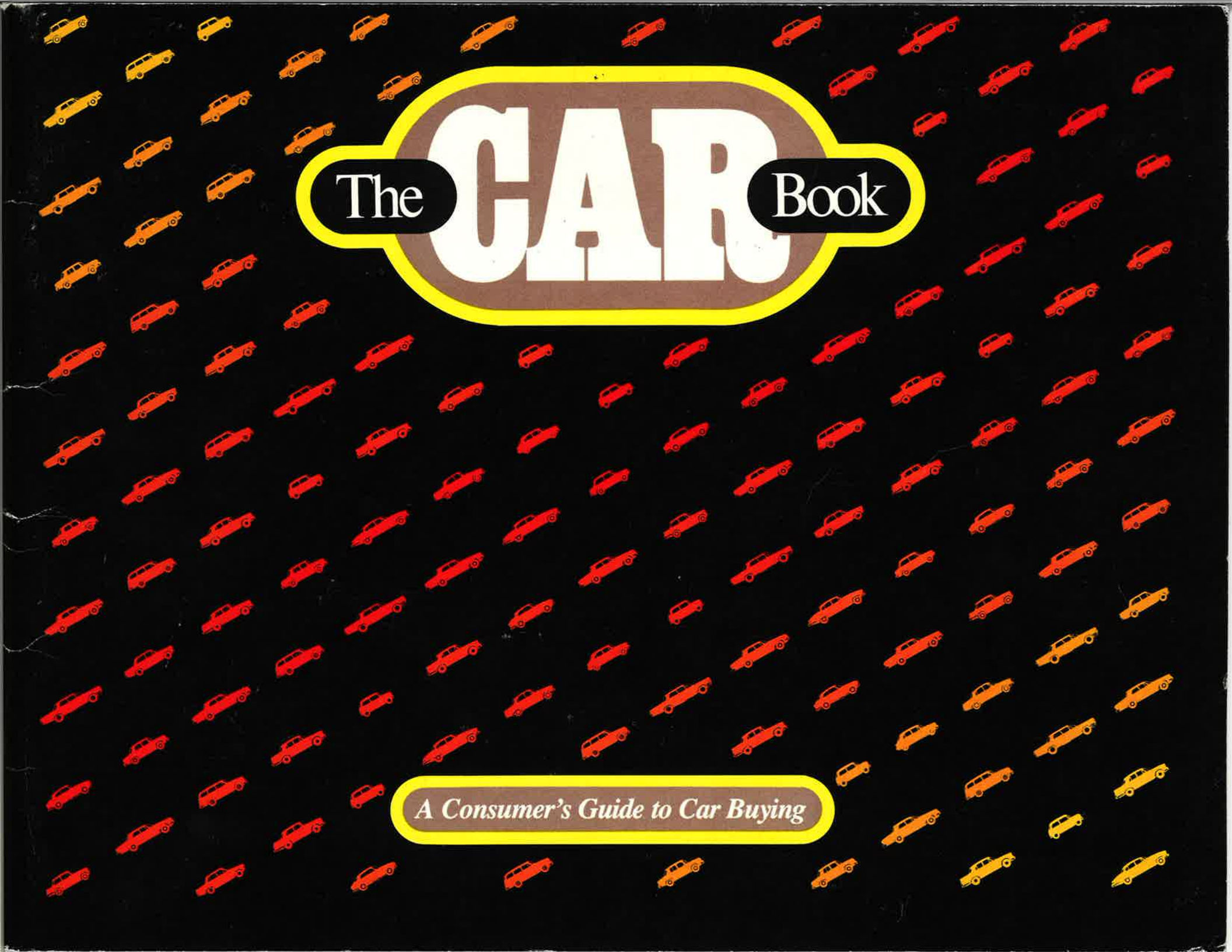
The CAR Book
A Consumer's Guide to Car Buying

When using *The Car Book*, please note the following:

In interpreting the crash test results on pages 14-17, please read the explanation on page 12 carefully. Only a single car was crashed. Differences in the way cars are manufactured, how they are equipped, and test conditions may cause variations in the results. This is particularly important for those cars listed on pages 14-17 that are marked with an asterisk (*). These cars only failed the occupant protection test by a small margin and they may offer the same level of crash protection as those which passed these tests. We hope in the future to have a rating system without these limitations.

The discussion of "Fatality Rates" on pages 18 and 19 is intended to demonstrate the effects of vehicle weight in protecting occupants. It clearly shows that heavier cars offer more protection than lighter cars. However, differences in fatality rates among car lines of the same size class illustrated on pages 20-23 do not indicate that one car line is designed to protect occupants better than another. Fatality rates are influenced by vehicle design *and* the way the vehicle is driven. The tables on pages 20-23 should not be used to compare how vehicles are designed.

The CAR Book

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

A Consumer's Guide to Car Buying

Contents

Introduction

Next to buying a home, purchasing a car is probably the most important financial decision you will make. You have to look for a car which fits your budget. This means comparison shopping for price. It also means learning about what a car can offer you in terms of fuel efficiency, maintenance costs, and insurance rates.

Last year more than 75 billion dollars was spent on new car purchases. An additional 50 billion dollars was spent on car maintenance and repair. In total, last year the public spent more than 220 billion dollars on automobile transportation. *The Car Book* will help you get the best buy for your dollar.

In addition to the economic cost, there is the personal tragedy. In 1979, for example, 51,000 people were killed and 4 million were injured in crashes. Every 10 minutes another person was killed; every 9 seconds someone was injured. On the average, each person can expect to be in a serious crash at least once every ten years. *The Car Book* will give you information on buying a safe car.

The Car Book tells you:

- Which cars have low maintenance costs.
- How cars performed in crash tests.
- How to buy for fuel efficiency.
- Which cars get insurance breaks and which are charged extra.
- How to get help if there's something wrong with your car.
- What you need to know about buying a used car, including safety defects and recalls.

The book is color-coded according to subject matter and car size.

The **SAFETY** Chapter, is

The **FUEL ECONOMY** Chapter, is

The **MAINTENANCE** Chapter, is

The **INSURANCE** Chapter, is

The **COMPLAINT** Chapter, is

The **USED CAR** Chapter, is

Here are the colors for the four sizes of cars:

Subcompact

Compact

Intermediate

Large

For example, if you're looking for a compact car that passed the crash tests, find the page in the **SAFETY** section, bordered in

which is titled "Crash Test Results." Then look in the chart, which is colored

to find out how each of the compacts performed.

Use the **PURCHASING GUIDE** to compare the cars you are thinking about buying. Then read the chapters to learn more about each car. In addition when you go to the showroom have the **BUYER'S CHECKLIST** handy.

We believe that by talking to friends and a trusted mechanic, reading publications about new automobiles, and using the information in *The Car Book* you will be a well-informed consumer ready to make a wise decision about which car to buy.

THE PURCHASING GUIDE

In the **PURCHASING GUIDE,** the cars are put into size classes and compared in terms of safety, fuel economy, maintenance and insurance costs. To fully understand these summary charts, it is very important to read the appropriate section in the book.

The Environmental Protection Agency (EPA) puts automobiles into size categories by measuring their interior space. In this book we use weight to classify automobiles because currently their relative safety is dependent on weight. However, an automobile can be designed which is lightweight and safe, as described in **THE CAR FOR TODAY.**

Subcompact

Car	Chapter 1 Crash Test Results[1]	Chapter 1 Safety Belt Comfort and Convenience[2]	Chapter 2 Fuel Economy[3] mpg	Chapter 2 Preventive Maintenance Cost[4]	Chapter 3 Repair Cost[5]	Chapter 4 Accident Repair Cost[6]	Chapter 4 Insurance Cost[7]
Chevrolet Chevette	Passed	Poor	26	High	Medium	Low (4 Dr)	Discount
Datsun 210	Failed	Fair	29	High	Medium	Medium	
Datsun 310	Failed	Poor	32	High	Medium	High	Surcharge
Datsun 510			27	Medium	Medium	High	
Dodge Colt	Failed	Fair	28	Low	Medium	Medium	Surcharge
Fiat Strada	Passed	Poor	26	Medium	Medium		
Ford Escort	Failed*		28	Low	Medium		Discount
Honda Accord			24	Medium	Low	Medium	Surcharge
Honda Civic 1.5	Failed		29	Medium	Low	Medium	Surcharge
Honda Prelude	Failed		24	High	Low	High	Surcharge
Mazda GLC			30	Low	High	High	Surcharge
Mercury Lynx	Failed*		28	Low	Medium		Discount
Plymouth Champ	Failed	Fair	28	Low	Medium	High	Surcharge
Renault Le Car	Failed		27	High	High		Surcharge
Subaru DL GLF	Failed	Poor	25	High	Medium		Surcharge
Toyota Corolla	Failed	Fair	27	Medium	Medium	High	Surcharge
Toyota Tercel	Failed	Fair	29	High	Low	Medium	Surcharge
Volkswagen Jetta		Fair	25	Medium	High		
Volkswagen Rabbit	Failed*	Fair	25	Medium	Medium	Low	Surcharge
Volkswagen Rabbit Diesel	Failed	Fair	42**	Low	High		

Empty boxes mean data were unavailable at time of printing.

*This car marginally failed the occupant protection test. It may protect its occupants as well as a car of the same class that passed the test.

**Based on manual transmission.

1. For detailed crash test results see pages 14-17.
2. An analysis of seat belt comfort and convenience appears on pages 25-26.
3. These figures are based on the 1981 EPA fuel economy estimates for cars with automatic transmissions (when available) and the smallest engines available.
4. Based on the manufacturer's recommended schedule. For the actual figures see pages 33-36.
5. Based on the total cost to repair nine items. For the actual figures see pages 33-36.
6. The relative cost of accident claims to insurance companies. For actual figures see pages 41-42.
7. Some insurance companies offer discounts and surcharges on particular vehicles. See pages 41-42.

Compact

Car	Chapter 1 Crash Test Results[1]	Chapter 1 Safety Belt Comfort and Convenience[2]	Chapter 2 Fuel Economy[3] mpg	Chapter 3 Preventive Maintenance Cost[4]	Chapter 3 Repair Cost[5]	Chapter 4 Accident Repair Cost[6]	Chapter 4 Insurance Cost[7]
BMW 320i		Fair	27	High	High		Surcharge
Buick Skylark	Passed	Poor	22	Medium	High	Low (4 Dr)	Discount
Chevrolet Citation	Passed	Poor	22	Medium	High	Low (4 Dr)	Discount
Datsun 200SX	Failed*		26	High	Medium	High	Surcharge
Dodge Aries	Failed		24	Low	Medium		
Dodge Omni	Passed	Fair	25	Low	Low	Low (4 Dr)	Surcharge
Ford Mustang	Passed	Poor	22	Low	Low	High	Surcharge
Mazda RX7			19	Low	High	High	Surcharge
Mazda 626	Failed	Fair	27	Medium	Medium	Medium	Surcharge
Mercury Capri	Passed	Poor	22	Low	Low	High	Surcharge
Oldsmobile Omega	Passed	Poor	23	Medium	High	Low	Discount
Plymouth Horizon	Passed	Fair	25	Low	Low	Medium (4 Dr)	Discount
Plymouth Reliant	Failed		24	Low	Medium		
Pontiac Phoenix	Passed	Poor	22	Medium	High	Low (4 Dr)	Discount
Toyota Celica	Failed	Poor	25	Medium	Medium	High	Surcharge
Toyota Corona			25	Medium	Medium	Medium	

Empty boxes mean data were unavailable at time of printing.

*This car marginally failed the occupant protection test. It may protect its occupants as well as a car of the same class that passed the test.

1. For detailed crash test results see pages 14-17.
2. An analysis of seat belt comfort and convenience appears on pages 25-26.
3. These figures are based on the 1981 EPA fuel economy estimates for cars with automatic transmissions (when available) and the smallest engines available.
4. Based on the manufacturer's recommended schedule. For the actual figures see pages 33-36.
5. Based on the total cost to repair nine items. For the actual figures see pages 33-36.
6. The relative cost of accident claims to insurance companies. For actual figures see pages 41-42.
7. Some insurance companies offer discounts and surcharges on particular vehicles. See pages 41-42.

Intermediate

Car	Chapter 1 Crash Test Results[1]	Chapter 1 Safety Belt Comfort and Convenience[2]	Chapter 2 Fuel Economy[3] mpg	Chapter 2 Preventative Maintenance Cost[4]	Chapter 3 Repair Cost[5]	Chapter 4 Accident Repair Cost[6]	Chapter 4 Insurance Cost[7]
American Motors Concord	Failed		20	High	Low	Low (4 Dr)	Discount
American Motors Spirit			20	High	Low	Medium	
Audi 5000			19	Medium	High	High	Surcharge
Buick Century	Failed	Fair	21	High	Medium	Low (4 Dr)	Discount
Buick Regal	Passed		21	High	Medium	Medium	
Chevrolet Camaro	Failed	Poor	19	Medium	Medium	High	Surcharge
Chevrolet Malibu	Failed	Fair	19	Medium	Medium	Low	Discount
Chevrolet Monte Carlo	Passed		19	Medium	Medium	Medium	
Chrysler Imperial			16	Low	Medium		
Datsun 280 ZX		Fair	21	High	High	High	Surcharge
Ford Fairmont	Failed	Fair	22	Low	Low	Low (4 Dr)	
Ford Granada			22	Low	Low	Low	
Ford Thunderbird	Passed	Fair	18	Low	Low	High	
Mercedes-Benz 240D	Failed	Good		High	High		
Mercury XR7	Passed	Fair	18	Low	Low	High	
Mercury Zephyr	Failed	Fair	22	Low	Low		
Oldsmobile Cutlass	Failed	Fair	21	Medium	Medium	Low (4 Dr)	Discount
Oldsmobile Cutlass Diesel		Fair	23	High	High		
Oldsmobile Cutlass Supreme	Passed		21	Medium	Medium		
Peugeot 505 Diesel			28	High	High		
Pontiac Firebird	Failed	Poor	19	Medium	Medium	High	Surcharge
Pontiac Grand Prix	Passed		21	Medium	Medium	High	Surcharge
Pontiac Le Mans	Failed	Fair	21	Medium	Medium	Low	Discount
Pontiac Sunbird	Failed*			Medium	Medium	High	
Volvo DL	Failed	Good		High	High		

Empty boxes mean data were unavailable at time of printing.

*This car marginally failed the occupant test. It may protect its occupants as well as a car of the same class that passed the test.

1. For detailed crash test results see pages 14-17.
2. An analysis of seat belt comfort and convenience appears on pages 25-26.
3. These figures are based on the 1981 EPA fuel economy estimates for cars with automatic transmissions (when available) and the smallest engines available.
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5. Based on the total cost to repair nine items. For the actual figures see pages 33-36.
6. The relative cost of accident claims to insurance companies. For actual figures see pages 41-42.
7. Some insurance companies offer discounts and surcharges on particular vehicles. See pages 41-42.

Large

Car	Chapter 1 Crash Test Results[1]	Chapter 1 Safety Belt Comfort and Convenience[2]	Chapter 2 Fuel Economy[3] mpg	Chapter 3 Preventive Maintenance Cost[4]	Chapter 3 Repair Cost[5]	Chapter 4 Accident Repair Cost[6]	Chapter 4 Insurance Cost[7]
Buick Electra	Failed	Good	18	Medium	Medium	Low (4 Dr)	Discount
Buick LeSabre	Failed	Fair	19	Medium	Medium	Low (4 Dr)	Discount
Buick Riviera	Passed		16	Medium	High	High	
Cadillac DeVille	Failed	Good	18	Medium	Medium	Medium (4 Dr)	
Cadillac Eldorado	Passed		17	Medium	High	Medium	Surcharge
Cadillac Seville	Passed		17	High	High	High	Discount
Chevrolet Caprice	Failed	Fair	19	Medium	Medium	Low	Discount
Chevrolet Impala	Failed	Fair	19	Medium	Medium	Low	Discount
Chrysler Cordoba	Passed	Poor	18	Low	Low	High	
Chrysler LeBaron	Failed	Fair	18	Low	Low	Medium	Discount
Chrysler New Yorker			17	Low	Low		
Dodge Mirada	Passed	Poor	18	Low	Low	High	
Ford LTD	Failed	Fair	16	Low	High	Medium	Discount
Lincoln Mark VI				Low	High	High	Surcharge
Lincoln Town				Low	High		Surcharge
Mercury Marquis	Failed	Fair	16	Low	High		Discount
Oldsmobile Delta 88	Failed	Fair	19	Medium	Medium	Low	Discount
Oldsmobile 98	Failed		18	Medium	Medium	Low	Discount
Pontiac Bonneville	Failed	Fair	19	Medium	Medium	Medium	Discount
Pontiac Catalina	Failed	Fair	19	Medium	Medium		Discount

Empty boxes mean data were unavailable at time of printing.

1. For detailed crash test results see pages 14-17.
2. An analysis of seat belt comfort and convenience appears on pages 25-26.
3. These figures are based on the 1981 EPA fuel economy estimates for cars with automatic transmissions (when available) and the smallest engines available.
4. Based on the manufacturer's recommended schedule. For the actual figures see pages 33-36.
5. Based on the total cost to repair nine items. For the actual figures see pages 33-36.
6. The relative cost of accident claims to insurance companies. For actual figures see pages 41-42.
7. Some insurance companies offer discounts and surcharges on particular vehicles. See pages 41-42.


The SAFETY Chapter

Crash Tests Results

Since 1968 The Department of Transportation (DOT) has tested cars to insure that they meet minimum Federal safety standards. The standards require that all cars pass specified tests in 30 mph crashes.

In 1979, the DOT began an experimental crash test program to see which cars can exceed the 30 mph standards. The program will help develop better procedures to evaluate the ability of cars to protect occupants in crashes.

The cars were crashed into a concrete barrier at 35 mph. This is similar to two identical cars crashing head-on, each traveling 35 mph. At 35 mph, a crash is 36 percent more severe than at 30 mph.

The test results are useful for comparisons within each weight class, such as comparing one compact with another compact. They should not be used to compare cars in different weight classes. For example, you cannot conclude that a subcompact that passes the 35 mph test is as safe as a large car that passes. The results are useful for evaluating performance in frontal crashes only. About 55 percent of deaths and serious injuries occur in frontal crashes. It is important to remember that safety belts were used in all of the tests and the results only measure vehicle safety performance with belted occupants. Using safety belts is the single most effective means of protecting yourself in an accident.

All cars were rated on a pass/fail basis in six categories:

1. *Driver Protection:* Would the impact on the head, chest and upper legs be likely to severely injure or kill the driver?
2. *Passenger Protection:* Would the impact on the head, chest and upper legs be likely to severely injure or kill the front seat passenger?
3. *Windshield Retention:* Would most of the windshield remain attached to the car after a crash? (A windshield can help prevent the ejection of—and the likelihood of serious injury to—an occupant.)
4. *Windshield Zone Intrusion:* Would parts of the car come through the windshield in a frontal crash?
5. *Fuel Leakage, Front Collision:* Would the fuel system leak after a frontal crash?
6. *Fuel Leakage, Rear Collision:* Would the fuel system leak after a rear crash?

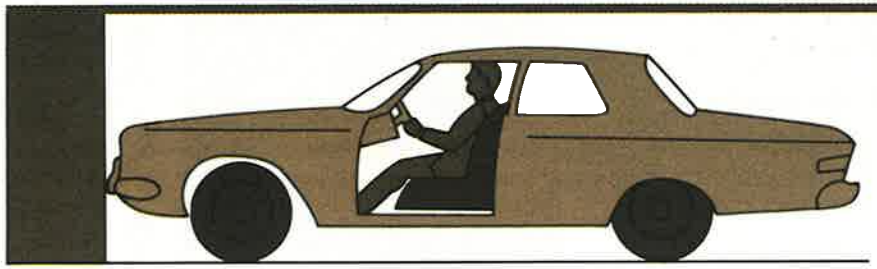
The results show significant differences in the ability of cars to protect occupants wearing safety belts. They indicate that most cars cannot provide protection at crash speeds 5 miles an hour above the minimum standards.

Only six of the cars tested—Cadillac Seville, Chevrolet Citation, Dodge Mirada, Ford Mustang, Ford Thunderbird, and the two-door Plymouth Horizon—passed all of the tests. Four others—Buick Riviera, Chevrolet Chevette, Fiat Strada, and Oldsmobile Cutlass Supreme—passed occupant protection tests at 35 miles per hour, but failed in at least one other category.

The following drawings show how a car and driver are affected in a 35 mph crash similar to the crash test.

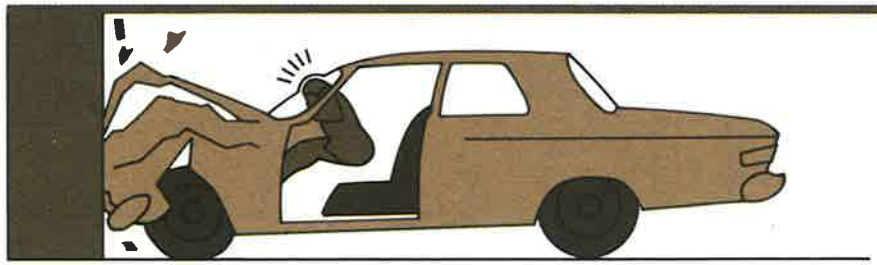
What Happens in a Collision

Note: *Since the program is experimental, not all cars were tested. Variations among identical cars were not measured since only one of each model was crashed. Crash tests results may vary due to differences in the way cars are manufactured, how models are equipped and test conditions. Further tests are planned. There is no guarantee that a car that passed will adequately protect you in an accident. Corporate twins which are structurally the same, such as the Pontiac Firebird and Chevrolet Camaro, can be expected to perform the same. Some two-door models may not perform exactly like their four-door counterparts.*

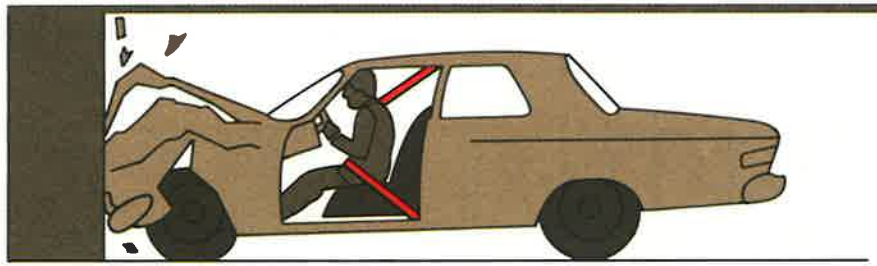


On impact, the car begins to crush and slow down. The person inside continues to move forward at 35 mph.

Within 1/10 of a second, the car has come to a stop, but the person is still moving forward at 35 mph.



1/50 of a second after the car has stopped, the unbelted person slams into the dashboard or windshield. This is the human collision.



With effective safety belts, the person will stop before his or her head or chest hits the steering wheel, dash or windshield.

Crash Tests Results

Subcompact

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Retention	Intrusion	Windshield: Front	Fuel Leakage: Rear
Chevrolet Chevette			F	P	P	P
Fiat Strada			P	P	F	F
Ford Escort		*	P	P	P	P
Mercury Lynx		*	P	P	P	P
Volkswagen Rabbit	*		P	P	P	F
Volkswagen Rabbit Diesel Convertible			P	P	P	F
Datsun 210			P	P	P	P
Datsun 310	*		P	P	P	P
Dodge Colt Plymouth Champ Actually Tested			P	P	P	P
Honda Civic 1.5			P	P	P	P
Honda Prelude			P	P	P	P

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Retention	Intrusion	Windshield: Front	Fuel L: Rear
Plymouth Champ			P	P	P	P
Renault Le Car			P	P	P	F
Subaru DL GLF			F	P	P	P
Toyota Corolla	*		P	P	P	F
Toyota Tercel			P	F	F	P

Key:

	Passed	P
	Failed	F

*This car marginally failed the occupant protection test for the seating position indicated. It may protect its occupants as well as a car of the same class that passed the test.

Crash Tests Results

Compact

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Windshield: Retention	Windshield: Intrusion	Fuel Leakage: Front	Fuel Leakage: Rear
Buick Skylark Chevrolet Citation Actually Tested	✓	✓	P	P	P	P
Chevrolet Citation	✓	✓	P	P	P	P
Dodge Omni Plymouth Horizon Actually Tested	✓	✓	P	P	P	P
Ford Mustang	✓	✓	P	P	P	P
Mercury Capri Ford Mustang Actually Tested	✓	✓	P	P	P	P
Oldsmobile Omega Chevrolet Citation Actually Tested	✓	✓	P	P	P	P
Plymouth Horizon	✓	✓	P	P	P	P
Pontiac Phoenix Chevrolet Citation Actually Tested	✓	✓	P	P	P	P
Dodge Aries	✓	✗	P	P	P	P
Plymouth Reliant	✓	✗	P	P	P	P
Datsun 200SX	✗*	✗*	P	P	P	P
Mazda 626	✗	✗	P	P	P	P
Toyota Celica	✗	✗	P	P	P	P

Key:

✓ Passed

✗ Failed

P

*This car marginally failed the occupant protection test for the seating position indicated. It may protect its occupants as well as a car of the same class that passed the test.

Crash Tests Results

Intermediate

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Windshield: Retention	Windshield: Intrusion	Fuel Leakage: Front	Fuel Leakage: Rear
Buick Regal Olds Cutlass Supreme Actually Tested	Passed	Passed	F	P	P	F
Chevrolet Monte Carlo Olds Cutlass Supreme Actually Tested	Passed	Passed	F	P	P	F
Mercury XR7 Ford Thunderbird Actually Tested	Passed	Passed	P	P	P	P
Oldsmobile Cutlass Supreme	Passed	Passed	F	P	P	F
Pontiac Grand Prix Olds Cutlass Supreme Actually Tested	Passed	Passed	F	P	P	F
Ford Thunderbird	Passed	Passed	P	P	P	P
Chevrolet Camaro Pontiac Firebird Actually Tested	Passed	Failed	P	P	P	F
Ford Fairmont	Passed	Failed	P	P	P	P
Mercury Zephyr Ford Fairmont Actually Tested	Passed	Failed	P	P	P	P
Pontiac Firebird	Passed	Failed	P	P	P	F

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Windshield: Retention	Windshield: Intrusion	Fuel Leakage: Front	Fuel Leakage: Rear
American Motors Concord	Failed*	Failed	P	P	P	P
Buick Century Olds Cutlass Actually Tested	Failed	Failed*	P	P	P	P
Chevrolet Malibu Olds Cutlass Actually Tested	Failed	Failed*	P	P	P	P
Mercedes Benz 240D	Failed	Failed	P	P	F	NT
Oldsmobile Cutlass	Failed	Failed*	P	P	P	P
Peugeot 504 Diesel	Failed	Failed	P	P	P	NT
Pontiac Le Mans Olds Cutlass Actually Tested	Failed	Failed*	P	P	P	P
Pontiac Sunbird Chevrolet Monza Actually Tested	Failed*	Failed*	P	P	P	P
Volvo DL	Failed	Failed	P	P	P	P

Key:

Passed — P

Failed — F

NT — Not Tested

*This car marginally failed the occupant protection test for the seating position indicated. It may protect its occupants as well as a car of the same class that passed the test.

Crash Tests Results

Large

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Windshield: Retention	Windshield: Intrusion	Fuel Leakage: Front	Fuel Leakage: Rear
Buick Riviera	Passed	Passed	P	P	F	F
Cadillac Eldorado Buick Riviera Actually Tested	Passed	Passed	P	P	F	F
Chrysler Cordoba Dodge Mirada Actually Tested	Passed	Passed	P	P	P	P
Dodge Mirada	Passed	Passed	P	P	P	P
Cadillac Seville	Passed	Passed	P	P	P	NT
Buick Electra Oldsmobile 98 Actually Tested	Passed	Failed	P	P	P	F
Cadillac DeVille Oldsmobile 98 Actually Tested	Passed	Failed	P	P	P	F
Oldsmobile 98	Passed	Failed	P	P	P	F
Ford LTD	Failed	Passed	P	P	P	P
Mercury Marquis	Failed	Passed	P	P	P	P
Buick LeSabre Chevrolet Impala Actually Tested	Failed	Failed	P	P	P	P

Car	Occupant Protection: Driver	Occupant Protection: Passenger	Windshield: Retention	Windshield: Intrusion	Fuel Leakage: Front	Fuel Leakage: Rear
Chevrolet Caprice Chevrolet Impala Actually Tested	Failed	Failed	P	P	P	P
Chevrolet Impala	Failed	Failed	P	P	P	P
Chrysler LeBaron	Failed	Failed*	P	P	P	NT
Oldsmobile Delta 88 Chevrolet Impala Actually Tested	Failed	Failed	P	P	P	P
Pontiac Bonneville Chevrolet Impala Actually Tested	Failed	Failed	P	P	P	P
Pontiac Catalina Chevrolet Impala Actually Tested	Failed	Failed	P	P	P	P

*This car marginally failed the occupant protection test for the seating position indicated. It may protect its occupants as well as a car of the same class that passed the test.

Key:

Passed — P

Failed — F

NT — Not Tested

Fatality Rates

Next to wearing your safety belts, a car's weight is one of the most important factors affecting your safety. Of the automobiles currently on the road, a 4,000 pound car is twice as safe as a 2,000 pound car.

You can understand the importance of weight by comparing the accident rates of cars already on the road on the *Overall Fatality* chart to the right. For the past few years, NHTSA has gathered a record of all fatal crashes in the U.S. from each state. The records include information about the occupants, the location of the accident and the type of vehicle involved.

To get an idea of the crash performance of cars now on the road, NHTSA analyzed data on 1974–1977 models. A fatality rate index was arrived at by dividing the number of fatal crashes by the number of cars registered for each make of car.

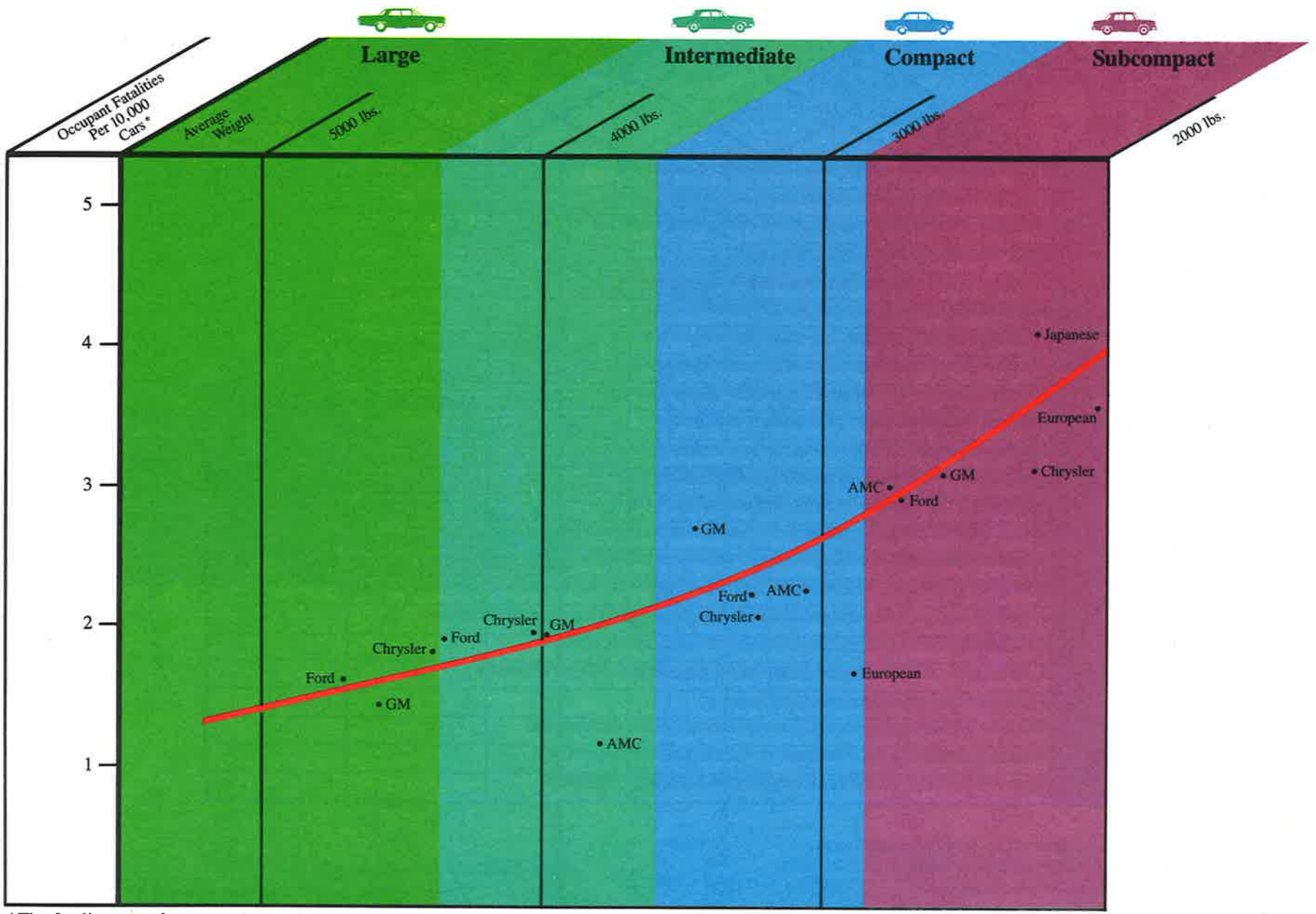
The fatality rate index reflects both the way the car is driven and how it is designed. Although not indicated on the chart, the data show the Pontiac Firebird to have a fatality rate of about 4.9 per 10,000 registered cars, while the Chevrolet Camaro has a rate of 3.5. Since the structure of the cars is the same, you can conclude that the Firebird's high fatality rate is probably due to the age and experience of the driver.

Some European cars, such as the Volvo and Mercedes-Benz, have relatively low fatality rates. This is probably due to the characteristics of the driver, the design of the car and higher safety belt usage.

The charts (on pages 20-23) show the average fatality rates for 1974–1977 U.S. and imported cars by size class.

The charts cannot be used to determine the safety of individual cars. They can be used to compare the average fatality rates of car lines within a weight class. They can also be used to compare fatality rates of the particular weight class with the average for all cars.

Overall Fatality Rates

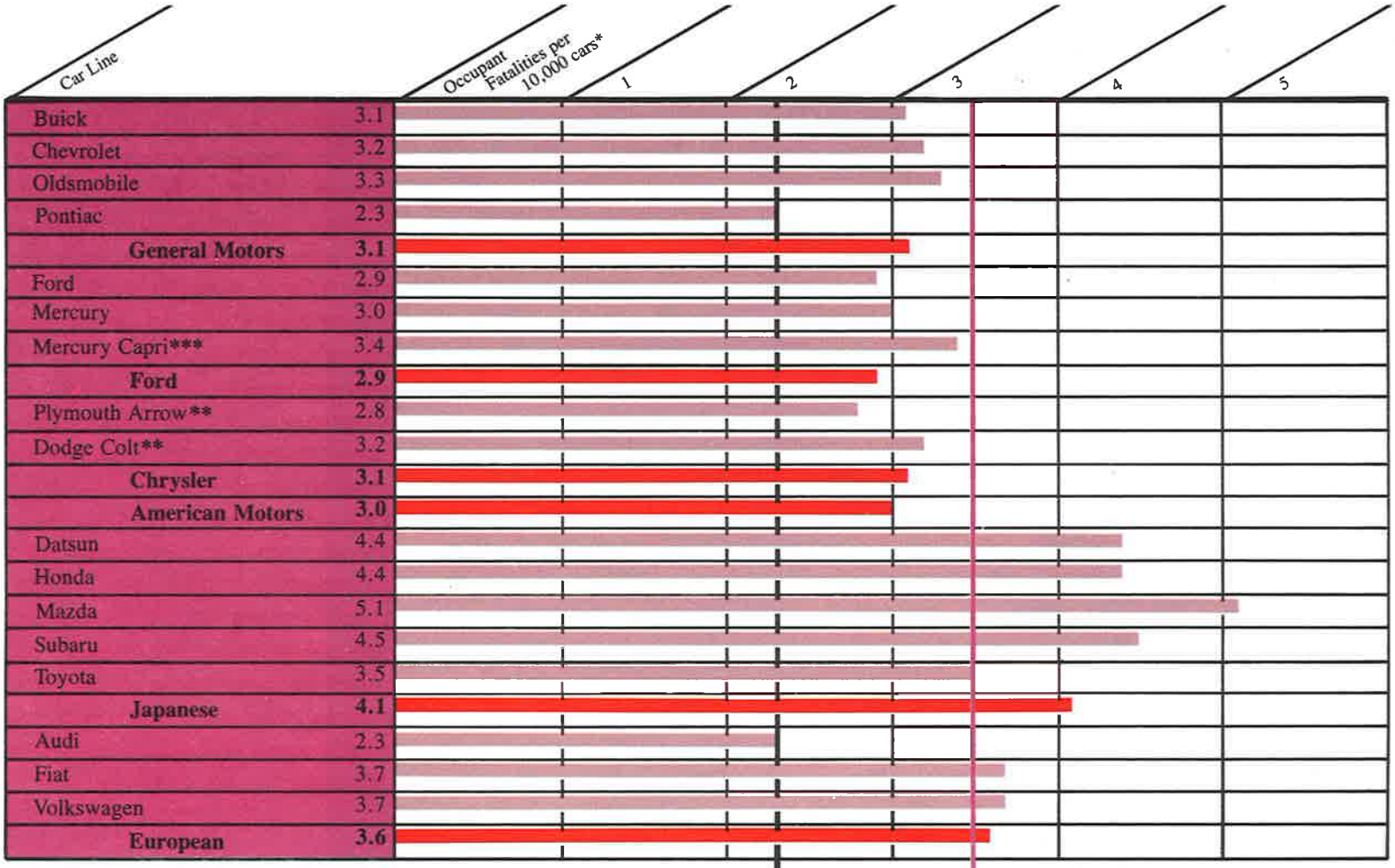


*The fatality rate of a car on the road depends on how, when and where the car is driven, as well as on the safety of the car itself.

Occupant death rate of cars in the U.S. during calendar years 1976-78 by manufacturer (or area of origin for imported cars) and weight size class for the 1974-77 model years.

Fatality Rates

Subcompact

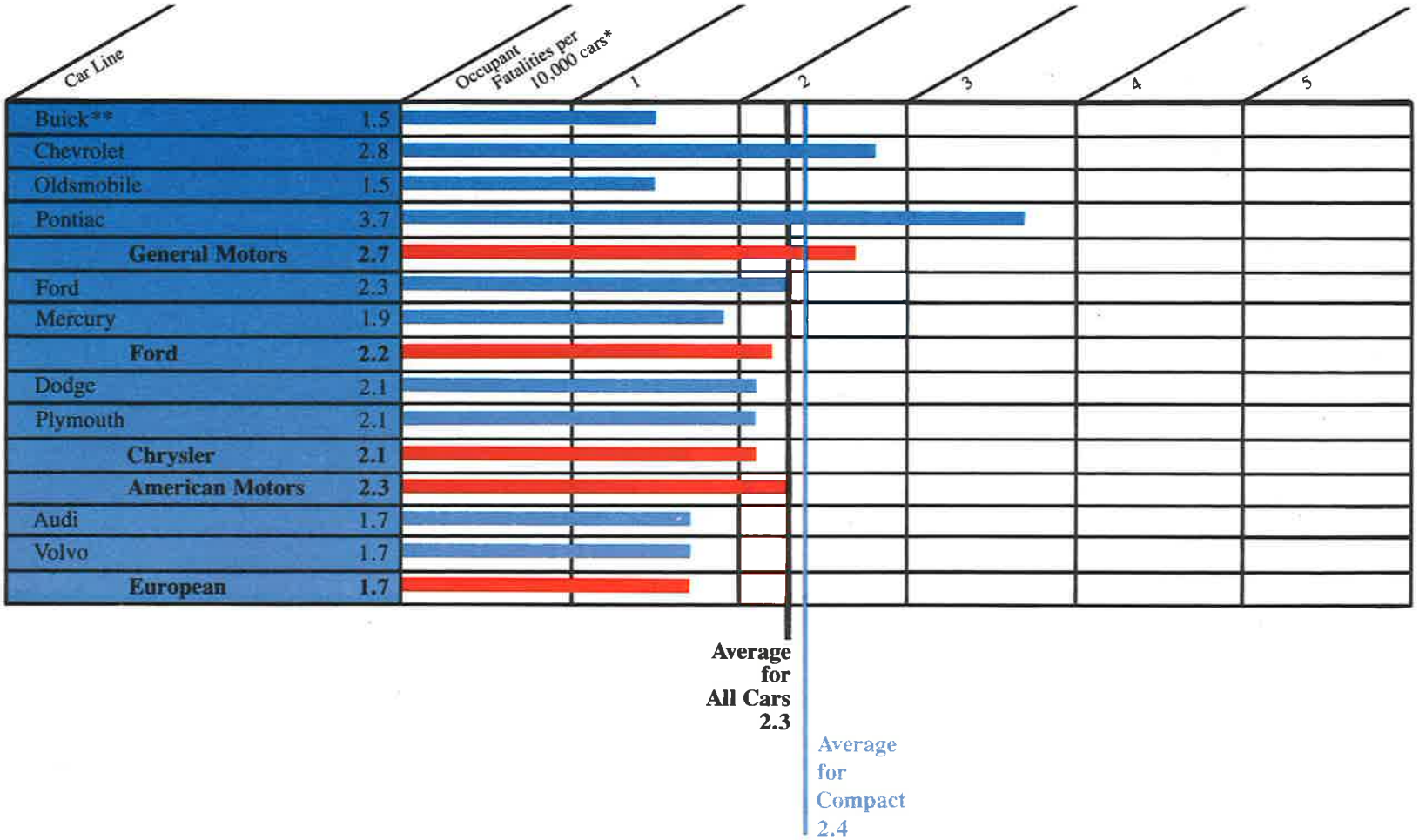


The fatality rate of a car on the road depends on how, when and where the car is driven, as well as on the safety of the car itself.

*The index is based on data collected during 1976-78 for 1974-1977 model year cars.
**Cars sold by Chrysler, but manufactured in Japan.
***Sold by Ford, but manufactured in Germany.

Fatality Rates

Compact

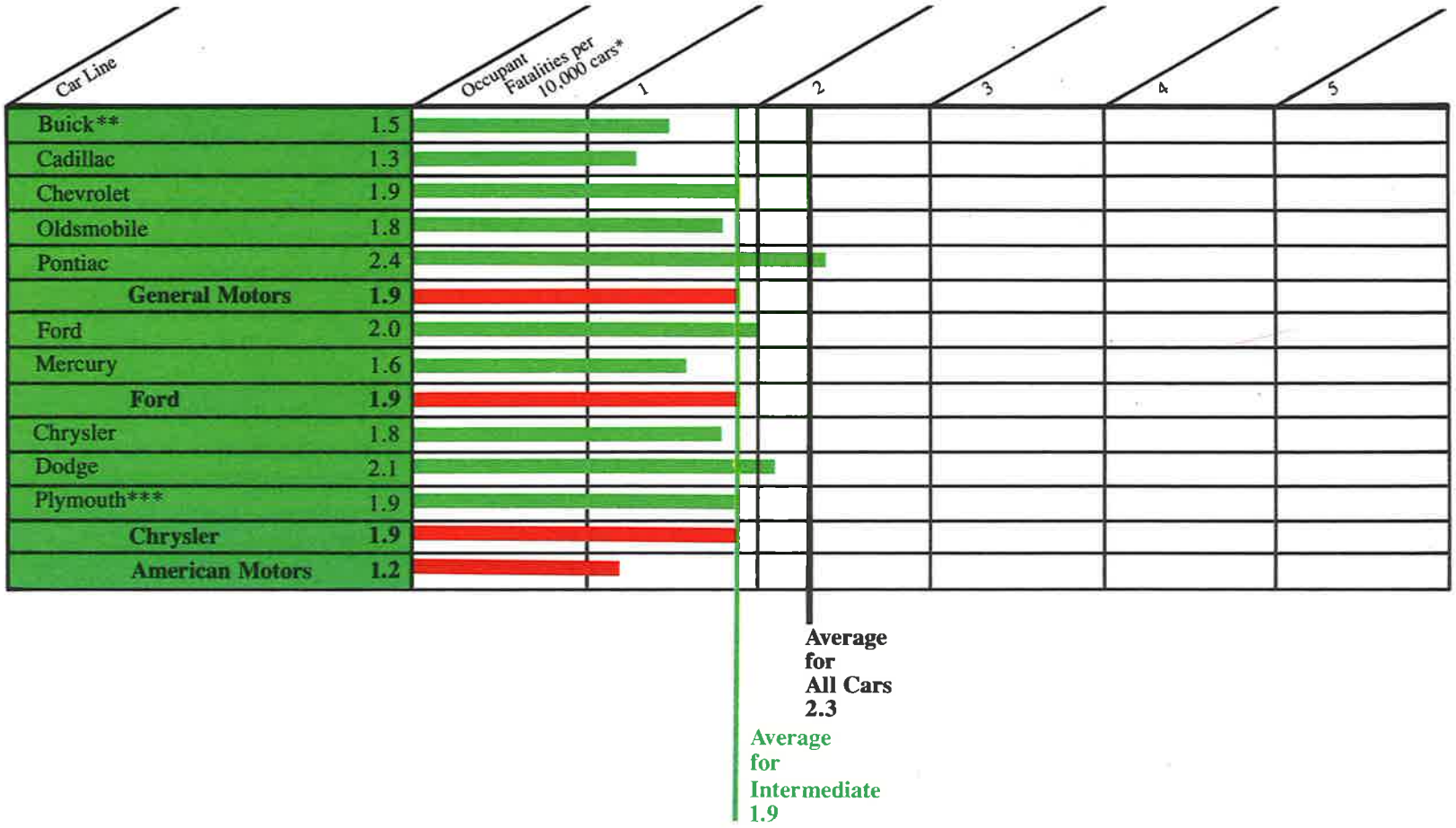


The fatality rate of a car on the road depends on how, when and where the car is driven, as well as on the safety of the car itself.

*The Index is based on data collected during 1976-1978 for 1974-1977 model year cars.
**Average of Intermediate and Compact Classes because of classification difficulties.

Fatality Rates

Intermediate

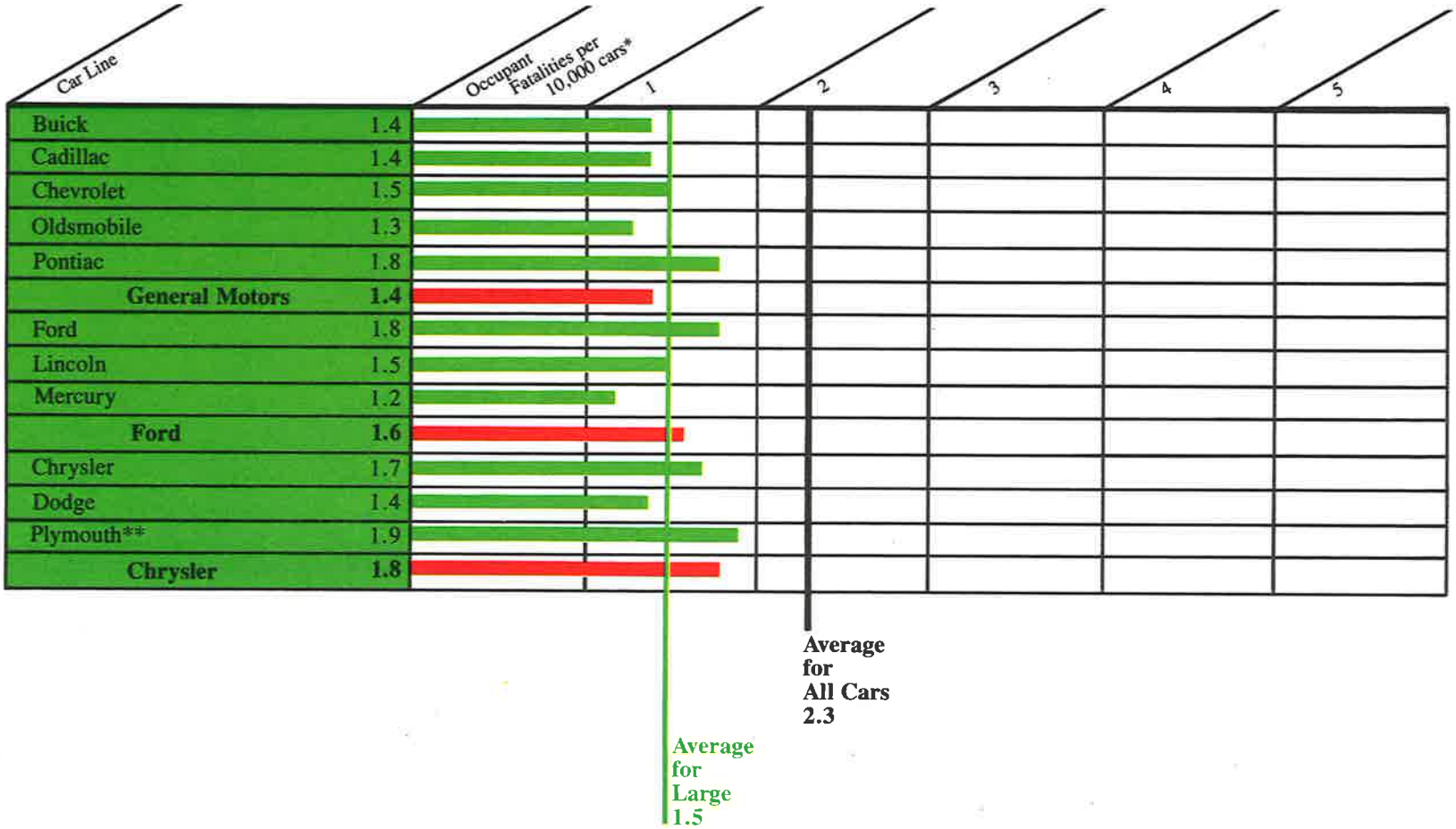


The fatality rate of a car on the road depends on how, when and where the car is driven, as well as on the safety of the car itself.

*The index is based on data collected during 1976-1978 for 1974-1977 model year cars.
**Average of Intermediate and Compact Classes because of classification difficulties.
***Average of Large and Intermediate Classes because of classification difficulties.

Fatality Rates

Large



The fatality rate of a car on the road depends on how, when and where the car is driven, as well as on the safety of the car itself.

*The index is based on data collected during 1976-1978 for 1974-1977 model year cars.
**Not Applicable.
***Average of Large and Intermediate Classes because of classification difficulties.

Child Seats and Safety Belts

Child Safety Seats

For children, car accidents are the leading cause of death and serious injury after the first weeks of life. Nearly 60 percent of the children who died in cars could have been saved by the use of child safety seats or safety belts.

You can't protect children by holding them on your lap. At 30 mph, a crash or sudden braking can wrench your child from your arms with a tremendous force. Like a flying missile, your child will continue moving forward at the speed the car was traveling until he or she hits something.

If you aren't wearing a safety belt you will be an additional hazard to your child. You will be thrown forward with enough force to crush your child against the dashboard or the back of the front seat. Even in low-speed crashes or swerving a child can be hurled against the inside of the car with a violent impact. The best protection is a child safety seat. If no seat is available, buckle the child in the back seat with a conventional safety belt.

It is important that the child seat fits properly into your car because it will not be effective unless it can be anchored to your car's seat. Not all seats fit all cars. For specific information on seats which do not fit certain cars write: National Highway Traffic Safety Administration, 400 7th Street S.W., Washington, D.C. 20590.

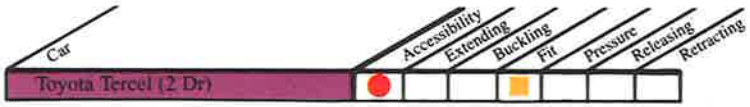
Safety Belts

About 60 percent of the people killed or injured in car crashes would have been saved from serious harm if they had been wearing safety belts.

Safety belts are particularly important in subcompact cars. If you are riding in a subcompact car, your chances of being killed or seriously injured in a collision with a large car are eight times greater than for the large car occupants. By wearing your safety belt, you can improve your odds.

Still, 90 percent of all motorists do not use safety belts. Most people complain that they are uncomfortable to wear or inconvenient to use. To learn about these problems, NHTSA studied consumer reaction to safety belts in 1981 cars. One finding was that people under 5′2″have more problems with current safety belts.

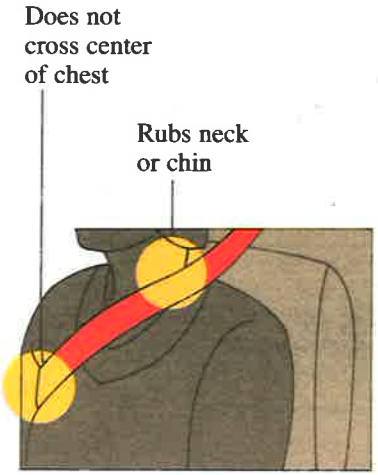
The tables list seven characteristics that determine the comfort and convenience of a safety belt. A red dot means more than half of the people in the study, regardless of their size, had difficulty. Problems only for people under 5′2″ are shown by a yellow square. Here's how to use the chart. Find the car you like—for example, if the line reads:



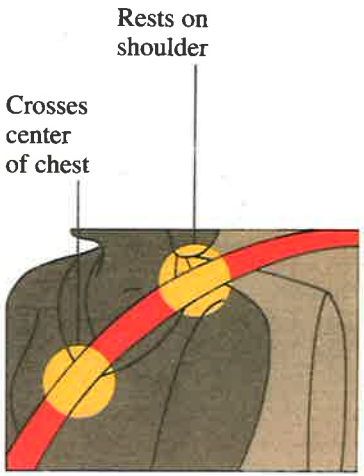
it means anyone might have problems with accessibility (reaching the belt to put it on), while people under 5′2″ tall should be sure to check for a bad fit in addition to accessibility problems.

The tables specify the number of doors on the car tested. Belts in four-door cars are generally easier to put on and fit better. Your own reaction is *very* important, so try on the safety belts before you buy.

Bad Fit



Good Fit



Safety Belt Comfort and Convenience

Subcompact

Car	Accessibility	Extending	Buckling	Fit	Pressure	Releasing	Retracting
Chevrolet Chevette (2 Dr)	●	●		●	●		■
Datsun 210 (2 Dr)	●			■			
Datsun 310 (2 Dr)	●			■	■		
Dodge Colt (2 Dr)	●						
Fiat Strada (2 Dr)	●	●			■		
Plymouth Champ (2 Dr)	●						
Subaru Hatchback (2 Dr)	●			■	■		
Toyota Corolla (2 Dr)	●			■			
Toyota Tercel (2 Dr)	●			■			
Volkswagen Jetta (2 Dr)	●						
Volkswagen Rabbit (2 Dr)	●						

Key:

● Problems for all people

■ Problems for people under 5′2″

Compact

Car	Accessibility	Extending	Buckling	Fit	Pressure	Releasing	Retracting
BMW 320i	●	■					
Buick Skylark (2 Dr)	●			■			●
Chevrolet Citation (2 Dr)	●			■			●
Dodge Omni (2 Dr)				■			●
Fiat Spider 2000 (2 Dr)	●	■	■	●	●		
Ford Mustang (2 Dr)	●	■		■			
Mazda 626 (2 Dr)	●						
Mercury Capri (2 Dr)	●	■		■			
Oldsmobile Omega (2 Dr)	●			■			●
Plymouth Horizon (2 Dr)				■			●
Pontiac Phoenix (2 Dr)	●			■			●
Toyota Celica (2 Dr)	●	■	■	■	■		

Accessibility—Difficulty in reaching for and grasping the safety belt latch plate.

Extending—Difficulty in moving the latch plate over to the buckle.

Buckling—Difficulty in inserting the latch plate into the buckle.

Fit—Poor belt fit on the wearer's neck and chest.

Pressure—Excessive pressure on the wearer's chest and shoulder.

Releasing—Difficulty in releasing the latch from the buckle.

Retracting—Interference by the belt system when exiting the car.

Safety Belt Comfort and Convenience

Intermediate

Car	Accessibility	Extending	Buckling	Fit	Pressure	Releasing	Retracting
Buick Century (4 Dr)				■			■
Chevrolet Camaro	●	■		■	■		●
Chevrolet Malibu (4 Dr)				■			■
Datsun 280 ZX	●						
Ford Fairmont (4 Dr)							■
Ford Thunderbird (2 Dr)	●						
Mercedes 300D, 240D	Relatively Few Problems						
Mercury XR-7 (2 Dr)	●						
Mercury Zephyr (4 Dr)							■
Oldsmobile Cutlass (4 Dr)				■			■
Pontiac Firebird	●	■		■	■		●
Pontiac LeMans (4 Dr)				■			■
Volvo 244, 245 DL	Relatively Few Problems						

Key:

● Problems for all people

■ Problems for people under 5′2″

Large

Car	Accessibility	Extending	Buckling	Fit	Pressure	Releasing	Retracting
Buick LeSabre (4 Dr)							■
Buick Electra Park Avenue (4 Dr)	Relatively Few Problems						
Cadillac DeVille (4 Dr)	Relatively Few Problems						
Chevrolet Impala (4 Dr)							■
Chevrolet Caprice (4 Dr)							■
Chrysler Cordoba (2 Dr)	●		●	●			■
Chrysler LeBaron (4 Dr)				■	■		
Dodge Mirada (2 Dr)	●		●	●			■
Ford LTD (4 Dr)				■			
Mercury Marquis (4 Dr)				■			
Oldsmobile Delta 88 (4 Dr)							■
Pontiac Bonneville (4 Dr)							■
Pontiac Catalina (4 Dr)							■

Accessibility—Difficulty in reaching for and grasping the safety belt latch plate.

Extending—Difficulty in moving the latch plate over to the buckle.

Buckling—Difficulty in inserting the latch plate into the buckle.

Fit—Poor belt fit on the wearer's neck and chest.

Pressure—Excessive pressure on the wearer's chest and shoulder.

Releasing—Difficulty in releasing the latch from the buckle.

Retracting—Interference by the belt system when exiting the car.


The
FUEL ECONOMY
Chapter

Fuel Economy

When you're shopping for a new car, fuel efficiency will be one of your most important considerations. Even among cars of the same size class, fuel efficiency varies greatly. One compact car might get 24 mpg while another gets 14 mpg. If you drive 10,000 miles a year and fuel costs you $1.25 per gallon, the fuel efficient car will save you almost $400.

The following table shows estimated fuel costs. To use it, find a car's estimated mpg from the Environmental Protection Agency's *Gas Mileage Guide* or on the window sticker. The *Guide* is available in the showroom. Now, find the mileage figure on the table. Read across until you reach the column under the amount you usually pay for fuel. This will give you an estimate of what you can expect to pay for fuel for 10,000 miles of driving.

Annual Cost of Fuel

(Based on 10,000 miles per year)

Estimated MPG	Price Per Gallon 1.45	1.35	1.25	1.15
50	$290	$270	$250	$230
48	302	281	260	240
46	315	293	272	250
44	330	307	284	261
42	345	321	298	274
40	363	338	313	288
38	382	355	329	303
36	403	375	347	319
34	427	397	368	338
32	453	422	391	359
30	483	450	417	383
28	518	482	446	411
26	558	519	481	442
24	604	563	521	479
22	659	614	568	523
20	725	675	625	575
18	806	750	694	639
16	906	844	781	719
14	1036	964	893	821
12	1208	1125	1042	958
10	1450	1350	1250	1150

Fuel economy is affected by a number of factors which should be considered when buying a car. Among them are:

Transmission: A manual transmission is generally more fuel efficient than an automatic. In fact, a four speed manual transmission can provide a fuel savings of 5 percent over a three speed automatic. Since incorrect use of a manual transmission can waste gas, choose a transmission that matches your needs and experience. Transmissions featuring an overdrive gear can improve a vehicle's fuel economy by as much as 9 percent for an automatic and 3 percent for a manual transmission.

Axle Ratio: This is the ratio of the revolutions of the drive shaft (transaxle for front wheel drive) to the revolutions of the wheel. Ask the salesperson for the axle ratio of the cars you are considering. Generally, a low ratio, such as 2.53, means less engine wear and better fuel economy than a higher ratio, such as 3.55. The lower axle ratio will result in slower acceleration, but it will pay off in increased fuel economy in highway driving. In general, a 10 percent decrease in the axle ratio can improve fuel economy by 4 percent.

Engine: The smallest engine that provides adequate performance for your needs (acceleration, hill climbing, trailer towing) will also provide you with the best fuel economy. In general, a 10 percent increase in the size of an engine increases fuel usage by 6 percent. Diesel engines can provide as much as a 25 percent increase in fuel economy over the same size gasoline engines. However, diesel engines may be more expensive to maintain and emit more particulate pollution.

Tires: Radial tires may cost more, but they can improve your mpg by 3–7 percent over conventional bias ply tires. They also last longer and improve the way your car handles. Keeping your tires properly inflated also improves fuel economy.

Cruise Control: Cruise control can save fuel because driving at a constant speed uses less fuel than changing speeds frequently.

Air Conditioning: Because of the added weight and need for more horsepower to operate, air conditioners can cost you 1–3 mpg in city driving. At highway speeds, an air conditioner has the same affect on fuel economy as the air resistance created by opening the windows. Installing an air conditioner cutoff switch that automatically disconnects the air conditioner during rapid accelerations can improve your gas mileage by 4 percent.

Trim Package: Adding to the trim can hurt your fuel efficiency. Upgrading the car's trim, installing sound proofing and adding undercoating increases the weight of a typical car by 150 pounds. For each 10 percent increase in weight, there is a 4 percent decrease in fuel economy.

Power Options: Such features as power steering, brakes, seats, windows, and roofs can reduce your mpg by adding weight. Power steering alone can account for a 1 percent drop in fuel economy.

The "For More Information" section provides sources for additional information on these subjects.


The MAINTENANCE Chapter

Maintenance Costs

For as long as you own your new car, preventive maintenance and repairs will be a significant cost of ownership.

Preventive maintenance is the periodic servicing specified by the manufacturer to keep your car running properly—for example, changing the oil and oil filter. Every owner's manual contains a schedule of recommended servicing for at least the first 45,000 miles.

The first column on the following tables shows what a 1981 car will cost for the preventive maintenance specified by the manufacturer for the first 45,000 miles. The next nine columns list the costs for repairs that might occur during the first 100,000 miles. Although the repairs are typical, there is currently no way of knowing exactly what will go wrong with your car or how often. The last column provides a general indication of how expensive the nine repairs are for one car when compared to another. A car's relative repair cost is "High" if the total for the nine repairs exceeds $2200. It is "Low" if the total is less than $1800.

Most repair shops use flat–rate manuals for repairs. The manuals list the time required for repairing many items. Each automobile manufacturer publishes its own manual and there are several independent manuals. For many repairs, the time varies from manual to manual and certain repair shops use different manuals for different repairs. For a total repair bill, a shop multiplies the time listed in its manual by its hourly labor rate, then adds the cost of parts.

The estimates on the following pages are based on a sample of flat–rate manual repair times multiplied by the 1980 nationwide average labor rate of $18.63.

To make comparisons easier, we assumed that the repairs used new parts. Your repair shop may install rebuilt rather than new parts, but if the new part is costly the rebuilt part probably will be also.

By law, a new car's entire emission system, including the catalytic converter, is warranted for 50,000 miles or 5 years. Putting leaded fuel in a car designed to take unleaded fuel will void your warranty and may result in the car not passing inspection. Since more states are requiring that emissions be below certain levels for the car to pass inspection, you may have to pay to have the system fixed. Even if you do not tamper with the system, if you own the car for 100,000 miles you probably will have to repair or replace it.

One final note: Your repair costs may be affected by whether you purchase a service contract (sometimes called an extended warranty). Be sure to consider: whether the company responsible for the contract is reputable; what the contract covers; what the service contract gives you that the warranty will not; whether the service company pays the repairer directly or whether you must pay and ask for reimbursement; where the car can be serviced locally; what happens if you are traveling or move; whether there are costs to you other than the price of the service contract.

Maintenance Costs

Subcompact

Car (Engine)	PM Costs to 45,000 miles	Water Pump	Alternator	2 Front Brake Pads	Starter	Carburetor (Fuel Injectors)[1]	Fuel Pump (Fuel Injection Pump)[1]	Catalytic Converter	Lower Ball Joints	Transmission (FWD Cars)[2]	Relative Maintenance Cost[3]
Chevrolet Chevette (L4)	$366	$63	$156	$50	$157	$176	$39	$201	$68	$1044	Medium
Datsun 210 (L4)	358	47	241	24	160	235	36	333	73	784 •	Medium
Datsun 310 (L4T)	356	35	240	22	106	214	48	335	63	(808) •	Medium
Datsun 510 (L4)	350	99	287	23	202	229	42	334	73	715 •	Medium
Dodge Colt (L4T)	216	62	143	42	155	157	42	200	50	(1288) •	Medium
Fiat Strada (L4)*	315	72	283	42	126	(139)	(68)	243	170	(1016) •	Medium
Ford Escort (L4T)	115	98	145	82	95	204	39	308	153	(823) •	Medium
Honda Accord (L4T)	347	38	164	24	206	310	58	144	126	(623) •	Low
Honda Civic (L4T)	325	37	142	25	157	270	42	144	126	(586) •	Low
Honda Prelude (L4T)	385	41	170	38	206	310	56	144	138	(634) •	Low
Mazda GLC (L4)	236	73	204	40	174	272	36	645	44	(993) •	High
Mercury Lynx (L4T)	115	98	145	82	95	204	39	308	153	(823) •	Medium
Plymouth Champ (L4T)	216	62	143	42	155	157	42	200	50	(1288) •	Medium
Renault Le Car (L4)	412	137	224	43	170	315	51	269	86	(915) •	High
Subaru DL 1600 (HO4)	472	65	184	38	250	291	82	117	68	(884) •	Medium
Toyota Corolla (L4)	311	107	171	26	169	262	39	262	171	756 •	Medium
Toyota Tercel (L4)	374	83	181	27	171	242	36	124	137	414 •	Low
Volkswagen Jetta (L4T)	333	121	203	31	227	(94)	(137)	215	63	(1110) •	High
Volkswagen Rabbit (L4T)	333	121	203	31	227	(94)	(100)	215	63	(1110) •	Medium
VW Rabbit Diesel (L4T)	179	126	203	31	329	(123)	(371)	▲	63	(1110) •	High
Average Vehicle Maintenance Cost	306	79	187	38	167	241 (113)	45 (169)	250	97	743 (934)	

• Manual transmission, all others are automatic

*At the time of printing, only 1980 data was available. While some cost difference for 1981 models can be expected, they should not be significant.

▲Cars with diesel engines do not have catalytic converters.

1. Because diesel and gas cars with fuel injectors do not have carburetors or fuel pumps, the cost of fuel injectors and fuel injection pumps is given. These are noted by parentheses in the carburetor and fuel pump column.
2. For front wheel drive cars the entire transaxle assembly kit is usually replaced. This includes the transmission and the differential. FWD cars are noted by parentheses in the transmission column.
3. This column gives you an idea of the relative cost of repairing each car based on the nine repairs listed in the chart, although many of the repairs are typical, there is currently no data available about exactly what will fail or how often. This column should only be used to compare the relative maintenance costs of the cars you are considering buying.

Due to stricter emissions requirements, cars sold in California may have different maintenance costs for some items.

Maintenance Costs

Compact

Car (Engine)	PM Costs to 45,000 miles	Water Pump	Alternator	2 Front Brake Pads	Starter	Carburetor (Fuel Injectors)[1]	Fuel Pump (Fuel Injection Pump)[1]	Catalytic Converter	Lower Ball Joints	Transmission (FWD Cars)[2]	Relative Maintenance Cost[3]
BMW 320i (L4)	$522	$85	$422	$49	$275	$(168)	$(193)	$410	$182	$1339 •	High
Buick Skylark (V6T)	304	62	142	58	153	229	57	216	87	(1203)	High
Chevrolet Citation (V6T)	309	67	144	58	156	231	60	216	86	(1203)	High
Datsun 200SX (L4)	368	99	288	25	199	(139)	(171)	334	73	(781) •	Medium
Dodge Aries (L4T)	228	79	208	46	206	274	46	145	61	(789)	Medium
Dodge Omni (L4T)	171	71	85	40	83	145	38	149	62	(649)	Low
Ford Mustang (L4)	119	65	132	44	88	178	41	174	146	571	Low
Mazda RX7 (Rotary)	249	62	140	31	82	450	45	1667	104	877 •	High
Mazda 626 (L4)	282	61	142	31	78	233	46	633	99	826 •	Medium
Mercury Capri (L4)	119	66	132	45	88	178	41	176	149	564	Low
Oldsmobile Omega (V6T)	300	60	148	58	157	229	60	216	87	(1202)	High
Plymouth Horizon (L4T)	172	72	85	40	83	147	38	149	62	(649)	Low
Plymouth Reliant (L4T)	228	79	208	46	206	274	46	145	61	(789)	Medium
Pontiac Phoenix (V6T)	288	61	143	57	157	232	60	215	87	(1201)	High
Toyota Celica (L4)	317	62	172	26	219	249	49	260	163	852 •	Medium
Toyota Corona (L4)	321	64	173	26	220	253	50	262	149	855 •	Medium
Average Vehicle Maintenance Cost	269	70	173	43	153	236 (154)	48 (182)	335	104	841 (941)	

• Manual transmission, all others are automatic

1. Because diesel and gas cars with fuel injectors do not have carburetors or fuel pumps, the cost of fuel injectors and fuel injection pumps is given. These are noted by parentheses in the carburetor and fuel pump column.
2. For front wheel drive (FWD) cars the entire transaxle assembly kit is usually replaced. This includes the transmission and the differential. FWD cars are noted by parentheses in the transmission column.
3. This column gives you an idea of the relative cost of repairing each car based on the nine repairs listed in the chart, although many of the repairs are typical, there is currently no data available about exactly what will fail or how often. This column should only be used to compare the relative maintenance costs of the cars you are considering buying.

Due to stricter emissions requirements, cars sold in California may have different maintenance costs for some items.

Maintenance Costs

Intermediate

Car (Engine)	PM Costs to 45,000 miles	Water Pump	Alternator	2 Front Brake Pads	Starter	Carburetor (Fuel Injectors)[1]	Fuel Pump (Fuel Injection Pump)[1]	Catalytic Converter	Lower Ball Joints	Transmission (FWD Cars)[2]	Relative Maintenance Cost[3]
American Motors Concord (L6)	$432	$61	$96	$42	$116	$156	$36	$216	$72	$732	Low
American Motors Spirit (L6)	432	61	155	42	116	156	36	216	72	732	Low
Audi 5000 (L5)	341	95	317	28	326	(134)	(191)	369	296	(1382) •	High
Buick Century (V6)	377	63	141	62	151	239	35	215	67	870	Medium
Buick Regal (V6)	377	63	141	62	151	239	35	215	67	870	Medium
Chevrolet Camaro (V6)	332	67	146	59	156	232	31	212	69	885	Medium
Chevrolet Malibu (V8)	343	65	144	65	156	223	43	215	69	912	Medium
Chevrolet Monte Carlo (V8)	343	65	144	65	156	223	43	215	69	912	Medium
Chrysler Imperial (V8)	169	75	259	48	148	(525)	(130)	199	84	428	Medium
Datsun 280ZX (L6)	367	66	286	25	262	(297)	(171)	346	76	785 •	High
Ford Fairmont (L6)	125	64	132	43	137	134	34	369	129	563	Low
Ford Granada (L6)	126	67	132	56	122	125	36	369	122	561	Low
Ford Thunderbird (V8)	152	99	133	86	109	169	35	346	132	562	Low
Mercedes 240D Diesel (L4)	545	88	134	26	205	(102)	(427)	▲	118	1451	High
Mercury XR-7 (V8)	152	98	132	43	109	171	37	346	139	564	Low
Mercury Zephyr (L6)	125	64	132	43	137	134	34	369	121	563	Low
Oldsmobile Cutlass (V8)	339	75	145	58	158	222	35	209	65	867	Medium
Olds Cutlass Diesel (V8)	539	78	198	61	349	(299)	(502)	▲	65	898	High
Olds Cutlass Supreme (V8)	338	75	145	58	158	222	35	209	65	867	Medium
Peugeot 505 Diesel (L4)	728	123	175	37	269	(168)	(685)	▲	167	779 •	High
Pontiac Firebird (V8)	337	73	142	60	166	244	33	223	66	942	Medium
Pontiac Grand Prix (V8)	338	68	141	59	166	245	32	242	66	942	Medium
Pontiac LeMans (V8)	337	72	141	60	166	245	33	224	73	942	Medium
Pontiac Sunbird (L4)	308	48	141	69	155	238	40	201	73	887	Medium
Volvo DL (L4)	414	91	296	34	239	(111)	(194)	312	105	1322 •	High
Average Vehicle Maintenance Cost	337	75	166	52	175	201 (234)	37 (329)	265	98	827 (1382)	

▲ Cars with diesel engines do not have catalytic converters.

• Manual transmission, all others are automatic

1. Because diesel and gas cars with fuel injectors do not have carburetors or fuel pumps, the cost of fuel injectors and fuel injection pumps is given. These are noted by parentheses in the carburetor and fuel pump column.
2. For front wheel drive (FWD) cars the entire transaxle assembly kit is usually replaced. This includes the transmission and the differential. FWD cars are noted by parentheses in the transmission column.
3. This column gives you an idea of the relative cost of repairing each car based on the nine repairs listed in the chart, although many of the repairs are typical, there is currently no data available about exactly what will fail or how often. This column should only be used to compare the relative maintenance costs of the cars you are considering buying.

Due to stricter emissions requirements, cars sold in California may have different maintenance costs for some items.

Maintenance Costs

Large

Car (Engine)	PM Costs to 45,000 miles	Water Pump	Alternator	2 Front Brake Pads	Starter	Carburetor (Fuel Injectors)[1]	Fuel Pump (Fuel Injector Pump)[1]	Catalytic Converter	Lower Ball Joints	Transmission (FWD Cars)[2]	Relative Maintenance Cost[3]
Buick Electra (V8)	$338	$60	$141	$56	$153	$236	$65	$215	$66	$932	Medium
Buick LeSabre (V8)	330	70	141	55	158	223	35	218	66	947	Medium
Buick Riviera (V8)	331	81	144	60	156	230	46	216	144	(1216)	High
Cadillac DeVille (V8)	341	110	148	55	156	253	50	213	68	949	Medium
Cadillac Eldorado (V8)	319	106	149	62	168	(145)	(145)	213	134	(1281)	High
Cadillac Seville Diesel (V8)	514	95	317	54	354	(298)	(477)	▲	69	(1281)	High
Chevrolet Caprice (V8)	344	69	142	51	157	223	37	214	78	910	Medium
Chevrolet Impala (V8)	345	69	142	51	157	223	37	214	78	934	Medium
Chrysler Cordoba (V8)	169	68	144	47	147	140	35	197	84	428	Low
Chrysler LeBaron (V8)	168	67	144	46	146	138	35	199	81	431	Low
Chrysler New Yorker (V8)	169	68	144	47	147	140	35	194	85	428	Low
Dodge Mirada (V8)	169	68	144	47	147	140	35	197	84	428	Low
Ford LTD (V8)	151	95	136	48	120	325	38	353	165	1151	High
Lincoln Town (V8)	156	119	128	48	113	(194)	(240)	393	171	1145	High
Lincoln Mark VI (V8)	156	119	128	48	113	(194)	(240)	401	171	1145	High
Mercury Marquis (V8)	151	95	133	49	120	311	38	353	169	1152	High
Oldsmobile Delta 88 (V8)	334	78	143	53	161	235	36	213	68	898	Medium
Oldsmobile 98 (V8)	334	78	143	53	161	235	36	213	68	898	Medium
Pontiac Bonneville (V8)	338	68	141	61	166	245	32	242	66	942	Medium
Pontiac Catalina (V8)	338	68	141	61	166	245	32	242	66	942	Medium
Average Vehicle Maintenance Cost	275	83	150	53	158	221 (208)	39 (275)	247	99	862 (1259)	

▲ Cars with diesel engines do not have catalytic converters.

1. Because diesel and gas cars with fuel injectors do not have carburetors or fuel pumps, the cost of fuel injectors and fuel injection pumps is given. These are noted by parentheses in the carburetor and fuel pump column.
2. For front wheel drive (FWD) cars the entire transaxle assembly kit is usually replaced. This includes the transmission and the differential. FWD cars are noted by parentheses in the transmission column.
3. This column gives you an idea of the relative cost of repairing each car based on the nine repairs listed in the chart, although many of the repairs are typical, there is currently no data available about exactly what will fail or how often. This column should only be used to compare the relative maintenance costs of the cars you are considering buying.

Due to stricter emissions requirements, cars sold in California may have different maintenance costs for some items.

Buying Tires

The government has developed a Tire Grading System (TGS) to help you select a safe and economical tire. The system grades tires according to treadwear, traction and temperature resistance.

You can use TGS to evaluate the tires on your new car or to purchase replacement tires. Here's how it works:

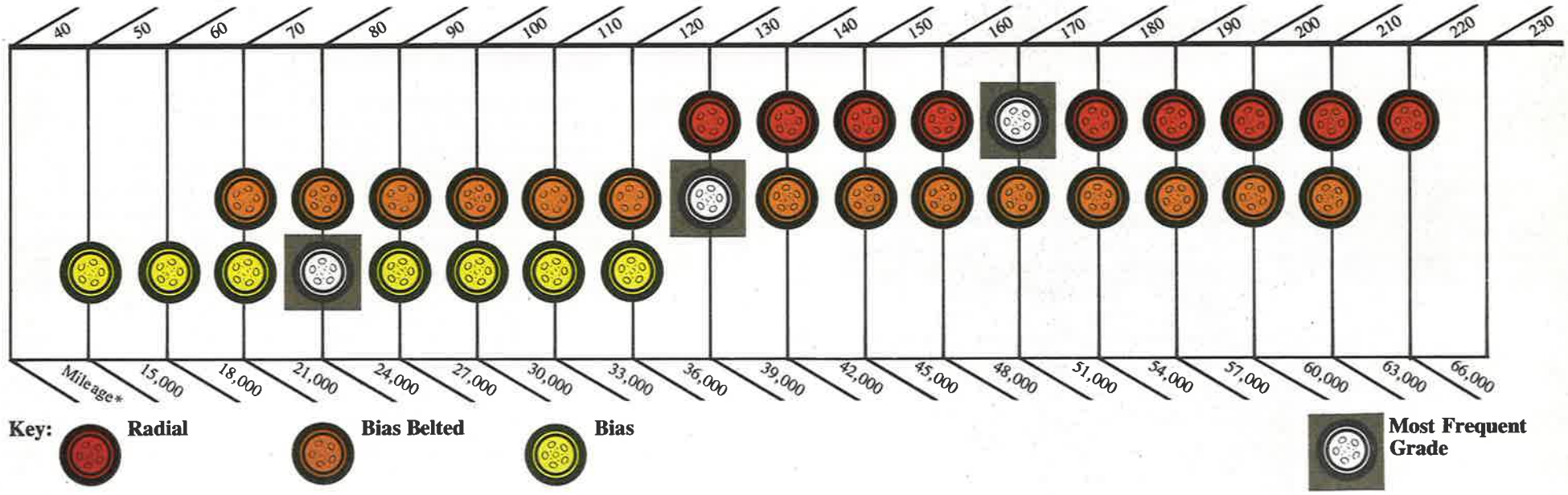
Treadwear grades give you an idea of how much mileage to expect from a tire. They are shown in numbers, given in tens: 90, 100, 110, 120, and so forth. A tire graded 150 should give you 50 percent more mileage than one graded 100. Remember, though, that the actual mileage you get will depend on where you live and how you drive.

Traction, graded A, B or C, is the tire's ability to stop on wet surfaces. Tires graded A will stop on a wet road in a shorter distance than tires graded B or C. Tires rated C have poor traction.

Temperature Resistance, also graded A, B or C, is important because hot-running tires can result in blowouts or tread separation. An A means the tire will run cooler than one graded B or C and is less likely to fail if driven over long distances at highway speeds.

Ask the dealer for the grade of tire on the car you want. For the best buy be sure to note the traction and temperature resistance grades. Compare the treadwear grade (the number) to the averages listed on the following table. While you are negotiating for your car you may want to request another tire or, after purchase, have your tires replaced by a tire dealer.

Comparative Treadwear Grades



*The mileage figures were determined by testing tires on a specially designed government test course. The figures show longer tire wear than most drivers will get. Your actual mileage will depend on the way you drive, where you drive, and keeping your tires properly inflated.


The
INSURANCE
Chapter

Insurance

One expense of owning a car is the cost of your insurance. Some cars are insurance savers—they cost you less to insure because experience has shown that they are damaged less or are less expensive to fix after being in an accident.

A car's design can affect both its chances of being in an accident and the damage it might suffer if it is in one. A car with good maneuverability may avoid a collision in an emergency. A car with a well-designed bumper may escape damage altogether in a low-speed crash. Some cars are easier to repair than others or may have less expensive parts. Cars with four doors tend to be damaged less than cars with two doors.

In the following tables, cars are compared on the basis of how they fared in collisions and whether this is reflected in their insurance premiums. The data are for 1980 cars. If the design of a particular 1980 model is similar in 1981, it is likely that both cars will have similar insurance rates.

The first column indicates two-door or four-door models. Figures in the second column represent the average amount insurance companies pay claimants—per car, per year—for accident loss. The figures take into account both the amount of money paid and how often insurance companies pay claims for specific cars. The reason for one car having a lower average loss than another depends upon speed, engineering and the way it is driven. Sports cars, for example, have a consistently high average loss per year.

There is a wide range of average repair costs within each of the four size categories:

- Subcompacts: $86 to $153
- Compacts: $69 to $225
- Intermediates: $64 to $244
- Large: $72 to $156

The data in the second column were collected for 1980 cars from September 1979 through June 1980 by the Highway Loss Data Institute (HLDI), a public service research organization established by the insurance industry. Since 1973 it has collected and published data about the amounts of money and the frequency with which insurance companies have paid to repair cars damaged in collisions. The results are published here with HLDI's permission.

The last two columns list some cars that receive an insurance discount or pay a surcharge. Some companies offer a discount or impose a surcharge on collision premiums only; others apply discounts and surcharges on both collision and comprehensive coverage. Discounts and surcharges usually are in the 10-to-30 percent range.

Rating programs vary. One company may offer a discount on a particular car while another does not. But it's not likely that one company will offer a discount while another imposes a surcharge on the same car.

Although insurance rating programs are becoming more widespread, not all insurance companies offer discounts and surcharges. Check with your insurance agent to find out whether rating programs have been approved in your state, whether your company offers one and whether the car you want to buy is included.

Insurance and Accident Costs

Subcompact

Car	Body Style	Average Loss Payment Per Insured Vehicle Year	Discount	Surcharge
Chevrolet Chevette	2 Dr	$ 102	●	
	4 Dr	86	●	
Datsun 210	2 Dr	115		
Datsun 310	2 Dr	148		●
Datsun 510	4 Dr	129		
Dodge Colt	2 Dr	102		●
Ford Escort			●	
Honda Accord	2 Dr	110		●
	4 Dr	102		●
Honda Civic 1.5	2 Dr	108		●
Honda Prelude	2 Dr	153		●
Mazda GLC	2 Dr	137		●
Mercury Lynx			●	
Plymouth Champ	2 Dr	131		●
Renault Le Car				●
Subaru DL GLF				●
Toyota Corolla	2 Dr	138		●
Toyota Tercel	2 Dr	112		●
Volkswagen Jetta				
Volkswagen Rabbit	2 Dr	88		●

Compact

Car	Body Style	Average Loss Payment Per Insured Vehicle Year	Discount	Surcharge
BMW 320i				●
Buick Skylark	2 Dr	$ 96	●	
	4 Dr	73	●	
Chevrolet Citation	2 Dr	94	●	
	4 Dr	72	●	
Datsun 200SX	2 Dr	186		●
Dodge Aries				
Dodge Omni	2 Dr	137		●
	4 Dr	88		
Ford Mustang	2 Dr	133		●
Mazda RX7	2 Dr	225		●
Mazda 626	2 Dr	112		●
Mercury Capri	2 Dr	163		●
Oldsmobile Omega	2 Dr	86	●	
	4 Dr	79	●	
Plymouth Arrow	2 Dr	143		●
Plymouth Horizon	2 Dr	158		
	4 Dr	92	●	
Plymouth Reliant				
Pontiac Phoenix	2 Dr	92	●	
	4 Dr	69	●	
Toyota Celica	2 Dr	197		●
Toyota Corona	4 Dr	97		

Insurance and Accident Costs

Intermediate

Car	Body Style	Average Loss Payment Per Insured Vehicle Year	Discount	Surcharge
American Motors Concord	2 Dr	$ 107	●	
	4 Dr	70	●	
American Motors Spirit	2 Dr	105		
Audi 5000	4 Dr	160		●
Buick Century	2 Dr	98		
	4 Dr	71	●	
Buick Regal	2 Dr	98		
Chevrolet Camaro		157		●
Chevrolet Malibu	2 Dr	71	●	
	4 Dr	77	●	
Chevrolet Monte Carlo		98		
Chrysler Imperial				
Datsun 280 ZX	2 Dr	244		●
Ford Fairmont	2 Dr	104		
	4 Dr	69		
Ford Granada	4 Dr	73		
Ford Thunderbird		130		
Mercedes-Benz 240D				
Mercury Cougar XR7		205		
Mercury Zephyr				
Oldsmobile Cutlass	2 Dr	102	●	
	4 Dr	73	●	
Oldsmobile Cutlass Diesel				
Oldsmobile Cutlass Supreme				
Peugeot 505				
Pontiac Firebird		176		●
Pontiac Grand Prix		112		●
Pontiac Le Mans	4 Dr	64	●	
Pontiac Sunbird	2 Dr	115		
Volvo DL				

Large

Car	Body Style	Average Loss Payment Per Insured Vehicle Year	Discount	Surcharge
Buick Electra	4 Dr	$ 78	●	
Buick LeSabre	2 Dr	106	●	
	4 Dr	77	●	
Buick Riveria		139		
Cadillac DeVille	4 Dr	99		
	2 Dr	144		
Cadillac Eldorado		111		●
Cadillac Seville		156	●	
Chevrolet Caprice Classic	2 Dr	72		
	4 Dr	79	●	
Chevrolet Impala	4 Dr	82	●	
Chrysler Cordoba		125		
Chrysler LeBaron	2 Dr	118	●	
Chrysler New Yorker				
Dodge Mirada		133		
Ford LTD	4 Dr	96	●	
Lincoln Mark VI	2 Dr	149		●
Lincoln Town				●
Mercury Marquis	4 Dr		●	
Oldsmobile Delta 88	2 Dr	106	●	
	4 Dr	90	●	
Oldsmobile 98	4 Dr	81	●	
Pontiac Bonneville	2 Dr	118		
	4 Dr	95	●	
Pontiac Catalina			●	


The
COMPLAINT
Chapter

Resolving Your Complaints

Billions of dollars are spent on auto repairs annually. Most of the time, when you take your car to be fixed you will be satisfied with the results. However, there are occasions when getting a car properly repaired is a difficult process. This section is designed to help you resolve your complaint, whether it involves a car you have had for years or a new car still under warranty.

No matter what your problem, keep accurate records. Have copies of all service invoices, bills you have paid, letters you have written to the manufacturer or the repair facility owner, and any other related documents.

If you are having trouble you can:

1. Take your car to the repair facility along with a written list of the problems. Keep a copy of the list. Give the repair facility a reasonable number of chances to fix it.

2. Speak directly to the service manager at the repair shop (not the service writer who wrote up your repair order originally). Ask the manager to test drive the car with you so that you can point out the problem.

3. If you can't get the problem resolved, take the car to a mechanic you trust for an independent examination. Get a written statement defining the problem and telling how it can be fixed. Give your repair shop a copy. If your car is under warranty, don't allow any unauthorized repair by an independent mechanic; it could nullify your warranty.

4. Present your problem to a complaint handling panel. Determine whether the manufacturer of your car has a complaint-handling panel in your city. Such a panel will generally give assistance in cases where the consumer believes the manufacturer has created the problem.

   Contact the Better Business Bureau (BBB). In some regions, the BBB will mediate complaints. Otherwise, it will enter your complaint into its files on the particular repair shop.

   Ask for details about any mediation panel, including how long it takes, who will decide, whether you are bound by its decision, and whether it handles all complaints or only warranty complaints.

5. Contact private consumer groups or local government agencies. A phone call or letter from them may persuade a repair facility to take action.

6. Call or write your local "Action Line" newspaper columnist, newspaper editor or radio or TV broadcaster. Send a copy to the repair facility.

7. Bring suit against the dealer, manufacturer or repair facility in a Small Claims Court. The fee for filing an action in such a court usually is very small, and you generally act as your own attorney, saving attorney's fees. There is a monetary limit on the amount you can claim, which varies from state to state. Your local Consumer Affairs Office or State Attorney General's Office or the clerk of the court should be able to tell you how to make such a claim.

8. Talk with an attorney. It's best to select an attorney who is familiar with handling automotive problems. If you don't know of one, call the Lawyer Referral Service listed in the telephone directory and ask for the names of attorneys who deal with automobile problems. If you can't afford an attorney, contact your local Legal Aid Society.

If you are trying to get your car repaired at a factory authorized dealership you can take some special steps:

1. Have the warranty available to show the dealer if the problem comes up during the warranty period. Make sure you call the problem to the dealer's attention before the end of the warranty period.

2. If you are still unsatisfied after giving the dealer a reasonable number of chances to fix your car, contact the manufacturer's representative (also called the zone representative) in your area. This person can authorize the dealer to make repairs or take other steps to resolve the dispute. Get your zone representative's name and number from the dealer. Explain the problem to the zone representative and ask for a meeting and a personal inspection of your car.

3. If step 2 doesn't succeed, call or write the manufacturer's Customer or Owner Relations Department (especially if your problem deals with repairs that are still under warranty). Check your owner's manual for phone numbers and addresses. (The "For More Information" section contains the names of company presidents and their addresses.)

4. Present your problem to a consumer complaint handling panel. Write or phone your local Automobile Dealer's Association and ask if it has a complaint handling program. Some dealer organizations sponsor complaint-handling panels known as AUTOCAPS. These panels, usually made up of dealers, community representatives and consumer representatives, mediate complaints.

5. If you complain of a problem during the warranty period you have a right to have the problem fixed even after the warranty runs out. If your warranty has not been honored, you may have to "revoke acceptance"—return the car to the dealer. If you are successful, you may be entitled to a replacement car or a full refund of the purchase price. This is usually done as a last resort. You should consult an attorney or your local Legal Aid Society to find out when you are entitled to revoke acceptance and what steps you must take to do so.

If you believe the problem is a safety-related defect, write to the National Highway Traffic Safety Administration, Department of Transportation, 400 7th Street, S.W., Washington, D.C. 20590, or call the toll-free Auto Safety Hotline, 800—424–9393.

Using the Hotline

Identifying safety defects in cars is one of NHTSA's most important missions. The thousands of consumer letters and calls received by the agency each year are vital to its defect investigation program. Often, they lead to recall campaigns.

To receive consumer calls, NHTSA operates a toll–free Auto Safety Hotline. The Hotline operators will give you information on recalls, record information on your car's safety problem and refer you to Agency experts for other automobile problems.

If you want recall information tell the operator the make, model, and year of your car, or the type of equipment involved. You will immediately be given any recall information about that item. This can be useful if you are considering a used car. If there was a recall the operator can tell you how to find out from the manufacturer whether it has been corrected on the particular car you want to buy. Then, if you want a printed copy of the recall information, it will be mailed within 24 hours.

If you want to report a safety problem, you will be mailed a questionnaire designed to gather all information needed by the Agency's technical staff to evaluate your complaint. Three things happen after you return the questionnaire:

1. A copy goes to the Agency's safety defect investigators.
2. A copy is sent to the manufacturer of the car or equipment, with a request for help in resolving the problem.
3. You are notified that your questionnaire has been received.

If you have other car–related consumer problems, the operators can refer you to the appropriate federal, state and local government agencies. If you need information about federal safety standards and regulations, you will be referred to Agency experts.

You can call the Hotline day or night, 7 days a week. If you call at a time when no Hotline operators are available, you will receive a recorded message asking you to leave your name and address and a description of the information you are seeking. The material will be mailed to you. Operators will be available from 7:45 a.m. to 4:15 p.m., Eastern time, Monday through Friday.

Call, Toll Free:
800/424-9393
(426-0123 in Washington, D.C. Area)
Teletyrm for hearing impaired:
800/424-9153
(755-8919 in Washington, D.C.)

The USED CAR Chapter

Buying Tips

Millions of Americans buy used cars every year. But it takes patience and know-how to find one that is safe and dependable.

Once you know what type of car you want, inspect it thoroughly. If possible, take it to an independent diagnostic center or mechanic for a complete check. If you have a state inspection program, have it inspected immediately before purchase, or specify on the bill of sale that the sale is conditional on passing the state inspection.

What To Buy

Generally, the best buy is a two or three year old car. By then it's already suffered its heaviest depreciation, but it's not old enough to present a lot of costly repair problems.

Examine the Car

Inspect the outside of the car thoroughly. Shop during the day; darkness and a used car lot's high intensity lights can hide many problems. Look for dents, rust and any evidence that parts of the car (particularly around the bottom of the doors and the rear fenders) have rusted out and been repaired with body putty.

Check under the car for rust or breaks in the frame or any signs that the frame has been welded. These are indications of weakness in the car's structure. Examine the muffler, tailpipe and exhaust pipe. Look on the pavement under the car for oil or fluid leaking from the transmission or shock absorbers; look on the inside of the tires for leaking brake fluid.

Walk around the car and check the glass, including the windows and the lights. Test all the lights (head lights, tail lights, flashers, backup lights, brake lights, turn signals, running lights in the fenders). Take a friend along to look at the various lights from the outside. Turn on the ignition and check the warning lights on the dashboard.

Push down on the corners of the car, front and back, to check the shock absorbers. If the car bounces up and down several times, the shocks are worn. Stand back from the car and see if it is level. If one corner is lower than another, one of the springs may be weak or broken. While standing back look for ripples in the fender, dents, or paint that doesn't match—evidence that the car has been in an accident.

Check the condition of the tires and make sure they match. Examine the inside surface of the tires; sometimes a badly scuffed tire has been turned around. Open the trunk and check the spare tire. If it is worn unevenly, a front tire may have been put in the trunk as a spare to hide a front end problem. Make sure the car has all the tire changing equipment and that it is in good condition.

Lift the hood and check the belts and hoses. See if the battery is cracked. Pull out the oil dipstick to see if the oil is dirty. Compare the mileage on the odometer and the lubrication

stickers (usually put on the doorposts or under the hood) to see when the car had its last oil change and lubrication, or whether the previous owner neglected such necessary services. (If the previous owner did his or her own oil changes and lubrication you won't find such evidence.) Check the automatic transmission fluid. It should be clear and not have a burnt smell.

Inside the car, examine the upholstery, safety belts, and carpeting. If the car has seat covers, look under them. Badly worn carpeting or upholstery may be a sign of heavy usage. Check the brake pedal for free play and make sure the hand brake holds the car on a hill.

Take A Test Drive

Test drive the car over various types of roads. Test the brakes for signs of pulling. Be alert to any vibrations in the steering; they may indicate front-end trouble. Let the engine idle and listen for noises or vibrations that may indicate a badly tuned engine or bad valves. Check for unusual odors inside the car.

If the car has a manual transmission, be alert to excessive play, grabbing, or rattling of the clutch. Listen for any vibrations or unusual noises from the engine, transmission, rear end, or wheels. Shift the gears to see how the car reacts.

If the car has an automatic transmission pay attention to how the transmission shifts; if it doesn't shift smoothly it may need repair work.

When it is safe to do so, put the car in neutral, step on the gas and look in the rearview mirror for smoke from the exhaust. If you see a lot of white or bluish smoke, the engine may need an expensive overhaul. See how much power the car has on a hill—if it doesn't have much, the car may need a valve job or an overhaul. Turn on the heater, air conditioner, radio, and windshield wipers to make sure they all work.

After the drive, check the exhaust tailpipe. A black, sooty, oily deposit may indicate an engine which burns oil. A white, powdery deposit usually means good fuel combustion in the engine.

Odometer Law

A Federal law passed in 1972 makes it illegal to change a car's odometer. No one, not even the owner, is permitted to turn back or disconnect the odometer (except to perform necessary repairs). The law also requires that the seller or anyone transferring ownership of the car must provide the buyer with a signed statement indicating the mileage on the odometer at the time of the transfer.

When purchasing a used car, be certain you receive a mileage disclosure statement before the transfer of title. Because the price of a used car is based primarily on mileage, the buyer of a car with the odometer rolled back could pay more for the car than it is actually worth.

Anyone who illegally tampers with an odometer or who fails to provide the required mileage disclosure statement may be sued.

Victims of odometer tampering can sue the seller under Federal law (15 U.S.C. 1981 *et seq.*) in either Federal or State court. If you win your case, the court will award you $1500 or three times the amount of the loss you suffered, whichever is greater, plus the court costs and reasonable attorney fees.

Your State Attorney General can bring a civil damage action under the same law on behalf of consumers in your State who have experienced odometer tampering. The Federal Government can impose both civil and criminal penalties on violators and can enjoin them from further violations. For further information, contact your State Attorney General or the National Highway Traffic Safety Administration's Office of Enforcement, 400 7th Street, S.W., Washington, D.C. 20590.

Safety Defects and Recalls

Since NHTSA was created in 1966, 86 million cars have been involved in recall campaigns for the inspection and correction of safety-related defects. In 1979 alone, nearly 7 million automobiles and light trucks were recalled by American manufacturers and nearly 2 million by foreign makers.

Safety recalls are part of a continuing effort by the automotive industry and the Federal government to reduce automobile injuries and fatalities. The effort began with the requirement of the National Traffic and Motor Vehicle Safety Act of 1966 that manufacturers assume responsibility for safety-related defects in their cars. Manufacturers must notify the owners directly about such defects, and then correct them quickly at no cost to the consumer.

Although since 1966 most of the safety defect recall campaigns have been voluntarily initiated by the manufacturers, recently the NHTSA influence has accounted for over 50 percent of the vehicles recalled.

The charts on the following pages list recalls from 1977 through mid–1980. The numbers in the boxes represent the model years of each car that was recalled. Only recalls involving more than 1,000 cars are listed.

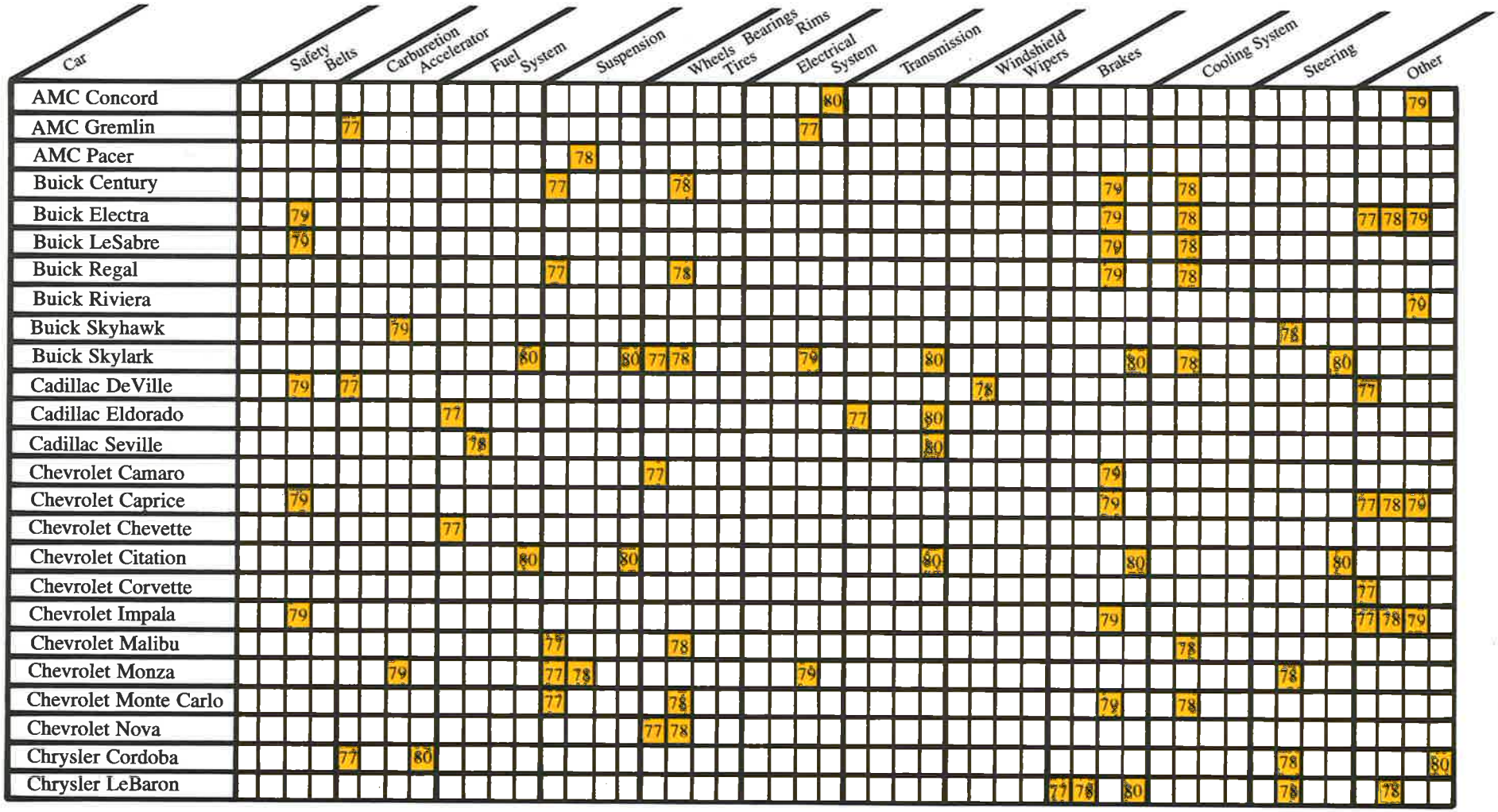
When reading the chart consider that:

- These recalls represent problems which can be corrected at no cost to the consumer.
- Most recalls occurred during the first and second year of a model's production.
- The effectiveness of safety related recall campaigns rests, in part, with car owners. Cars not returned to the dealer can't be inspected and repaired. A recalled car can be returned to any authorized dealer. The manufacturer, through the dealer, is responsible for fixing the defect no matter how long ago the recall occurred. For safety's sake, if you know the car has been recalled you should take it in for the repair as soon as possible.

If you are buying a used car and are concerned about whether it has an uncorrected safety defect, first find the vehicle identification number. It's located on the dashboard and can be seen by looking through the windshield. The second step is to call the dealer. If the dealer can't tell you if your particular car has been fixed, contact the manufacturer. (See the "For More Information" section for manufacturer's addresses.) If you still cannot get help, call or write the National Highway Traffic Safety Administration, 400 7th St. S.W., Washington, D.C. 20590, or call the toll-free Auto Safety Hotline (800) 424–9393.

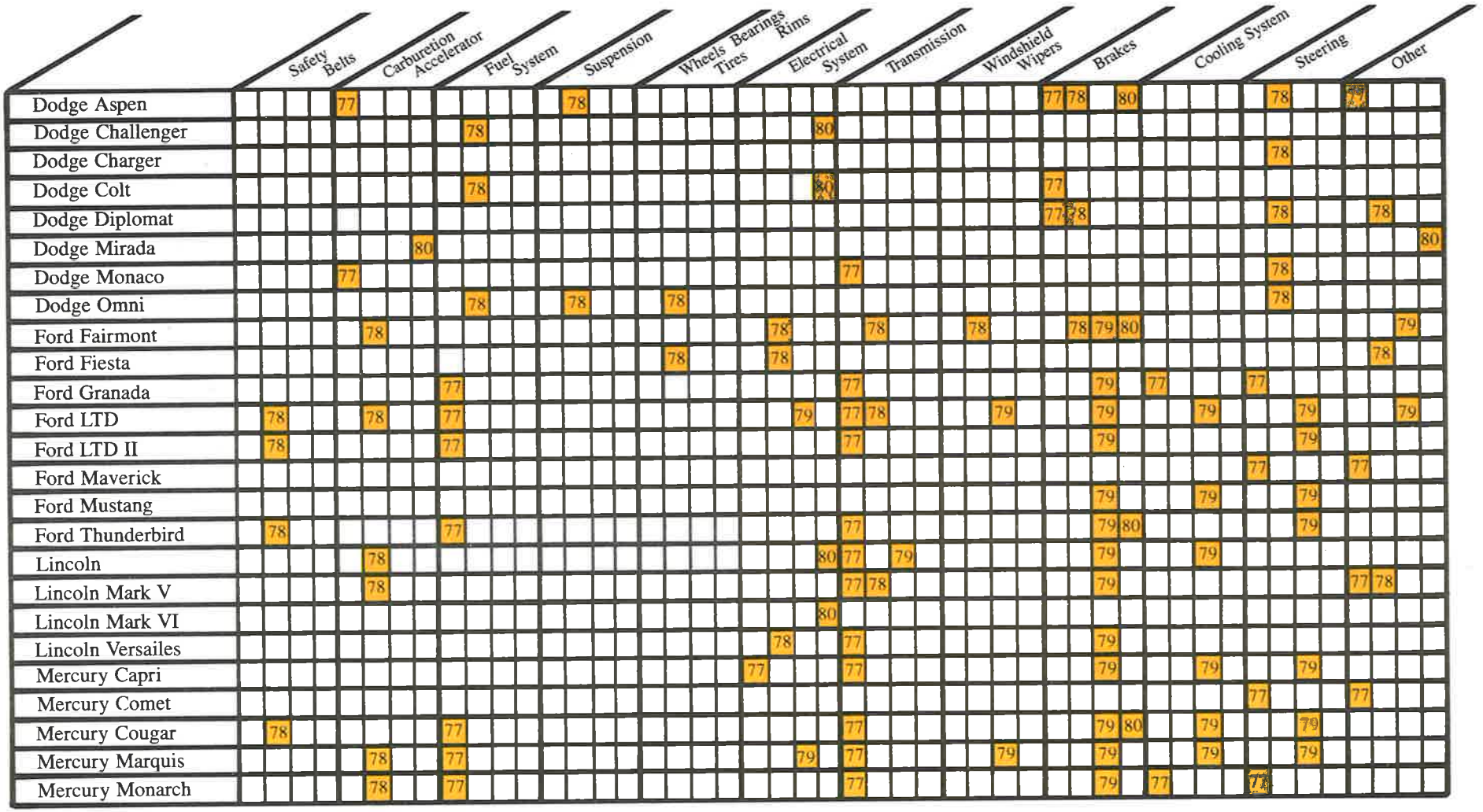
For information on defects and recalls that are not safety related, contact the Federal Trade Commission or the Environmental Protection Agency. Their addresses are listed in the "For More Information" section.

Safety Recalls of Domestic Cars by Year



A yellow box indicates that a car model was recalled. The numbers (77-80) indicate the model year of the car recalled. Only recalls of 1,000 or more cars are noted.

Safety Recalls of Domestic Cars by Year



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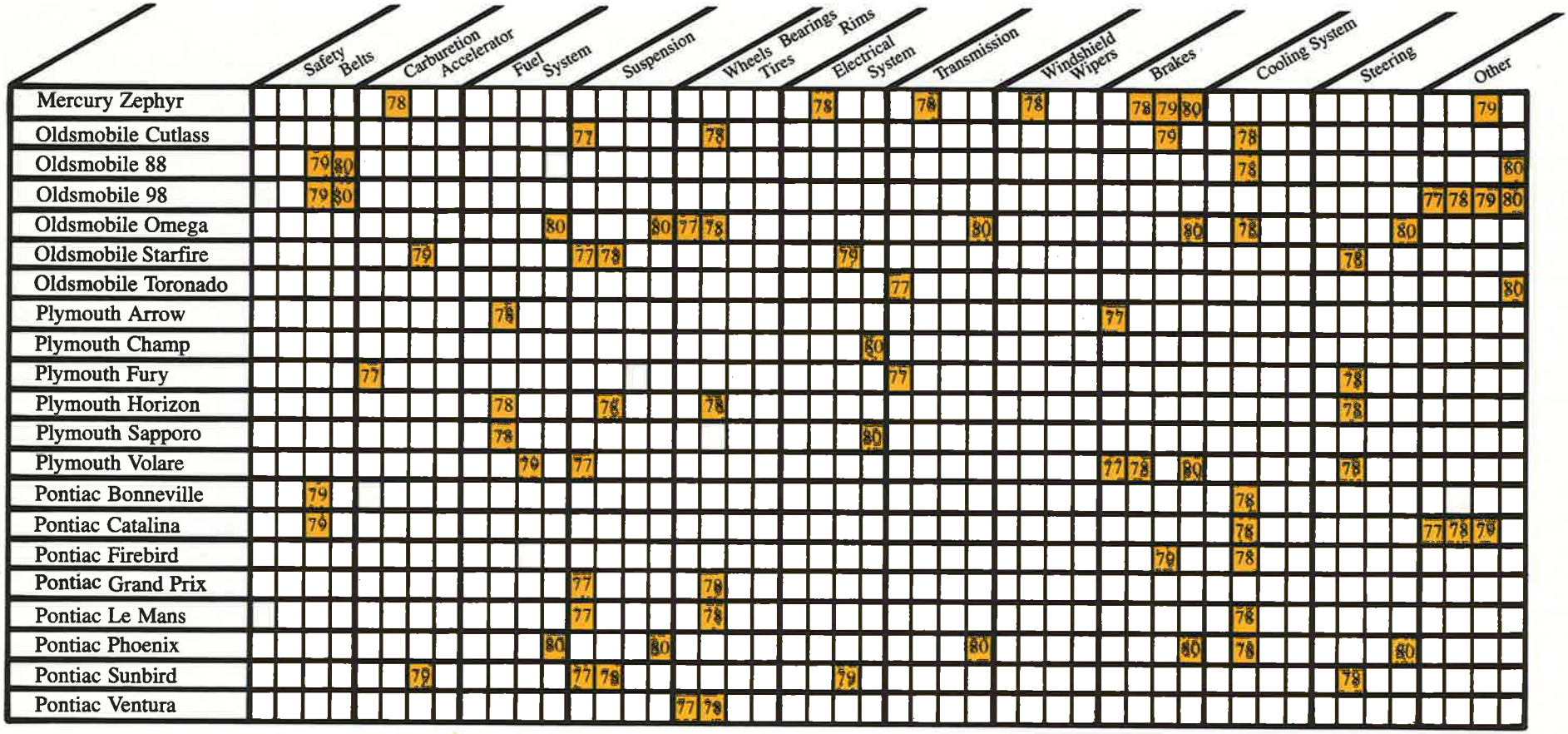
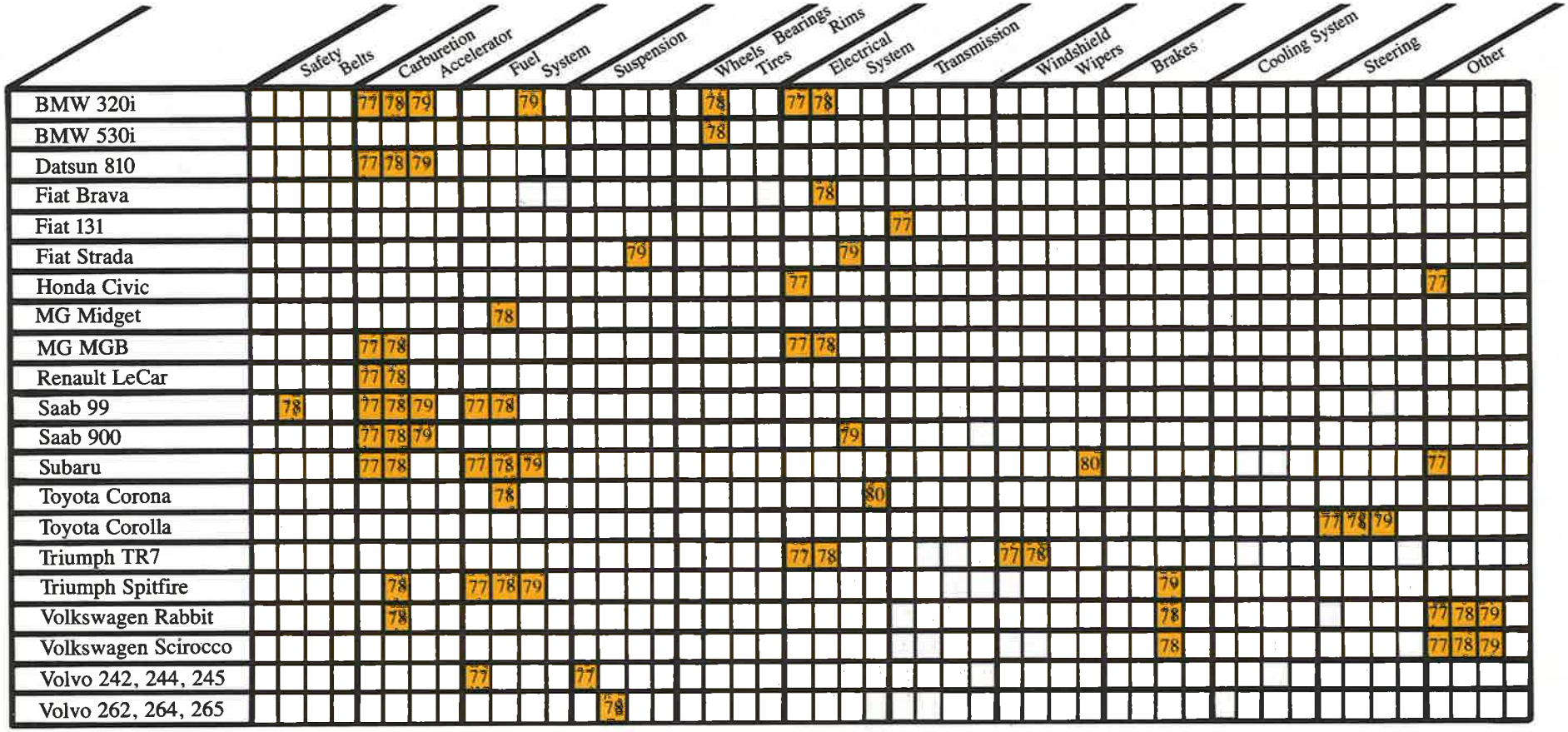
Safety Recalls of Domestic Cars by Year



A yellow box indicates that a car model was recalled. The numbers (77-80) indicate the model year of the car recalled. Only recalls of 1,000 or more cars are noted.

Safety Recalls of Foreign Cars by Year



A yellow box indicates that a car model was recalled. The numbers (77-80) indicate the model year of the car recalled. Only recalls of 1,000 or more cars are noted.

THE CAR FOR TODAY

The Car For Today

RSV

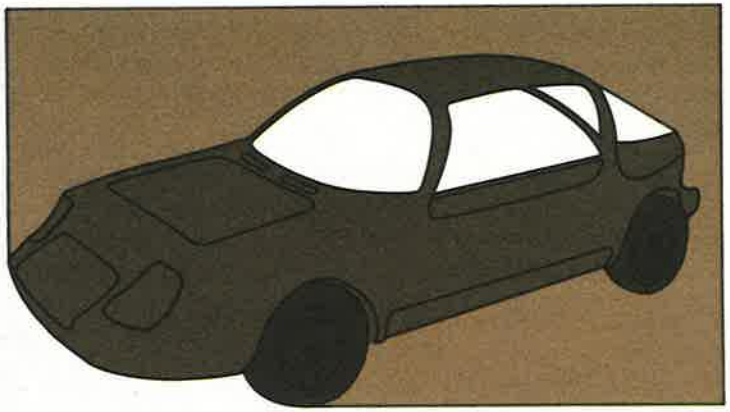
Throughout *The Car Book* you have read about how automobiles now perform in terms of safety, fuel economy, maintenance and insurance costs. Currently, you may have to choose between one or another of these qualities to get a car which fits your budget. But that need not be the case.

The Research Safety Vehicle (RSV), a compact, four passenger car developed by Minicars, Inc. of Goleta, California, under contract to the Department of Transportation, protects occupants in crashes up to 50 mph. With a four-cylinder, rear-mounted engine and a five-speed manual transmission, the RSV accelerates from 0 to 55 mph in less than 17 seconds. It weighs 2500 pounds and gets an EPA rated 28.9 mpg for urban driving. NHTSA estimates that the RSV can be mass-produced and sold for less than $7000.

The RSV offers the most advanced crash protection available. Front seat occupants, protected by dual-chambered air bags that inflate in 1/40th of a second (the time it takes to blink) and other design improvements, do not need belts. Rear seat occupants are protected by a three-point manual belt system.

The RSV is made of sheet metal, similar to that used in current cars, but with the hollow sections filled with lightweight, inexpensive polyurethane foam. The foam-filled sections provide protection by reducing the force of a crash and keeping the other car from penetrating the RSV's interior. In addition, the RSV is designed with gull-wing doors that are much less likely to be crushed inward in a crash, high strength rollbars, roof supports and rails.

If all of the cars on the highway had the characteristics of the RSV, we could reduce the fuel consumption of automobiles by 50 percent while saving over 12,000 lives annually.



Automatic Safety Belts

Manufacturers can learn from the RSV and take the following steps to increase your chances of survival in a crash:

- Incorporate the design features of the RSV—such as improved structure, steering wheel and restraint systems—so that the car, not the occupant, absorbs the energy of a crash. Some of this technology has already been built into a few new small cars, as the crash test results indicate.
- Promote the use of air bags and automatic safety belts to cushion the occupant's collision with the interior of the car in a crash.

You will be able to find automatic safety belts in the 1981 Volkswagen Rabbit, Chevrolet Chevette, and Toyota Cressida.

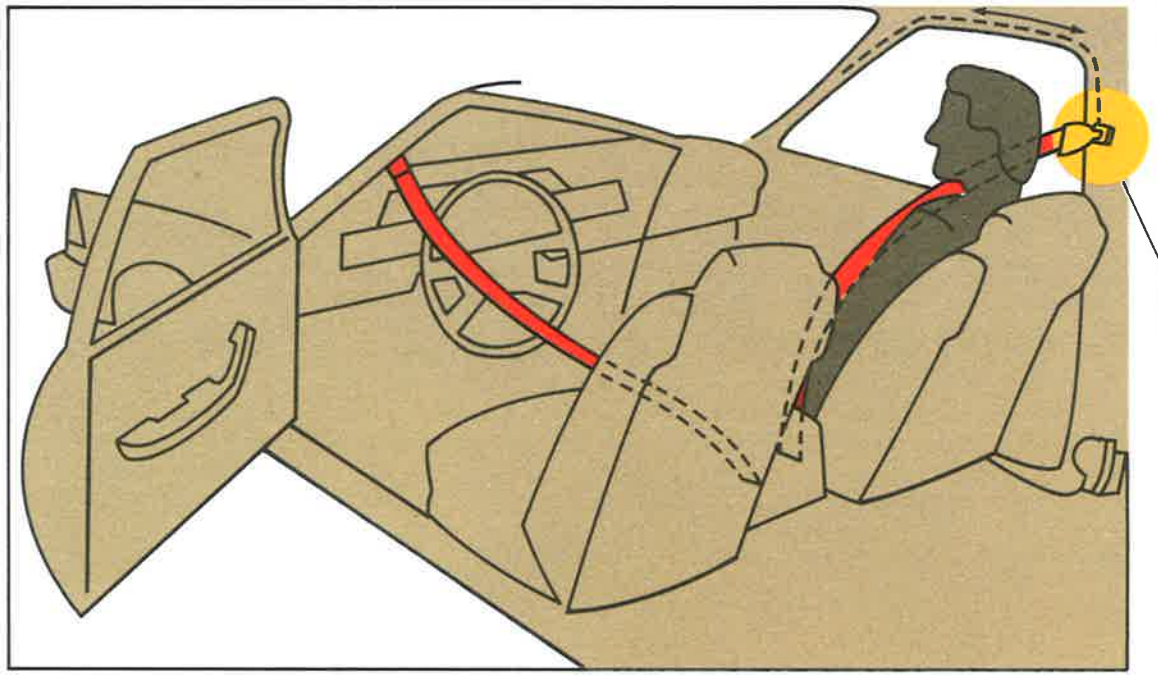
Automatic safety belts are more convenient than manual belts because you don't have to buckle or unbuckle them. They move automatically into place around you when you enter the car and close the door.

There are several types of automatic safety belts. Some have an automatic lap belt as well as a shoulder belt, and some pull out of the way more than others when you enter the car. Not all systems are equally convenient to use.

The Volkswagen has only a shoulder belt and uses a knee bolster mounted under the dashboard to protect the knees and lower body. The upper end of the shoulder belt attaches to the door and pulls out of the way when the door is opened.

The Toyota system is similar to the VW except that the upper end of the shoulder belt is mounted on a track over the door. When the door is opened, the belt is pulled forward in the track by an electric motor, making entry and exit easy. Toyota also has a manual lap belt for protection on other than frontal crashes.

The Chevette system has both the lap and shoulder belt attached to the lower and upper corners of the door. It is pulled partially out of the way when the door is opened. The system is less convenient than either the VW or the Toyota.



A small motor automatically guides the safety belt into position for entering and exiting.

Air Bags

Air bags will be available in the fall of 1981 in certain luxury vehicles and by the following year in other less expensive models. Hidden in the steering wheel hub and in the right side of the instrument panel, air bags provide completely unobtrusive and effective protection against a frontal crash. When they're needed, they inflate instantly to cushion the driver and front seat occupants. By spreading the forces of the crash over the head and chest, air bags protect these fragile parts of the body from violent impact with the hard surfaces of the car.

Air bags already in cars on the road have reduced fatalities and serious injuries by 50 percent compared to similar cars with manual safety belts. Manual belts are provided in cars with air bags to protect occupants in *other* than frontal crashes. However, air bags protect you in frontal crashes even if the safety belt is not fastened.

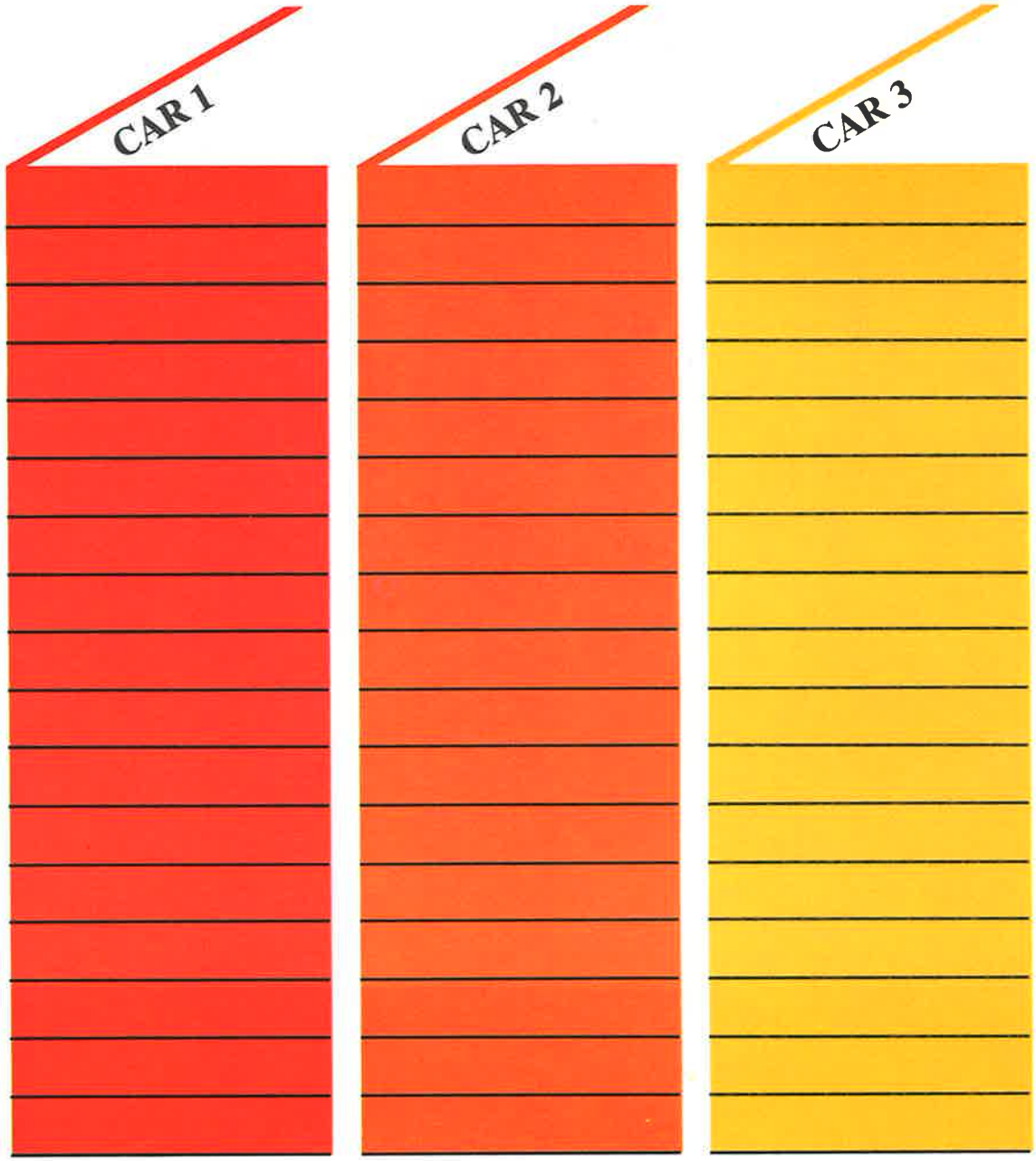
BUYER'S CHECKLIST

Buyer's Checklist

A new car is a major investment. Comparison shop. Visit as many showrooms as you can. Test drive the cars you're considering. Compare the safety features, fuel economy, price, and maintenance and insurance costs. Ask your friends and neighbors about their experiences with similar cars and about the dealer's reputation. Call your local consumer agency, Better Business Bureau or local AUTOCAP to see how many complaints are registered against that dealer. The more information you have, the better decision you can make.

The following **Buyer's Checklist** will make your comparison shopping easier. It contains two sections. The first has questions designed to help you evaluate a car's safety and convenience. While you are in the showroom use the list to get an overall idea of the safety and other important characteristics of the car you like.

The second section will give you a general estimate of the cost of buying and owning a particular car.



Dealer Name and Location:

Make and Model of Car:

Optional Equipment:

When will the car be ready?

How long is the warranty? (Be sure to compare coverage and your responsibilities)

Safety and Convenience

General

Is the passenger capacity and number of seat belts adequate?

Is the baggage/cargo capacity adequate?

Can you easily load or unload items from the trunk or other cargo area?

Are you satisfied with the quality and design of the car? (Do the doors fit well, for example?)

Does the dealer have a good reputation for customer service?

Occupant Protection

Did the car pass the NHTSA Crash Test Program? (See pages 14-17)

If adjustable, can the headrests be set so the center of the headrest is just above the center of your head?

Does the steering wheel have a large padded hub?

Is the fuel tank located forward or above the rear axle, minimizing the chance of leakage in a rear-end collision? (Ask the dealer)

Dashboard Features

Can you easily identify, locate and operate the car controls in the daylight and at night?

Is the dashboard free of sharply protruding knobs and controls?

Is the dashboard well padded in the areas where your face, knees, or chest would hit in an accident?

Is the car equipped with visual dashboard displays to monitor:

- brake wear
- door ajar
- exterior lights
- fluid levels

Seats and Doors

Are the doors free from hard protrusions or sharp edges?

Are the doors and roof pillars padded? (Pillars are the metal structures which support the roof.)

Visibility:

Is your vision free from obstructions or blind spots when you use the rearview mirror or when you turn your head in either direction?

Is a right side-view mirror available?

Is a rear window defogger available?

Do the side marker lights flash when the turn signals are on?

Maintenance:

Is the preventive maintenance cost acceptable? (See pages 33-36)

Is the cost of the nine repair items acceptable? (See pages 33-36)

Are the tire changing tools easy to find?

Fuel Economy

Is the estimated mpg acceptable?

Will the options you want decrease fuel economy? (See pages 28-30.)

Miscellaneous:

Are the tire grades satisfactory? (See pages 37-38.)

Does the car have adequate towing capability if you need it?

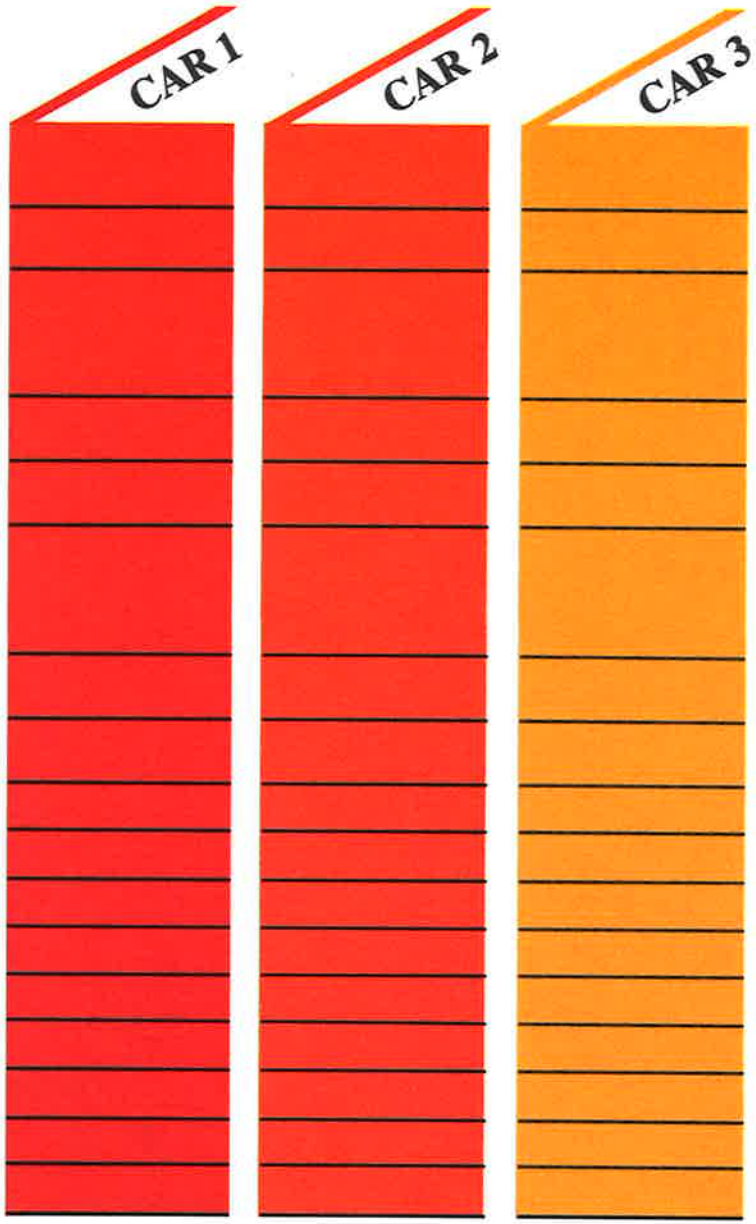
Can you quickly move your foot from the accelerator to the brake pedal?

After a Test Drive, Were You Satisfied With The Following:

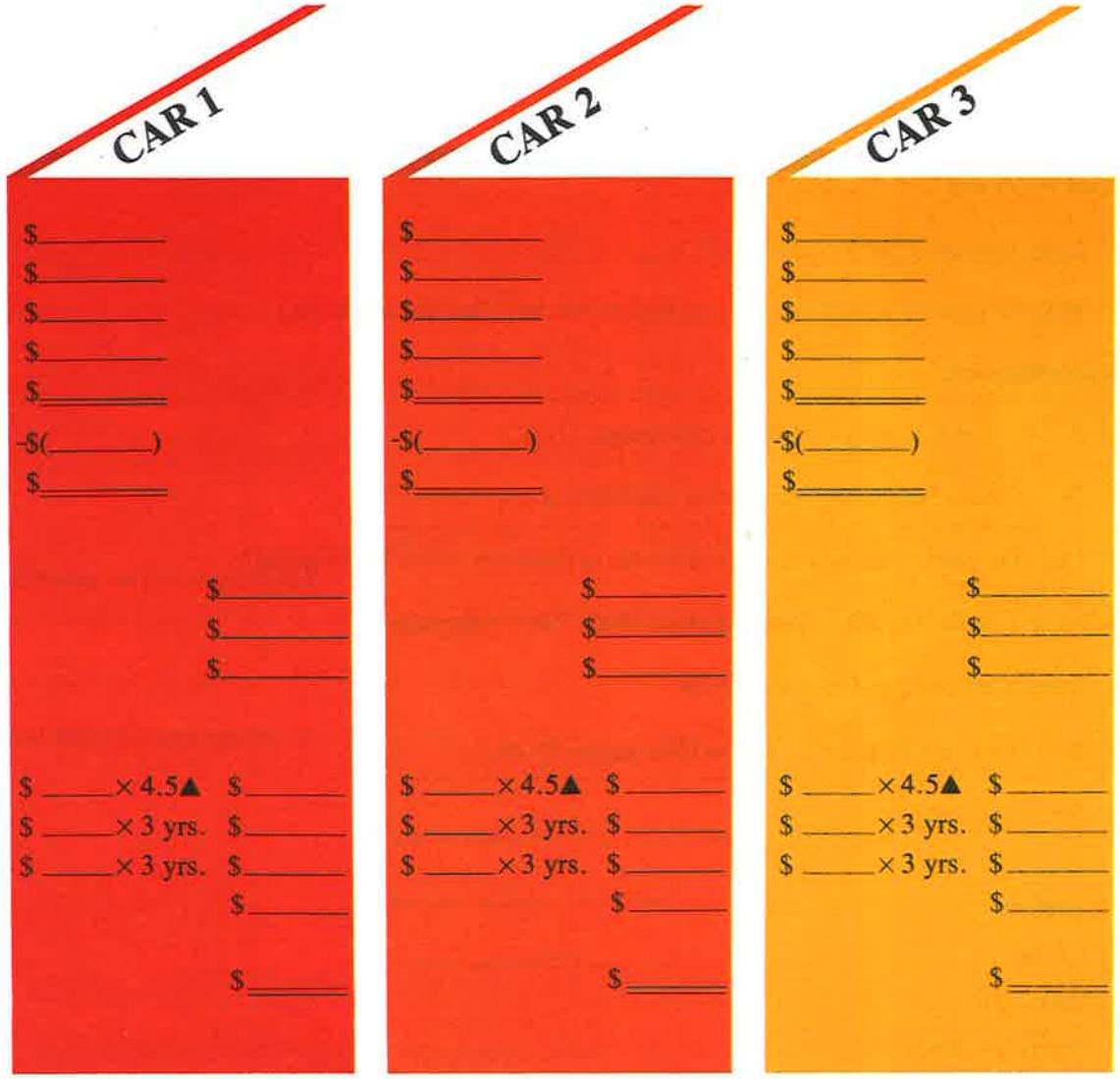
Ease of entering and exiting the car

Seat belt comfort and ease of use (See pages 25-26.)

Starting
Acceleration
Braking
Cornering
Turning Radius
Steering effort
Ride comfort
Noise level
Visibility, including from mirrors
Parking



Owning and Operating Costs



Initial Costs:

Base Price
Dealer Preparation
Optional Equipment
Taxes and Registration Fees
Purchase Price (Total of above)
Subtract Value of Trade-In
Actual Cost

Financing Arrangement
Down Payment
Monthly Payments
Total Cost of Car with Financing

Cost of Ownership: (3 year—45,000 mile estimate)

Fuel Cost (Use 10,000 mile estimate on page 28)
Annual Insurance Premium (See pages 40-42.)
State Registration Fees
Preventive Maintenance Cost (See pages 33-36.)
(Cost on charts is total for 45,000 miles)

Total Operating Cost*

*The total is intended to estimate some of the expenses associated with your new car. Because many expenses are difficult to predict and vary from person to person, you may find that your own costs are different. For example, the total does not include unscheduled repairs, depreciation or finance charges. A detailed worksheet for estimating operating costs can be obtained by writing to the Consumer Information Center, Pueblo, Colorado 81009 for the "Cost of Owning and Operating Automobiles and Vans, 1979."

▲Mutliplying the 10,000 mile estimate on page 28 by 4.5 will give you the approximate cost of fuel for 45,000 miles.

FOR MORE INFORMATION

Federal Government Agencies

The following is a list of Federal agencies with automobile programs. It provides a description of the type of work that each agency performs plus an address and phone number if you have questions about these activities.

U.S. Department of Transportation
National Highway Traffic Safety Administration
400 7th Street S.W.
Washington, D.C. 20590
(202) 426–1828

Issues safety and fuel economy standards for new motor vehicles; investigates safety defects and enforces recall of defective vehicles and equipment. Conducts research and demonstration programs on vehicle safety and fuel economy, driver safety, and automobile inspection and repair; provides grants for state highway safety programs in areas such as police traffic services, driver education and licensing, emergency medical services, pedestrian safety, and alcohol.

Office of Highway Safety
Federal Highway Administration
400 7th Street, S.W.
Washington, D.C. 20590
(202) 426–1153

Develops standards to ensure that highways are constructed to reduce the occurrence and severity of accidents.

Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460
(202) 755–2673

Responsible for the control and abatement of air, noise and toxic substance pollution. This includes setting and enforcing air and noise emission standards for motor vehicles and measuring the fuel economy in new vehicles (EPA *Gas Mileage Guide*).

Federal Trade Commission
Pennsylvania Ave. at Sixth St., N.W.
Washington, D.C. 20580
(202) 523–3598

Regulates advertising and credit practices, marketing abuses and professional services and ensures that products are properly labeled (i.e., fuel economy). The FTC covers unfair or deceptive trade practices in motor vehicle sales and repairs, as well as non-safety defects.

Automobile Manufacturers

The following are the names and business addresses of the presidents of the major automobile companies doing business in the United States.

W. Paul Tippett, Jr., *President*
American Motors Corporation
27777 Franklin Road
Southfield, MI 48034

Lee A. Iacocca,
Chairman of the Board
Chrysler Corporation
P.O. Box 1919
Detroit, MI 48288

Philip Caldwell, *President*
Ford Motor Company
The American Road
Dearborn, MI 48121

James McDonald, *President*
General Motors Corporation
General Motors Building
Detroit, MI 48202

Mr. James R. Fuller,
Vice-President
Porsche Audi Division
Volkswagen of America, Inc.
818 Sylvan Ave.
Englewood Cliffs, NJ 07632

Mr. John A. Cook, *President*
BMW of North America, Inc.
BMW Plaza
Montvale, NJ 07645

Mr. R. Recchia, *President*
Fiat Motors of North America, Inc.
155 Chestnut Ridge Road
Montvale, NJ 07645

Mr. K. Yoshizawa, *President*
American Honda Motor Company, Inc.
100 West Alondra Blvd.
Gardena, CA 90247

Mr. T. Ogawa, *President*
Mazda Motors of America, Inc.
3040 East Ana Street
Compton, CA 90221

Mr. Karlfried Nordmann,
President
Mercedes-Benz North America, Inc.
1 Mercedes-Benz Drive
Montvale, NJ 07645

Mr. Tervo Maeda, *General Manager*
Nissan (Datsun) Motor Company Limited
560 Sylvan Ave.
P.O. Box 1606
Englewood Cliffs, NJ 07632

Mr. Pierre Lemaire, *President*
Peugeot Motors of America, Inc.
1 Peugeot Plaza
Lyndhurst, NJ 07071

Mr. Pierre Gazarian, *Vice President and General Manager*
Renault USA Corporate Group
100 Sylvan Ave.
Englewood Cliffs, NJ 07632

Mr. Robert J. Sinclair,
President
Saab-Scania of America, Inc.
Saab Drive
P.O. Box 697
Orange, CT 06477

Mr. Harvey Lamm, *President*
Subaru of America, Inc.
7040 Central Highway
Pennsauken, NJ 08109

Mr. I. Makino, *President*
Toyota Motor Sales—USA, Inc.
2055 West 190th Street
Torrance, CA 90509

Mr. James W. McLernon,
President
Volkswagen of America, Inc.
27621 Parkview Blvd.
Warren, MI 48092

Mr. Bjorn Ahlstrom, *President*
Volvo of America Corp.
1 Volvo Drive
Rockleigh, NJ 07647

Publications

The following are publications that provide more information on the subjects covered in this book. Unless otherwise noted all publications are available by writing to:

National Highway Traffic Safety Administration
General Services Division (NAD-42)
400 7th Street, S.W.
Washington, D.C. 20590

Additional single copies of *The Car Book* may be obtained by writing:
The Car Book
Pueblo, Colorado 81009

Crash Protection

- "Automobile Occupant Crash Protection"
- "Free Life Saving Information: Automobile Passive Restraint Systems and What They Mean to You"
- "Safety Belts in 1972: A Step Closer to Automatic Crash Survival"
- "Safety Belts—How Many of These Fairy Tales Have You Told?"
- "Safety Belt Message" (Student Lesson)
- "Encouraging Employees to Use Safety Belts"

Child Restraints

- "Child Restraint Systems for Your Automobile"
- "Early Rider Shopping Guide and Fact Book"
- "How to Help Kids Ride Safely"

Tires

- "Uniform Tire Quality Grading Standard"
- "Tire Chains"
- "The Hazards of 'Mixing' Tire Types"
- "Studded Tires"
- "Three Rules for Maximum Tire Life"

Brakes

- "Brakes. A Comparison of Braking Performance for New Passenger Cars and Motorcycles"
- "Safety Tips on the Purchase and Use of Hydraulic Brake Fluids"
- "Passenger Car Brakes"
- "Brake Fluids"

Fuel Economy

"1980 Gas Mileage Guide." Available at your dealer's showroom.

- "Gasoline: More Miles Per Gallon

Maintenance

- "Tips on Car Care Safety"
- "Tips on Car Care and Safety for Deaf Drivers"

"Costs of Owning and Operating Automobiles and Vans" Available through: Consumer Information Center, Pueblo, Colorado 81009

Miscellaneous

- "Travel and Camper Trailer Safety"
- "Automobile Jacks"
- "Safety Tips on the Use of Headlights"
- "Vehicle Exhaust Systems"
- "Automotive Rust—Its Causes and Prevention"
- "Battery Hazards—Explosions and Jump Starting"
- "Consumer Protection Under the New Anti-Tampering Odometer Law"
- "Engine Stalling"
- "Facts You Should Know About (Facts on Repair Costs, Fuel Economy, Safety)"
- "55: Judge for Yourself"
- "Motorhome and Pickup Camper Safety"
- "Standards, Federal Motor Vehicle Safety Standards"
- "How To Deal with Motor Vehicle Emergencies"
- "Safe Driving in Winter"

Answer Books—Guides to Automobile Safety, Maintenance and Repair

Shell Oil Company
Box 61609
Houston, Texas 77208

Consumer's Resource Handbook
A manual for resolving consumer problems.

Consumer Information Center
Department 619 J
Pueblo, Colorado 81009

The Lemon Book
A consumer's guide to buying and owning a car, providing strategies and descriptions of a consumers legal right when nothing else seems to work. ($7.95 + .60 postage)

The Center for Auto Safety
1223 Dupont Circle Building
Washington, D.C. 20036

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