

Wide Variations Found In Auto Crash Claims

Wide variations in both frequency and size of crash damage losses for 93 passenger car series of the 1972 model year have been documented in a report released by the Highway Loss Data Institute.

According to the report, the claim frequency for all series combined was 10.9 claims per 100 insured vehicle years. The 93 series – of 13 makes of automobile from the four U.S. manufacturers and one foreign manufacturer – had an average loss payment per damage claim of \$485 and an average loss payment per insured vehicle year of \$53. (See Table on page 3).

The series with the *four highest results* in each category were:

Claim Frequency Per 100 Insured Vehicle Years – AMC Javelin, 17.2; Mercury Cougar, 16.0, and Ford Mustang and Chevrolet Corvette, 15.6.

Average Loss Payment Per Damage Claim – Chevrolet Corvette, \$881; Volkswagen 411 Sedan, \$645; AMC Javelin, \$612, and Pontiac Grand Prix, \$590.

Average Loss Payment Per Insured Vehicle Year – Chevrolet Corvette, \$137; AMC Javelin, \$105; Mercury Cougar, \$84, and Ford Mustang, \$83.

The series with the *four lowest results* in each category were:

Claim Frequency Per 100 Insured Vehicle Years – Pontiac Catalina, 7.4; Chevrolet Impala and Chevrolet Caprice, 7.6, and Chevrolet Kingswood Station Wagon, 7.7.

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Average Loss Payment Per Damage Claim – Plymouth Satellite Station Wagon, \$263; Chevrolet Bel Air, \$359, and Dodge Coronet Station Wagon and Buick Estate Wagon, \$386.

Average Loss Payment Per Insured Vehicle Year – Chevrolet Bel Air, \$29, and Dodge Coronet Station Wagon, Plymouth Fury III and Chevrolet Kingswood Station Wagon, \$32.

The HLDI report found wide variations not only between individual series

across the board, but also between series within each of the eight market classes into which the series were grouped.

For example, it found variations in average loss payments per insured vehicle year that ranged from \$43 to \$76 for series in the subcompact class; from \$34 to \$65 in the compact class; from \$32 to \$76 in the intermediate class; from \$29 to \$74 in the full size class; from \$42 to \$68 in the luxury class; from \$69 to \$105 in the specialty class, and from \$55 to \$81 in the expensive specialty class.

“As a group, in general, the full size series tended to have slightly lower average loss payments per insured vehicle year than the other market classes. The specialty series, on the other hand, had much higher average loss payments per insured vehicle year than the other market classes,” the report noted.

WHEELBASE VARIATIONS

The report also noted differences between vehicle series that were “identical in their make and their car-line name, but not in their wheelbases. In every instance the shorter wheelbase versions – which in all cases were two-door models – had higher average losses per insured vehicle year than the corresponding longer wheelbase versions, which in most cases were four-door models.

“For example, the Ford Torino four-door models had a claim frequency of 9.8, an average loss payment of \$446 and an average loss payment per insured vehicle year of \$44, whereas the Ford Torino two-door models had corresponding results of 12.7 claim frequency, \$485 average loss payment, and \$62 average loss payment per insured vehicle year,” the report said. It added that in the compact and intermediate series for Mercury, Dodge, Pontiac, Plymouth, Oldsmobile, Buick and Chevrolet car lines, two-door series were shorter wheelbase versions of a four-door series.

In the full size series, the report added, “both the two-door and four-door versions of similar vehicles, if both body styles were available, had the same wheelbases.” Between the two versions “results showed a tendency to differ – the two-door versions of each series had slightly larger losses than the corresponding four-door versions – but the differences between the results for the two-body styles in these full size series were consistently much smaller than those discussed above for the compact and intermediate series.”

The report also showed that even though the overall average loss payment for the 93 individual series was \$485, the actual distribution of loss payments showed that “the overwhelming bulk of the loss payments were for amounts smaller than the average. The most frequent loss payment size was between \$60 and \$80.”

The HLDI report, the organization’s first, was based on more than 60,000 collision coverage claims and on collision coverages involving more than 580,000 insured vehicle years of exposure for passenger cars of the 1972 model year. A report for 1973 model year automobiles will be published later this year. In future, HLDI plans to publish damage loss results during the first year of availability of the involved vehicles, to include additional makes, and to base the results on larger volumes of data from additional companies. It also plans to develop and publish human injury results for specific vehicles.

HLDI (pronounced “hildy”) was formed in December, 1972, as an outgrowth of a special data project initiated earlier by the Insurance Institute for Highway Safety. (See *Status Report*, Vol. 8, No. 1, Jan. 3, 1973.) It is a nonprofit organization that gathers, processes and provides the public with insurance data concerned with human and economic losses resulting from highway crashes.

(Cont'd on page 5)

**LOSS PAYMENT SUMMARY BY MAKE AND SERIES
1972 MODELS
COLLISION COVERAGES***

| Make | Series | Total Exposure (insured vehicle years) | Claim Frequency per 100 insured vehicle years | Average Loss Payment per claim | Average Loss Payment per insured vehicle year |
|---------------------|------------------------|--|---|---|--|
| All | All | 582,230 | 10.9 | \$485 | \$53 |
| SUB COMPACT | | | | | |
| Chevrolet | Vega Kammback S.W. | 4,940 | 9.3 | \$463 | \$43 |
| Volkswagen | Type 3 Squareback | 1,912 | 11.2 | \$417 | \$47 |
| Volkswagen | Beetle | 21,198 | 10.9 | \$466 | \$51 |
| Chevrolet | Vega | 19,490 | 11.5 | \$480 | \$55 |
| Ford | Pinto S.W. | 3,874 | 12.1 | \$487 | \$59 |
| Volkswagen | 411 Sedan | 1,145 | 9.8 | \$645 | \$63 |
| Ford | Pinto | 26,029 | 14.0 | \$475 | \$67 |
| AMC | Gremlin | 6,563 | 14.0 | \$541 | \$76 |
| COMPACT | | | | | |
| Dodge | Dart | 4,142 | 8.8 | \$391 | \$34 |
| Mercury | Comet 4 Dr. Models | 1,743 | 9.8 | \$397 | \$39 |
| Plymouth | Valiant | 2,855 | 9.1 | \$457 | \$42 |
| Dodge | Dart Swinger | 8,607 | 9.0 | \$491 | \$44 |
| Plymouth | Valiant Scamp | 3,126 | 9.5 | \$475 | \$45 |
| Chevrolet | Nova | 24,104 | 10.1 | \$454 | \$46 |
| Pontiac | Ventura II | 4,040 | 9.7 | \$475 | \$46 |
| AMC | Hornet Sportabout S.W. | 2,390 | 10.1 | \$541 | \$55 |
| AMC | Hornet | 2,884 | 11.9 | \$463 | \$55 |
| Ford | Maverick 2 Dr. Models | 17,226 | 11.3 | \$501 | \$57 |
| Mercury | Comet 2 Dr. Models | 3,141 | 12.3 | \$487 | \$60 |
| Plymouth | Valiant Duster | 14,172 | 12.5 | \$513 | \$64 |
| Dodge | Dart Demon | 2,371 | 11.8 | \$547 | \$65 |
| INTERMEDIATE | | | | | |
| Dodge | Coronet S.W. | 1,475 | 8.3 | \$386 | \$32 |
| Plymouth | Satellite S.W. | 1,241 | 12.4 | \$263 | \$33 |
| Pontiac | Le Mans 4 Dr. Models | 2,269 | 8.7 | \$417 | \$36 |
| Plymouth | Satellite 4 Dr. Models | 2,153 | 8.8 | \$439 | \$39 |
| Oldsmobile | Cutlass 4 Dr. Models | 3,256 | 9.7 | \$416 | \$40 |
| Buick | Skylark 4 Dr. Models | 3,847 | 9.3 | \$430 | \$40 |
| Mercury | Montego 4 Dr. Models | 2,831 | 10.7 | \$389 | \$42 |
| Dodge | Coronet | 3,003 | 8.8 | \$484 | \$43 |
| Ford | Torino S.W. | 6,594 | 11.0 | \$399 | \$44 |
| Ford | Torino 4 Dr. Models | 10,430 | 9.8 | \$446 | \$44 |
| Chevrolet | Chevelle 4 Dr. Models | 5,819 | 9.1 | \$494 | \$45 |
| Oldsmobile | Vista Cruiser S.W. | 2,114 | 11.8 | \$391 | \$46 |
| Chevrolet | Chevelle S.W. | 3,183 | 10.6 | \$447 | \$47 |
| Mercury | Montego 2 Dr. Models | 4,706 | 11.3 | \$444 | \$50 |
| AMC | Matador | 1,467 | 9.7 | \$538 | \$52 |
| Buick | Skylark 2 Dr. Models | 8,078 | 10.8 | \$482 | \$52 |
| Plymouth | Satellite 2 Dr. Models | 4,673 | 11.2 | \$496 | \$56 |
| Chevrolet | Monte Carlo | 14,305 | 11.6 | \$487 | \$56 |

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LOSS PAYMENT SUMMARY BY MAKE AND SERIES
1972 MODELS
COLLISION COVERAGES (Cont'd)

| Make | Series | Total Exposure (insured vehicle years) | Claim Frequency per 100 insured vehicle years | Average Loss Payment per claim | Average Loss Payment per insured vehicle year |
|------------------|-------------------------|--|---|---|--|
| Dodge | Charger | 5,067 | 11.8 | \$491 | \$58 |
| Chevrolet | Chevelle 2 Dr. Models | 16,869 | 10.9 | \$543 | \$59 |
| Pontiac | Le Mans 2 Dr. Models | 8,528 | 11.2 | \$525 | \$59 |
| Ford | Torino 2 Dr. Models | 14,863 | 12.7 | \$485 | \$62 |
| Oldsmobile | Cutlass 2 Dr. Models | 16,291 | 12.0 | \$520 | \$62 |
| Pontiac | Grand Prix | 6,634 | 12.9 | \$590 | \$76 |
| FULL SIZE | | | | | |
| Chevrolet | Bel Air | 1,466 | 8.1 | \$359 | \$29 |
| Plymouth | Fury III | 5,814 | 8.3 | \$387 | \$32 |
| Chevrolet | Kingswood S.W. | 4,666 | 7.7 | \$413 | \$32 |
| Chevrolet | Impala | 31,259 | 7.6 | \$446 | \$34 |
| Buick | Le Sabre | 10,590 | 7.8 | \$435 | \$34 |
| Oldsmobile | Delta 88 | 14,734 | 8.6 | \$411 | \$35 |
| Chevrolet | Caprice | 9,635 | 7.6 | \$468 | \$36 |
| Pontiac | Catalina | 13,574 | 7.4 | \$499 | \$37 |
| Dodge | Polara | 3,855 | 8.4 | \$439 | \$37 |
| AMC | Ambassador | 1,111 | 9.0 | \$412 | \$37 |
| Buick | Estate Wagon | 1,441 | 9.9 | \$386 | \$38 |
| Buick | Centurion | 2,135 | 8.1 | \$483 | \$39 |
| Oldsmobile | Custom Cruiser | 1,359 | 9.6 | \$414 | \$40 |
| Plymouth | Fury Gran Coupe & Sedan | 2,580 | 9.6 | \$425 | \$41 |
| Chevrolet | Kingswood Estate S.W. | 3,517 | 8.7 | \$467 | \$41 |
| Chrysler | Newport Custom | 7,184 | 8.4 | \$508 | \$43 |
| Pontiac | Grand Ville | 4,228 | 9.3 | \$472 | \$44 |
| Chrysler | New Yorker | 2,743 | 9.7 | \$459 | \$45 |
| Ford | Custom | 1,023 | 9.8 | \$458 | \$45 |
| Pontiac | Bonneville | 2,749 | 7.9 | \$584 | \$46 |
| Pontiac | Safari S.W. | 1,578 | 9.0 | \$510 | \$46 |
| Ford | LTD | 23,991 | 9.9 | \$473 | \$47 |
| Buick | Electra "225" | 8,536 | 9.8 | \$487 | \$48 |
| Mercury | Monterey | 1,269 | 9.3 | \$512 | \$48 |
| Dodge | Monaco | 1,396 | 8.2 | \$588 | \$48 |
| Ford | Galaxie | 9,953 | 10.1 | \$480 | \$48 |
| Oldsmobile | Ninety Eight | 6,689 | 9.7 | \$507 | \$49 |
| Plymouth | Suburban S.W. | 2,636 | 11.2 | \$452 | \$51 |
| Mercury | Marquis | 1,466 | 10.3 | \$525 | \$54 |
| Mercury | Monterey Custom | 1,550 | 10.2 | \$547 | \$56 |
| Ford | Country Sedan | 10,255 | 12.3 | \$462 | \$57 |
| Mercury | Brougham | 4,046 | 11.0 | \$536 | \$59 |
| Mercury | Marquis S.W. | 1,113 | 12.7 | \$586 | \$74 |
| LUXURY | | | | | |
| Cadillac | Fleetwood Sixty Special | 1,462 | 10.6 | \$394 | \$42 |
| Lincoln | Lincoln | 1,588 | 10.3 | \$518 | \$53 |
| Cadillac | De Ville | 7,139 | 11.5 | \$589 | \$68 |

**LOSS PAYMENT SUMMARY BY MAKE AND SERIES
1972 MODELS
COLLISION COVERAGES (Cont'd)**

| Make | Series | Total Exposure (insured vehicle years) | Claim Frequency per 100 insured vehicle years | Average Loss Payment per claim | Average Loss Payment per insured vehicle year |
|--------------------------------|-------------|---|---|---|--|
| SPECIALTY | | | | | |
| Chevrolet | Camaro | 4,520 | 13.4 | \$517 | \$ 69 |
| Dodge | Challenger | 1,663 | 14.8 | \$513 | \$ 76 |
| Pontiac | Firebird | 1,777 | 14.1 | \$547 | \$ 77 |
| Plymouth | Barracuda | 1,123 | 14.3 | \$565 | \$ 81 |
| Ford | Mustang | 7,849 | 15.6 | \$529 | \$ 83 |
| Mercury | Cougar | 2,866 | 16.0 | \$528 | \$ 84 |
| AMC | Javelin | 1,161 | 17.2 | \$612 | \$105 |
| EXPENSIVE SPECIALTY | | | | | |
| Buick | Riveria | 1,731 | 12.1 | \$456 | \$ 55 |
| Ford | Thunderbird | 2,909 | 12.1 | \$536 | \$ 65 |
| Oldsmobile | Toronado | 1,858 | 12.9 | \$531 | \$ 68 |
| Lincoln | Mark IV | 1,574 | 14.3 | \$566 | \$ 81 |
| SPORTS | | | | | |
| Chevrolet | Corvette | 1,746 | 15.6 | \$881 | \$137 |

*Vehicles are ranked within class in order of ascending average loss payment per insured vehicle year. Those with less than 1,000 insured vehicle years of exposure are not summarized.

(Copyrighted chart reprinted with permission from the Highway Loss Data Institute.)

(Cont'd from page 2)

The membership of the board represents the eight insurance companies – Allstate Insurance Co., The Hartford Insurance Group, The Home Insurance Co., Kemper Insurance Group, Liberty Mutual Insurance Co., Nationwide Mutual Insurance Co., State Farm Mutual Automobile Insurance Co. and The Travelers Insurance Co – that are supplying data to HLDI. The financial support for HLDI is provided by the eight companies and by the Insurance Institute for Highway Safety, which in turn is supported by most automobile insurers either directly or through their trade associations. The report on 1972 model year automobile results is based on collision coverages – that is, insurance that covers damage to the insured vehicle itself – supplied by three of the board companies: Kemper Insurance Group, Nationwide Mutual Insurance Co. and State Farm Mutual Automobile Insurance Co.

The full report, entitled “*Automobile Insurance Losses, Collision Coverages, Variations by Make and Series, 1972 Models*” (Research Report HLDI R72-1, June 1973), is available in single copies by writing to R72-1, Highway Loss Data Institute, Watergate 600, Washington, D.C. 20037.

DOT's ESV Program Under Fire For Drift

The chairman of the Senate committee that oversees the Department of Transportation's motor vehicle safety programs is upset about the sense of "uncertainty" that he says characterizes NHTSA's experimental safety vehicle effort. As a result, he plans hearings to look into the program.

In a letter to Transportation Secretary Claude S. Brinegar, Sen. Warren G. Magnuson (D-Wash.), chairman of the powerful Senate Committee on Commerce, said that indecision over the future direction of the agency's ESV program has led to reports "that foreign auto manufacturers who have participated in the experimental safety vehicle program are now considering either withdrawing entirely or reducing the level of their research efforts."

A committee staff member told *Status Report* that "the whole (ESV) program needs vital direction." He said the committee will seek the reasons for the apparent lack of direction during oversight later this summer.

In June, 1970, DOT awarded contracts amounting to \$7.8 million to AMF, Inc. and Fairchild Industries to develop prototype experimental safety vehicles. General Motors Corp. and Ford Motor Co. each signed contracts to build ESV's for a token of one dollar. The U.S. also has signed agreements with Germany, France, Italy, Japan, Sweden and the United Kingdom for ESV development by companies in those countries.

Following initial comparative testing in 1972 between the AMF vehicle and the Fairchild ESV, DOT changed its course. Initial plans called for the winner of the comparative tests (AMF) to build an additional dozen ESV's. Rather than award that contract, the department asked AMF to develop what it called an "optimized ESV." Among other things, NHTSA officials were concerned that the initial American ESV's, ranging in weight from 5,800 (AMF) to 4,900 (GM) pounds, were too heavy and did not lend themselves to mass production. Foreign ESV's ranged in weight from 4,600 (Mercedes) to 1,500 (Fiat) pounds.

NHTSA has now asked a limited number of potential bidders to submit proposals for yet another ESV. (Agency officials refuse to release the names of those potential bidders or to say whether AMF was asked to bid.) This time it is being called a "Research Safety Vehicle" (RSV). In its request for proposals, NHTSA calls this new project an "evolutionary milestone in the development of safety vehicles." NHTSA wants the vehicle to weigh around 3,000 pounds "with safety performance predicated on requirements of U.S. traffic conditions anticipated in the mid-1980's."

Recently, Satoshi Kawazoe, executive vice president of Nissan Motor Corp., in testimony before the Subcommittee on Commerce and Finance of the House Committee on Interstate and Foreign Commerce, estimated that the ESV program "has cost the United States Government about \$12 million, (while) foreign companies and their governments have spent over \$150 million."

According to Magnuson's letter to Brinegar, foreign and domestic auto makers are understandably "reluctant to continue investing large amounts of money in experimental safety vehicle research when they have no assurance that the results of such research will enable them to meet the (future) U.S. safety standards."

David Busby, a Washington attorney representing the Automobile Importers Association, told *Status Report* that Magnuson's letter "hit the nail on the head."

In his letter, Magnuson detailed these apparent "major reasons for this unfortunate situation":

- NHTSA has failed to show “a clear and detailed” relationship between the ESV program and future motor vehicle safety standards.
- “Some elements within NHTSA” do not support the ESV program.
- When it became “apparent that the initial ESV effort had not succeeded in developing a car which was suitable for mass production,” the agency was slow to define a new direction for its ESV program.

The “uncertainty is compounded,” Magnuson said, by the fact that a new NHTSA administrator has not been named to replace former Administrator Douglas Toms. Toms left the agency March 30, 1973, to join AMF, the major ESV contractor.

Magnuson asked Brinegar to outline plans for the ESV program and to describe how such plans will support future vehicle standards. He specifically asked that NHTSA determine whether automobile technology has “evolved to the point where a 50 mile per hour crashworthiness standard can be developed for application to all car production in the 1978-1980 period.”

He also inquired about plans to issue “a revised Motor Vehicle Program Plan which shows NHTSA’s intention with regard to future standards.” NHTSA had expected to publish a revised Program Plan much earlier this year. However, an NHTSA official told *Status Report* that a new Program Plan will not be issued until the agency gets a new administrator.

Crash Fire Hazards Film Available

Recent crash tests conducted by the Insurance Institute for Highway Safety demonstrate that inadequate fuel tank design can expose vehicle occupants to the danger of fire when a crash occurs.

Films of these crashes have been edited into a 27-minute, narrated color movie entitled, *Cars That Crash and Burn*. The film may be purchased for \$200 or obtained on a first-come-first-served loan basis. Loan and purchase requests for the film should be sent to Harvest A-V, Inc., 309 Fifth Ave., New York, N.Y. 10016.

Results of the tests, along with filmed documentation, were presented to a subcommittee of the House Commerce Committee in testimony by Institute President William Haddon, Jr., M.D. (See *Status Report*, Vol. 8, No. 11, May, 29, 1973.)

Copies of the Institute’s congressional testimony related to these crash tests may be obtained by writing “Fuel Tank Fires,” Insurance Institute for Highway Safety, Watergate 600, Washington, D.C. 20037.



Spontaneous fire occurred in this moderate speed test crash when the gas tank ruptured.

NHTSA Urged To 'Re-establish' Passive Restraint Deadline

The Center for Auto Safety has asked that the National Highway Traffic Safety Administration "act without delay to re-establish" its deadline requiring passive restraints in 1976 model cars.

In its petition the Center said that the December, 1972, court decision that sent the rule back to the agency for revision, "clearly permits NHTSA to re-establish this date as the effective date." (See *Status Report*, Vol. 7, No. 23, Dec. 18, 1972.)

As the Center pointed out in its petition, the court did not specifically order a delay in the 1976 model deadline that NHTSA had set earlier for passive restraints.

The court said that auto makers should be allowed a "reasonable time" after NHTSA issued new test dummy specifications to ensure that their passive restraint systems meet the requirements of the standard (FMVSS 208) when tested with the new dummies. The agency proposed those new test dummy specifications March 28, 1973. They are scheduled to become effective Aug. 1, 1973.

McQuie Joins Institute

Robert McQuie, a specialist in operations research, has joined the operations staff of the Insurance Institute for Highway Safety. Formerly with the U.S. Postal Service and in private consulting, McQuie will be involved in design and execution of IIHS highway loss reduction field tests.

McQuie, a Phi Beta Kappa from Catholic University, has written and lectured on mathematical and computer modeling of transport and logistics operations.

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the highway
loss reduction

STATUS REPORT

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