-door Spirit, and Honda's 2-door Civic were the only models listed as having met the 30 mph injury criteria at 35 mph for both driver and front seat passenger. Presence of the Honda Civic on the list was particularly notable, for in tests of 1980 models one year ago the Civic had performed poorly. After taking corrective measures, the Honda company asked that NHTSA test the modified car. The results, said NHTSA officials, showed that "relatively minor improvements can significantly effect the test results."

The tests are part of the agency's new car assessment program begun in 1979 under Congressional mandate. (See *Status Report*, Vol. 14, No. 16, Oct. 29, 1979.) Its objective is to develop a system to measure the relative safety performance of new cars and publish the results for consumers.

The tests measure whether the autos are capable of meeting the agency's 30 mph crash test requirements in 35 mph frontal and frontal-oblique, and rear barrier impacts.

Head, Chest, Leg Stresses Tested

Measures of the relative safety provided front seat occupants were taken using instrumented dummies using manual or automatic belts, which registered the severity of impact to the head, chest, and femur. A head injury criterion (HIC) number of 1,000 or less, a chest deceleration of 60 G's or less, and a femur load under 2,500 lbs. are required to meet NHTSA's 30 mph occupant crash protection criteria under Federal Motor Vehicle Safety Standard (FMVSS) 208. Readings in excess of those numbers would probably translate into death or serious injury for front seat occupants in such crashes, NHTSA experts claim.

In releasing the results of the 15 domestic and foreign cars tested, NHTSA dropped a controversial "pass-fail" rating system in favor of listing the test results. Under former NHTSA Administrator Joan Claybrook, test results that exceeded a HIC reading of 1,000 resulted in a "fail" rating. Readings below 1,000 resulted in a "pass." Auto manufacturers objected to the arbitrary designation.

Test Results Invalidated

When the results were released in September, agency head Raymond Peck invalidated the 35 mph frontal barrier test results for the 1981 Audi 5000 – whose HIC numbers in the frontal test registered at 1,288 for the driver and 1,583 for the passenger – and the passenger results for Ford's new EXP, a 2-door hatchback, which had a passenger HIC level reported at 2,668 in the 35 mph frontal barrier test.

The data now show the Ford EXP exceeded the 1,000 HIC criterion for the passenger dummy in a 35 mph frontal barrier impact, while the Audi's results dropped below 1,000 for both driver and passenger, NHTSA sources told *Status Report*.

The tests themselves were valid, NHTSA sources said, but an error in calibrating the data resulted in the contractor reporting inaccurate statistics in the two questioned tests. All other results were accurately reported, they said.

NHTSA has said it plans to test additional 1981 models.

NTSB Urges Passengers Be Barred From Cargo Areas

For the second time in two years the National Transportation Safety Board (NTSB) has urged the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) to draft a model law to prohibit passengers from riding in the open cargo areas of most vehicles.

The NTSB noted that an average of 242 persons were killed each year from 1975 through 1979 in falls from the cargo areas of pickup trucks, and an average of 167 persons suffered incapacitating injuries.

The safety board made its initial recommendation in this matter in 1979 after a particularly tragic crash of a pickup truck in Maryland. In that incident seven of eight passengers riding in the bed of a small pickup, and three of four persons in the truck's cab, were killed when a young driver failed to traverse a curve and the truck ran off the road and overturned.

Since the first recommendation, the NCUTLO has not met to act upon the matter, and a full meeting of the committee still has not been scheduled.

The safety board's study confirmed results of an earlier Institute study which found that 345 persons fell or jumped to their deaths from non-crashing vehicles in 1978. (See *Status Report*, Vol. 16, No. 4, March 17, 1981.) Of that number 201 had been on vehicle exteriors, the Institute study reported, and two-thirds of those were riding on trucks. The study, "Fatal Falls and Jumps From Motor Vehicles" by Allan F. Williams and Sharon Goins, was published in the February 1981 issue of the *American Journal of Public Health*.

NHTSA Survey Shows Car Ratings In Demand (Cont'd from page 1)

designed to provide information on a vehicle's crashworthiness, damageability, and maintainability. It was implemented for the first time by NHTSA with crash tests on 1979 model cars (see *Status Report*, Vol. 15, No. 4, March 5, 1980), but it was not until last year that NHTSA published "The Car Book," a consumer guide to automobile purchasing. The demand for the book has been heavy, but NHTSA already has announced that when the current supply is exhausted it will not be reprinted. (See *Status Report*, Vol. 15, No. 13, Sept. 4, 1981.)

However, 78 percent of the participants in the NHTSA-sponsored survey agreed with the statement made by interviewers that they "like the idea of government ratings of things, like safety and maintenance costs." Only 11 percent accepted the counter-statement that "the government has no business coming up with these ratings."

National Analysts observed that the trend to small cars may have sharpened consumers' interest in safety features. "Previous research for NHTSA by National Analysts and other contractors has suggested that the ongoing shift from larger cars to smaller, more fuel-efficient cars has been slowed by concerns about the crash protection afforded by small cars," the company reported.

Interest in the ratings was shown by respondents' willingness to pay for them, the researchers said. Each was asked if he favored ratings even when \$5, \$10, \$15, or \$20 was added to the car's price to pay for the ratings. At the top price, more than one-third of those surveyed said they desired the ratings. On another pocketbook issue, more than 71 percent of the respondents said they would be willing to spend an additional \$400 for a safer car.

Copies of the report, "Title II Consumer Study" by Robert Kernish, may be obtained by writing: Public Docket 79-17, Technical Reference Division, National Highway Traffic Safety Administration, Room 5108, 400 Seventh St., S.W., Washington, D.C. 20590.

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