ALASKA LEGISLATURE COMMITTEE FILES 1981-1982 8672

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SESSION TWO / THE PRACTICE OF DEFENSIVE DRIVING

Defensive Driving: The Art of Driving To Stay Alive

Defensive driving is a key concept in the Driver Improvement Program. It represents an approach to the driving task that, when applied, can lessen your chances of being involved in a motor vehicle accident. *Defensive Driving means driving so as to prevent accidents in spite of the actions of others or the presence of adverse driving conditions.*

Building a defensive driving technique involves improving your habits of Observation, Communication, Coordination, Navigation and Consideration. It will increase your ability to predict the outcome of traffic situations earlier and more accurately and thus, to a degree, control that outcome so that no collision results.

The Standard Accident Prevention Formula

In order to do this, you'll need to know and apply the *standard accident prevention formula*, which involves three interrelated steps:

1. **See the Hazard:** Think about what is going to happen or what might happen as far ahead of encountering a situation as possible. Never assume everything will be "all right."

2. **Understand the Defense:** There are specific ways to handle specific situations. Learn them well so you can apply them when the need arises.

3. **Act in Time:** Once you've seen the hazard and decided on the defense against it, act! Never take a "wait and see" attitude.

Taking Stock of Your Defenses

Seeing the hazard starts far in advance of the scene of a would-be accident; it starts with a *pre-trip mental inventory of driving conditions* even before you get behind the wheel.

Here is a list of six adverse driving conditions. On the basis of what you have learned in class, give at least one defense for each potential accident-producing condition.

1. **Dense fog** (Weather)

Defense: _____

_____

2. **Glare from brilliant sunshine** (Light)

Defense: _____

_____

3. **Slow-moving, bumper-to-bumper rush-hour traffic** (Traffic)

Defense: _____

_____

4. **Winding, two-lane mountain road** (Road)

Defense: _____

_____

5. **Heavily frosted windshield** (Vehicle)

Defense: _____

_____

6. **A feeling of drowsiness and blurred vision** (Driver)

Defense: _____

_____

If you were able to supply effective defense against these six adverse driving conditions, you've already *seen* the hazards and *understood* the defenses; remember them, and you'll be prepared to *act* in time.

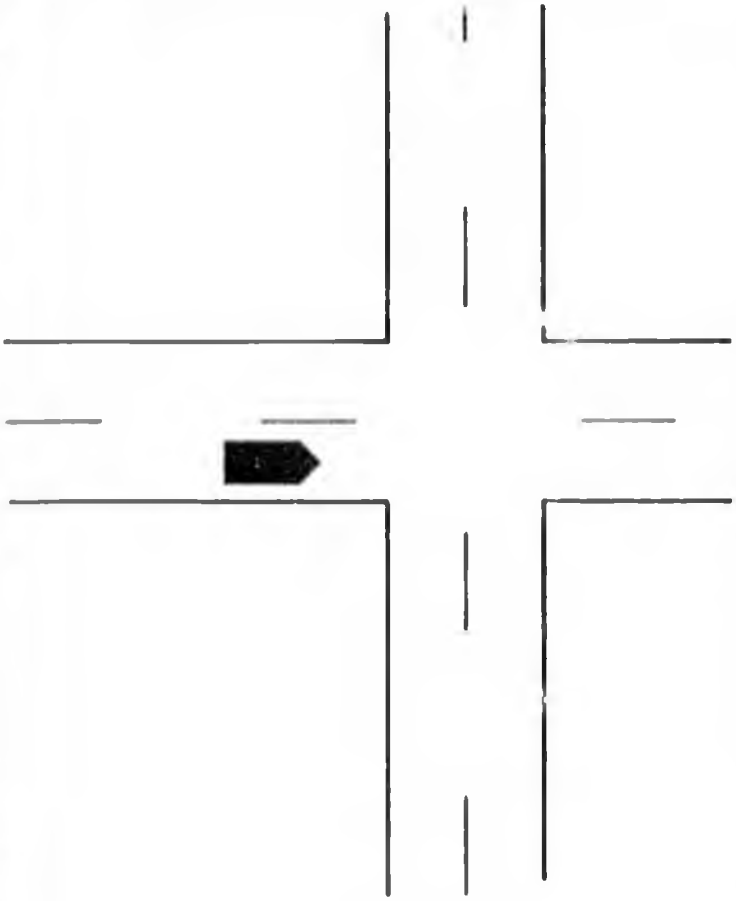
Almost without exception, accidents result from *driver error*. The same error can cause a minor accident or a fatality — chance often determines severity. This means that every minor mishap, every "close shave" is well worth reviewing in terms of what went wrong — who was in error and why — so that steps can be taken to avert a more serious, possibly fatal, recurrence. Even if you emerge from this analysis legally blameless, the fact that your own driving behavior allowed the accident to occur at all indicates that your defenses failed.

The Deadly Two-Car Crash

People are injured and killed in traffic accidents in a number of ways, ranging from running off the road to head-on collisions. However, the most significant cause of fatalities, serious injuries and property damage is the *two-car crash.* There are six positions that your car can take in relation to another in order to produce a two-car crash. In any traffic situation you have the possibility of a collision with the car ahead, the car following, the car approaching, the car at an intersection, the car passing and the car you overtake and pass.

In the diagram below, draw in the position of another vehicle in relation to your own to illustrate situations producing—

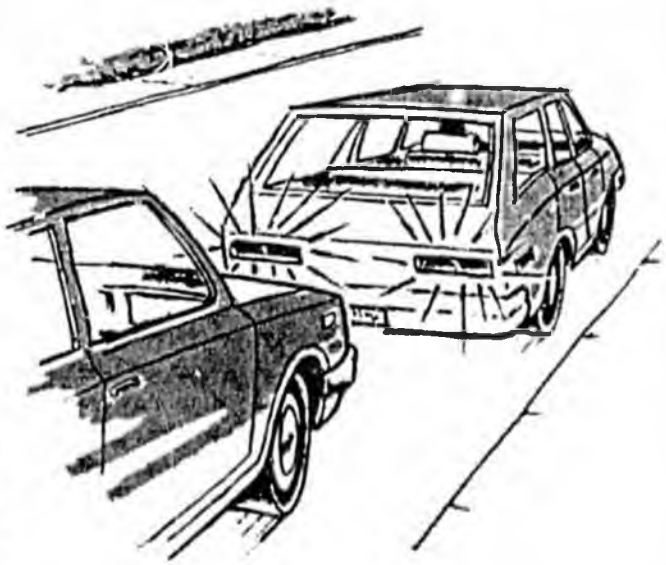
1. a collision with the vehicle ahead
2. a collision with the vehicle following
3. a head-on collision
4. an intersection collision
5. a collision with a vehicle passing
6. a collision with a vehicle you attempt to pass



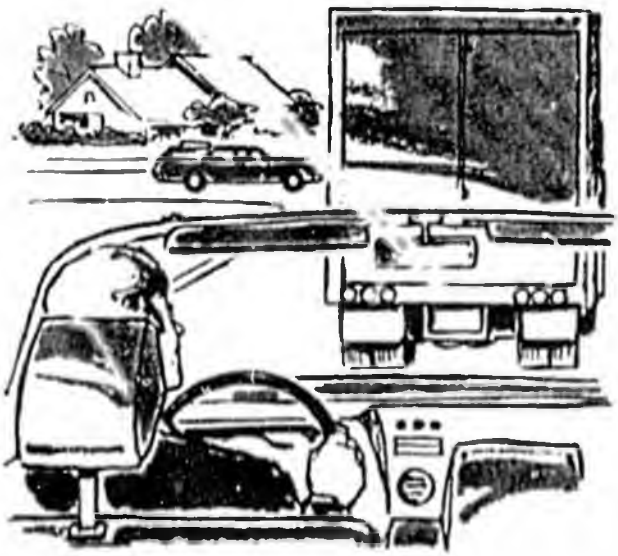
How to Avoid Collision with the Vehicle Ahead

An extremely frequent and costly accident, in terms of liability suits, is the *collision with the vehicle ahead.*

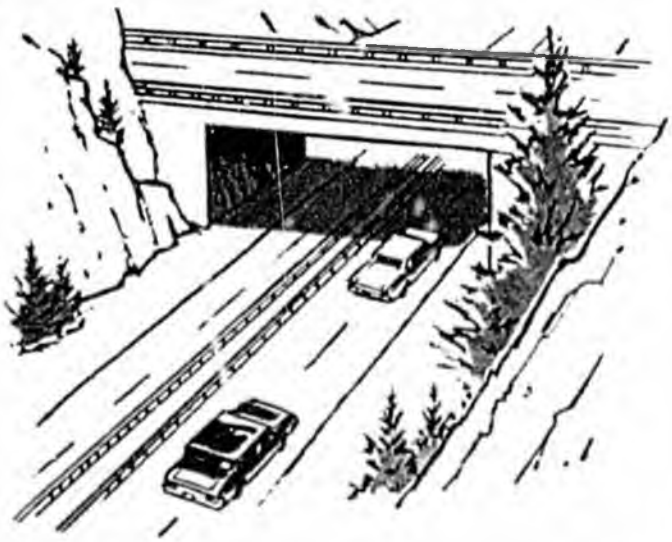
There are four simple steps that will help you avoid being involved in a collision with the car ahead:



1. **Stay alert:** Watch for signs from the driver ahead as to what he intends to do. Is his turn signal on? Are his brake lights lit? Has he been gradually drifting to the right or the left as if to prepare for a turn?



2. **Stay ahead of the situation:** Look beyond the driver ahead to see situations that may force him to act quickly and thereby become a threat to you. Are there vehicles in the roadway or on the shoulder? Are the intersections marked or unmarked? Are there parked cars, pedestrians or livestock present?



3. **Stay back:** Allow one car length for every ten miles of speed—more in adverse weather or road conditions. The best way to do this is to use the Two-Second Rule to make sure that you have the correct following distance. If you stay two seconds behind the car in front, you will have the correct distance no matter what your speed. It works like this: Watch the vehicle ahead pass some definite point on the highway, such as a tar strip or overpass shadow. Then count to yourself "one thousand and one, one thousand and two." That's two seconds. If you reach the mark *before* you finish saying those words, you are following too closely.

4. **Start stopping sooner:** Slow down and touch your brakes the instant you see a hazard developing that may require you to stop or take evasive action. Failure to do this is known as "delayed braking," a serious flaw in defensive driving technique. A defensive driver should rarely if ever have to make a panic stop.

The time it takes you to stop depends upon your speed, the condition of the road, the condition of your car, and how alert you have been. Expressed as a formula:

Reaction Distance + Braking Distance = Total Stopping Distance

STOPPING ABILITY OF STANDARD PASSENGER CARS ON DRY, CLEAN, LEVEL PAVEMENT

Speed	(1) Driver Reaction Distance	(2) Braking Distance 15-85 Percentile Range	(3) Total Stopping Distance Range
mph	ft.	ft.	ft.
20	22	18-22	40-44
25	28	25-31	53-59
30	33	36-45	69-78
35	39	47-58	86-97
40	44	64-80	108-124
45	50	82-103	132-153
50	55	105-131	160-186
55	61	132-165	193-226
60	66	162-202	228-268
65	72	196-245	268-317
70	77	237-295	314-372
75	83	283-353	366-436
80	88	334-418	422-506

1. Driver reaction distance is based on a reaction time of 3/4 second, which is generally considered average for the typical driver under normal driving conditions.

2. The braking ability of any given passenger car can vary widely owing to the type and condition of the pavement surface, the type of tires, the condition of the tires and brakes, and other factors. The values in the table above show a braking distance range from the 15 percentile to the 85 percentile level and are based on tests conducted by the U. S. Bureau of Public Roads at 70 mph on dry, level pavement. Since extensive test data are not available in the upper speed ranges, distances for higher speeds were computed by the use of formulas that allow for findings based on limited test data.

3. Stopping distance as used here includes driver reaction distance and braking distance.

THIS TABLE DEVELOPED FOR EDUCATIONAL USE ONLY

Know Accident Conditions

Throughout the Defensive Driving Course we will be discussing various types of accidents in terms of preventability. There are six principle conditions that play some role in all accidents. These are light, weather, road, traffic, vehicle and driver.

It is possible to think of an accident situation in which all six of these conditions are unfavorable. Yet it is important to realize that in *most* accidents, all conditions except driver condition are favorable. This points up the importance of driver condition. Even so, the student of defensive driving must become an expert on all conditions and how to adjust to them.

LIGHT CONDITION

The first requirement of safe driving is to see and be seen. This ability is affected by light condition—the presence or absence of natural or artificial light. You

can have too little light, or too much light. The hazard of too little light is found in the fact that the nighttime fatal accident rate is more than double the daytime rate.

Here are some things you can do to adjust to adverse light conditions:

1. Be sure all lights on your vehicle are in good working order.
2. Keep headlights clean and properly aimed.
3. Turn on lights promptly at the onset of darkness—even in midday if it becomes so dark that visibility is decreased.
4. Switch headlights to low beam when meeting another vehicle and when following another vehicle within 300 feet.
5. Do not look directly into approaching headlights.
6. Never wear sunglasses for night driving.
7. Be extra watchful for pedestrians and cyclists at night.
8. Always reduce speed at night.
9. When there is too much light, such as when driving directly into sun glare in the early morning or late afternoon, wear sunglasses and use your sun visor. A good pair of sunglasses is also helpful in preventing snow blindness when snow-glare is present. Ask your eye specialist for prescription sunglasses if necessary; they are worth the investment.
10. Remember that under adverse light conditions others also have difficulty seeing, so take care that they can see you.
11. Never drive with only your parking lights on.

WEATHER CONDITION

Bad weather can affect traction, visibility and vehicle control.

Rain, snow and ice can make road surfaces slippery. Adverse weather can obscure your vision with rain, snow, fog or road splatter, as well as steam up glass with interior vapor. Other drivers find it harder to see you, and pedestrians hide behind umbrellas so they fail to see cars approaching. High winds make steering difficult and cause vehicles to veer to the wrong side of the road.

Here are several defensive actions you can take to adjust to adverse weather conditions:

1. Clean windshield and all windows of accumulated snow or ice if your car has been outside. Don't try to see through a peephole.
2. In cold weather be sure your motor is warmed up enough to insure reliable performance. Turn on heater before you start to avoid sudden fogging of glass.
3. At the onset of rain, fog, sleet or snow, adjust your speed immediately to the changed conditions.
4. Be sure your windshield wipers, washers and defroster are in good working condition.
5. Turn headlights on low beam in fog, rain, extreme cloudiness or snow storms, even in the daytime.
6. Be sure your taillights, brake lights and directional signals are working.
7. If ice or snow accumulates on windows, windshield or lights, stop in a safe place to clear it off.
8. Sometimes weather can get so bad that the best thing to do is get completely off the road until conditions improve. That's especially vital in heavy fog or rain. If you have to stop on the shoulder get as far away from the road as possible and turn off all exterior lights except flashers.
9. The early phase of rain is most dangerous because it raises a soapy slick film of oil and grease drippings. After 20 to 30 minutes of hard rain, the slippery residue is washed off and the pavement has better traction. So at the onset of rain, slow down.
10. Bad weather by itself doesn't cause accidents. Accidents are caused by drivers who do not take immediate measures to adjust to the special hazards brought about by bad weather.

ROAD CONDITION

Road condition refers to the total roadway and the type and condition of the road surface. These can affect your ability to steer, stop and maneuver.

Adverse road conditions can be produced by weather. Conditions change from one kind of road to another—from a side street to a thoroughfare, from secondary road to a main highway, from a two-lane road to an expressway. Any trip may involve a number of different road conditions, each requiring adjustment in your driving.

Here are ways to cope with adverse road conditions:

1. Adjust your speed to road surface conditions. Posted speed limits are for ideal conditions only.
2. On snow or ice you must reduce your speed, not only to avoid skidding but also to make certain your stopping distance will be within your clear sight distance ahead.
3. On slippery surfaces, slow down sooner so you can use your brake sparingly, start braking sooner, and use less power in starting and accelerating.
4. To avoid locked-wheel skids, pump your brakes when stopping on slippery roads. Jab and release them quickly once or twice a second. This gives alternate intervals of braking and steering control. With disc brakes application should be less rapid.
5. If you skid, steer in the direction the rear of the vehicle is sliding.

6. Wet leaves are very slippery, so use care.

7. Remember that ice forms more quickly on bridges, that shady spots remain icy longer, that concrete pavement usually ices up faster than warmer blacktop roads, and that "wet" ice at about 30 degrees is more slippery than ice at zero temperature.

8. Experience shows that accidents due to icy or wet streets most often occur soon after the sudden onset of the hazardous condition. If conditions are bad when drivers start a trip, they usually are on guard. But if the bad weather starts during the trip, drivers try to maintain their normal speed too long and get into trouble.

9. Speed, standing water on the pavement and tires with worn tread make a combination that can cause hydroplaning, a complete loss of steering and reduced traction. A wedge of water can build up between the front tires and the road and literally lift the tires from good contact with the pavement. Slow down in heavy rain that leaves standing water.

10. When starting out on a slippery day, test the traction by lightly applying the brakes at slow speed to get the "feel" of the road.

TRAFFIC CONDITION

Traffic conditions are created by the number of vehicles and pedestrians using the same road or street at the same time you are, and to a large extent by how well the road has been engineered to accommodate the amount of traffic present at a given time. More cars mean more conflict in traffic and more chance for a collision.

Traffic conditions are influenced by the time of day, day of the week, even time of year in the case of holiday periods, and by the nature of the environment, such as a shopping center, sports arena, factory or school.

Here are ways to adjust to traffic conditions:

1. Remember that pedestrians and bicyclists may not always have the right of way, but cars must always yield right of way to a pedestrian.

2. Motorcycles are undersized and often overlooked. Allow them as much road space as you would another vehicle.

3. Be ready for wind turbulence when passing large trucks or campers.

4. Plan your driving routes to avoid congestion as much as possible and select the best regulated routes.

5. Speed zones are often established after observing the normal pace of most cars on a given stretch of street or highway. The defensive driver conforms to this pace. Driving faster or slower than traffic in general will create unnecessary passing movement, and passing increases the chance for mistakes.

6. Dim your lights well in advance of oncoming cars, and never look directly into an approaching car's lights. If they are on high beam, flick yours as a signal. If the driver leaves them on high, keep yours on low beam and look to the right edge of the road or lane marker until the car is past. Never switch on your high beam in retaliation; that just compounds the danger.

7. Because traffic conflicts can trigger emotional reactions among drivers, the defensive driver seeks to influence others by showing courtesy and consideration to other motorists at all times.

VEHICLE CONDITION

Vehicle condition affects your ability to control your vehicle, your ability to see and be seen, and to communicate with other drivers and pedestrians. Your chances of staying out of an accident are better with a vehicle in tip-top condition than they are with one that has operational defects.

You are the only one who knows when something isn't working right. Only you can spot possible vehicle defects and either repair them or get them corrected by a qualified mechanic.

Here are several points to remember about vehicle condition:

1. Worn or poorly adjusted brakes cause trouble when the driver is faced with the necessity for stopping quickly.

2. Defective turn signals or brake lights can confuse other drivers about your intentions and cause a collision.

3. Worn tires increase the possibility of skidding or hydroplaning. A blowout can throw your car out of control. Good tire care is one of the essentials of a safe car.

4. A broken or burned-out headlamp not only cuts down your visibility, but makes it difficult for other drivers to judge the position of your car in a lane. Keep your headlamps aimed correctly.

5. Broken windshield wipers or worn-out wiper blades can mean the difference between life and death on a rain-swept highway.

6. The horn can be an important safety device. Horns should be used sparingly, but if you need to sound a warning and the horn won't work, the results can be serious.

7. A defective muffler and exhaust pipe often results in filling the vehicle with carbon monoxide. While the concentration may not be enough to cause death, it can cause drowsiness and may be the unseen, undiscovered cause of many accidents.

8. A lap belt and shoulder harness should be worn at all times. If safety belts are in bad condition or stuffed behind the seat, they are of no use to even the most safety-minded occupant in an accident.

9. The interior of your vehicle can contribute to the "second collision" in the event of a crash. Heavy or sharp objects stowed on the rear shelf of your car can become lethal projectiles.

10. When renting a car or borrowing someone else's, take time to get familiar with the vehicle, the location of all controls and its operating characteristics.

DRIVER CONDITION

Driver condition refers to your physical, mental and emotional fitness to drive. It is the most important of the six accident conditions, because a driver in top physical, mental and emotional shape can adjust to all the other conditions and to the errors of other drivers as well.

Here are some important points to remember about driver condition:

1. Be as objective as possible about your fitness to drive, whether the trip is long or short. When you don't feel up to it, be willing to postpone the trip or have someone else drive.

2. The most dangerous physical condition is being under the influence of alcohol. The best rule is not to drive after drinking, but if you must drive, do so only if you understand how alcohol affects your capabilities. Know your limit.

3. Age is a special driver condition for those under 25 and over 65. The younger driver has good physical condition but lacks experience and mature judgment. The older driver has experience and, hopefully, good judgment, but his physical and sensory faculties may have deteriorated. Each group can compensate for these weaknesses by knowing and adjusting to them.

4. The taking of prescription drugs, as well as illegal drugs, can affect driving. Medicines taken in combination, or when used with alcohol, can have a multiplying effect. Ask your physician about the effect prescription drugs may have on your driving ability. Needless to say, illegal drugs and driving are a dangerous mixture.

5. Emotions such as anger and worry can blot out the alertness needed to drive safely. If you are upset and unable to concentrate, don't drive. And never allow aggressive driving to become an outlet for anger and frustration.

6. Fatigue and sleepiness are other dangerous driving conditions. When you find yourself dozing at the wheel, don't fight it. Pull off the road for coffee, exercise and fresh air. If necessary, take a nap or let someone else drive.

7. Certain physical impairments, such as uncorrectable vision, uncontrollable epilepsy, heart disease or diabetes, add to driving risk. Discuss these with your physician, and have the wisdom to forego driving if he advises you to do so.

Be Your Own Traffic Judge

"It was raining hard, and I was following a bus and two cars. We were approaching a town. The bus stopped without pulling off the pavement. The two other cars in front stopped too. I applied my brakes but began to skid. I tried to pull to the left but the front wheels skidded and I ran into the rear of the car ahead."

	True	False
1. The accident was non-preventable because weather conditions made it impossible to stop.	____	____
2. The accident was non-preventable because the car in front was closer to the situation and should have signaled that he was going to stop.	____	____
3. The accident was preventable because your vehicle should have been equipped with chains.	____	____
4. The accident was non-preventable because it was caused by the bus stopping on the pavement.	____	____
5. The accident was preventable because rear-end collisions are always preventable by the driver behind.	____	____

ANSWERS

1. False. While the driving ran reduced viability and made the pavement slippery, it cannot be blamed for the accident. You failed to adjust to these conditions by not slowing down and maintaining more following distance.

2. False. You cannot base your driving on the premise that the driver in front of you is always going to give you clear and timely warning of what he is going to do. You must be responsible for being able to stop if the vehicle ahead stops suddenly.

3. False. Chains are of no value on rain-wet pavement. Maintain a safe following distance and be able to stop.

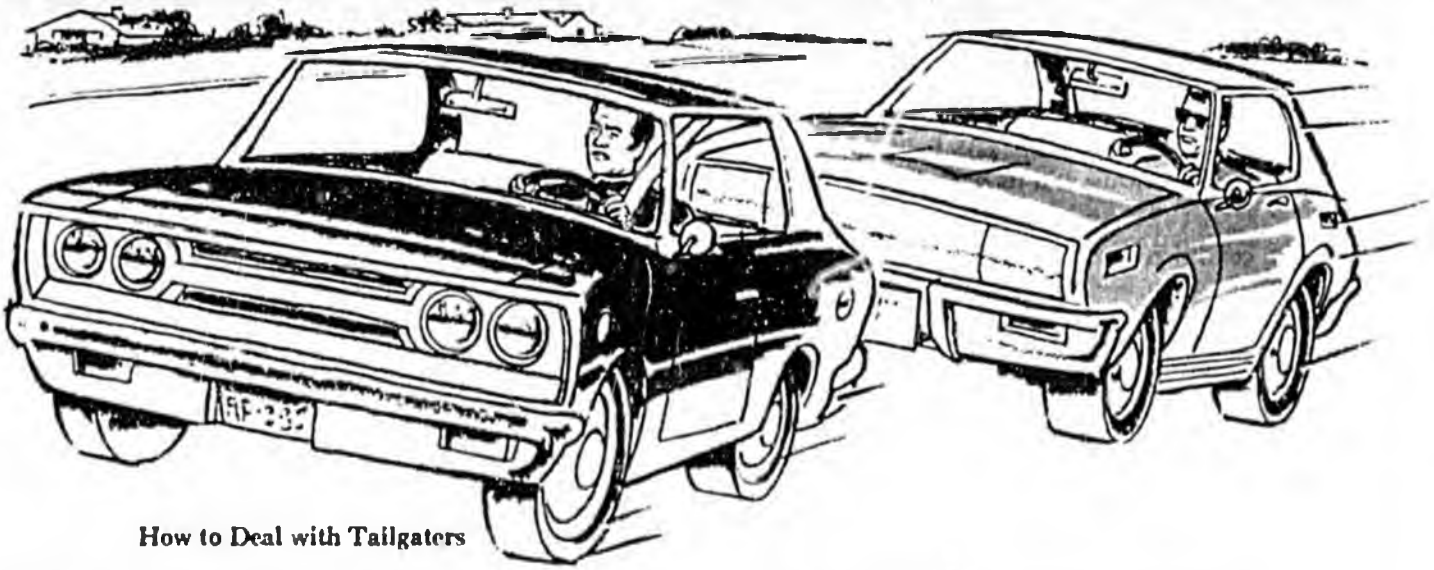
4. False. While the behavior of the bus driver contributed to the accident, alert driving on your part would have prevented it.

5. True. Running into the rear of another vehicle is seldom excusable. Your defense against this type of accident is to read the road ahead and maintain safe speed and following distance.

Defensive Driving Workshop

Discuss the ways in which auto accidents affect insurance rates. Students may wish to relate personal experiences in this area.

SESSION THREE / HOW TO AVOID A COLLISION WITH THE VEHICLE BEHIND



How to Deal with Tailgaters

It is sheer foolishness to take the legalistic position that "any driver who hits my vehicle from behind is in the wrong." An attitude like that can literally break your neck. You have a responsibility to the driver following you. You have to let him know what you are going to do in order for him to know what to do.

There are four measures you can take to avoid being hit from behind:

1. **Signal your intentions.** Use your directional signals (or arm signals) and brake lights.

2. **Stop smoothly.** Once in a while, you have no choice but to jam on the brakes. Most of the time that shouldn't be necessary. If you follow the rule for avoiding a collision with the vehicle ahead, you will reduce at the same time the chance for a collision with the vehicle following.

3. **Keep clear of tailgaters.** Don't let a tailgater rile you. Just slow down. This will eliminate the hazard by:
   a. Encouraging him to pass you.
   b. Increasing the following distance between your car and the car ahead so you won't have to brake suddenly and be hit by the tailgater.
   c. Forcing him to slow down, thereby making it easier for him to stop safely when you stop.

4. **Avoid a rear-end collision when stopped.** Being struck from the rear while stopped in traffic accounts for 70 per cent of rear-end collisions. This may happen to you when you are stopped behind a driver who intends to make a left turn. These precautions are recommended to avoid being struck in the rear while stopped in traffic:
   - Keep foot on the brake to activate the brake lights.
   - Stop at least 10 feet behind the car ahead to prevent any domino effect. A good way to do this is to stop so you can see the rear tires of the car ahead.
   - Keep lights on at dusk or in rain and snow.

Defensive Driving: A Matter of Attitude

If you practice defensive driving, it's unlikely that you'll find yourself involved in a collision with a vehicle following your own. After all, defensive driving is largely a matter of attitude—the determination on your part to do everything reasonably possible to avoid being involved in a preventable accident, regardless of what the law says, what the other driver does, or the adverse driving conditions you encounter.

There are a number of attitudes that characterize the defensive driver. How many do you display?

1. **Knowledge:** Do you know the traffic rules and regulations of your state? Are you aware of proper procedures for passing, yielding the right of way and other maneuvers you'll be called upon to perform when you're behind the wheel?

2. **Alertness:** Are you aware of what's going on around you? Are you conscious of traffic conditions ahead? Do you occasionally glance from side to side, and at the side and rear-view mirror?

3. **Foresight:** Do you "look ahead" when you drive? Can you predict what is likely to happen? Foresight includes both short and long-range predictions, such as getting ready to stop when you see a traffic light ahead and making a pre-trip mental inventory of driving conditions.

4. **Judgment:** Another word for good "horse sense." Judgment involves knowing what to do and *doing it* at the right time—every time.

5. **Skill:** Do you know how to handle your car? How to start, stop, turn, go forward and in reverse and how to execute various emergency maneuvers? Research has shown that skill is not simply the result of practice, but the result of *training*, plus practice.

Head Restraints Reduce Whiplash

Each year there are an estimated 3,800,000 rear-end vehicle crashes. In these, as many as one million drivers and passengers claim whiplash injury, one of the most common of crash casualties.

Since 1969, when head restraints were required as standard equipment in new cars, nearly one-fifth of whiplash injuries have been eliminated. This despite the fact that a large number of adjustable head restraints have been found to be improperly adjusted.

Some pointers for head restraints:

- The padded section should be adjusted to fit against the back of the skull, and not against the base of the neck. Restraints left in their lowest position may actually increase certain whiplash injuries by serving as a fulcrum over which the head snaps in rear-end collisions.
- The front seat head restraints should not increase the chance of injury to back-seat passengers in the event of an accident.

Defensive Driving Workshop

Scan your newspaper for articles on traffic accidents. Bring them to class and, on the basis of the information in the article, try to analyze the probable causes, and whether or not they were preventable.

Be Your Own Traffic Judge

"I was traveling in a long line of cars and trucks. The flow of traffic was about 50 mph. The road was dry and the weather clear.

"Suddenly, a car darted into the stream of traffic from a side road ahead. I was about 35 feet behind the car ahead, and I barely managed to stop when he stopped, but the driver behind rammed into me."

	True	False
1. This accident could have been prevented.	____	____
2. The driver who tried to dart into the traffic from the side road was at fault, so I couldn't have prevented this accident.	____	____
3. The driver behind me was at fault.	____	____
4. I could have prevented this accident.	____	____

ANSWERS

1. True. It could have been prevented by better driving by all three drivers involved—the one who tried to dart into traffic, the driver behind you, and you.

2. False. His name won't even appear in the accident report. (Certainly he was partially at fault, since he unwisely tried to cut into the fast-moving flow of traffic. But you must watch out for exactly that sort of thing.

3. True. Legally, he is at fault, but that won't make your strained (or broken) neck feel any better. As a defensive driver, you should have been aware of the driver behind you as you were of the situation ahead.

4. True. It could have been prevented in a number of ways. First, you were traveling too close to the car ahead. At 50 miles an hour, assuming your car was 20 feet long, you should have been at least 100 feet behind. Not using the Two Second Rule forced you to stop suddenly. Second, you could have flashed your brake lights or possibly used an arm signal to caution the driver behind that something was happening ahead that might cause you to stop suddenly. Having seen the driver dart into traffic from the side road, your foresight should have told you that drivers ahead would have to stop.

SESSION FOUR / HOW TO AVOID A COLLISION WITH AN ONCOMING VEHICLE

The deadliest of all collisions is one that occurs with an oncoming vehicle. A number of factors contribute to the fatalities that result from such accidents:

- In a head-on collision, the cars involved stop almost instantly; unfortunately, their occupants keep hurtling forward—right into the windshield and dashboard.
- Since most head-on collisions occur slightly off center, one or both cars spin and their occupants often are thrown out of the car. This is where safety belts are really effective in saving lives.

Why and How Head-on Collisions Occur

A collision with an oncoming vehicle can occur in any one of three basic situations:

1. On a *straight road*.
2. On a *curve*.
3. At an *intersection* while one vehicle is turning left.

Recovering from a Pavement Dropoff

Your efforts to steer back onto the road after your front wheel has dropped off the pavement can send you swerving into the path of an oncoming vehicle unless you follow these steps:

1. Don't panic and don't brake.
2. Slow down to a safe speed, keeping the car on a straight course.
3. Check for an oncoming in traffic and steer slowly back onto the pavement at a sharp angle.

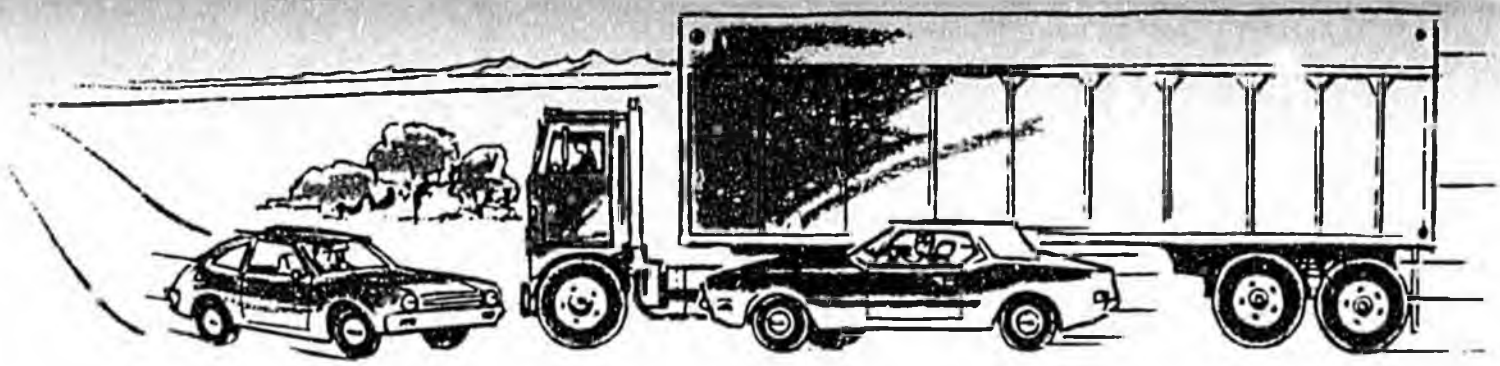
Avoiding a Head-on Collision on a Straight Road

Here are some situations occurring on a *straight road* that could lead to head-on collisions. Briefly state what your defense should be in each case. What would you do if . . .

1. You see a long line of traffic coming from the opposite direction, following a truck?
2. An oncoming car is forced into your lane by another vehicle?
3. An oncoming car has to pass a cyclist in the road?
4. A car approaching you has its right wheels off the pavement?
5. A large oncoming truck is approaching an intersection, signaling a right tu[illegible]?
6. You are driving on a foggy night on a blacktop road with a poorly marked center line?
7. An approaching car begins to drift into your lane?

ANSWERS

1. Slow down. Drive as far to the right in your lane as possible. Watch oncoming vehicles. It is very possible that someone in that long line will attempt to pass.
2. Slow down and move to the right as soon as you see that one driver is forcing the other into your lane.
3. The presence of a pedestrian, cyclist or object in the other lane should be a warning to you to slow down and be prepared to move farther to the right.
4. Unless the other driver knows how to get out of this situation, you must be prepared to slow down and stop, because his car may lurch across your lane.
5. Slow down and move to the right if necessary. A large vehicle of this type may have to swing into your lane to negotiate a right turn.
6. Be particularly cautious and match your speed to existing conditions. Realize that if you are having difficulty seeing the center line, others are, too.
7. Slow down fast and stop or drive off the road if necessary. Sound your horn or flash your lights if there is time. The other driver may be asleep, drunk or sick; his actions are completely unpredictable. *Do not try to get by him on the left; he may recover at the last moment and swerve right into you.*



Coping with Curves

The best way to take a curve is to slow down before you enter it. On curves to the right, keep to the right edge of the pavement. On left curves, stay in the middle of your lane. Apply light power to the wheels while in the curve.

The relative danger of a head-on collision in a *curve* depends on which direction the curve takes.

- **On right curves.** Never allow your car to drift into the other lane; centrifugal force will tend to pull it to the left toward the center line.

- **On left curves.** Be alert to the other vehicle's tendency to drift into your lane, since centrifugal force pulls him to the left toward you.

How to Avoid an Oncoming Vehicle

More times than one wants to experience, an oncoming motorist is found in your lane. Several things may account for this: the driver may have fallen asleep, he may wrongly have entered a one-way street, or he may have lost control of his auto trying to pass another driver. Whatever the reason, it presents a truly dangerous problem. Several steps should be taken:

- **Read the Road Ahead:** Be alert for an auto or pedestrian about to enter your lane or trying to pass in your lane.

- **Ride to the Right:** Never drive to the left. The oncoming driver may decide to swerve right to avoid you and hit you head-on.

- **Reduce Speed:** Reducing speed reduces distance traveled and impact force.

- **Ride Right Off the Road:** If necessary, veer to the right and go off the pavement. Give him your lane—always avoid a head-on crash.

Defensive Driving Workshop

At what age should learning to drive begin? Get several answers and weigh the reasons for each.

Be Your Own Traffic Judge

"I was traveling on a superhighway that had three lanes going in each direction separated by a median strip. I was in the center lane moving 55 mph overtaking a semi-trailer truck traveling at 50 mph. The truck and I were approaching an exit ramp when, suddenly, a vehicle traveling in the wrong direction came down the ramp, cut in front of the truck and sideswiped me."

	True	False
1. The accident was preventable because you should not have allowed your view of the exit ramp to be obscured.	____	____
2. The accident was non-preventable because there was nothing you reasonably could have done to prevent it.	____	____
3. The accident was preventable because you should never pass another vehicle near an exit ramp.	____	____
4. The accident was preventable because you should have been driving in the lane nearest the median strip instead of in the center lane.	____	____

ANSWERS

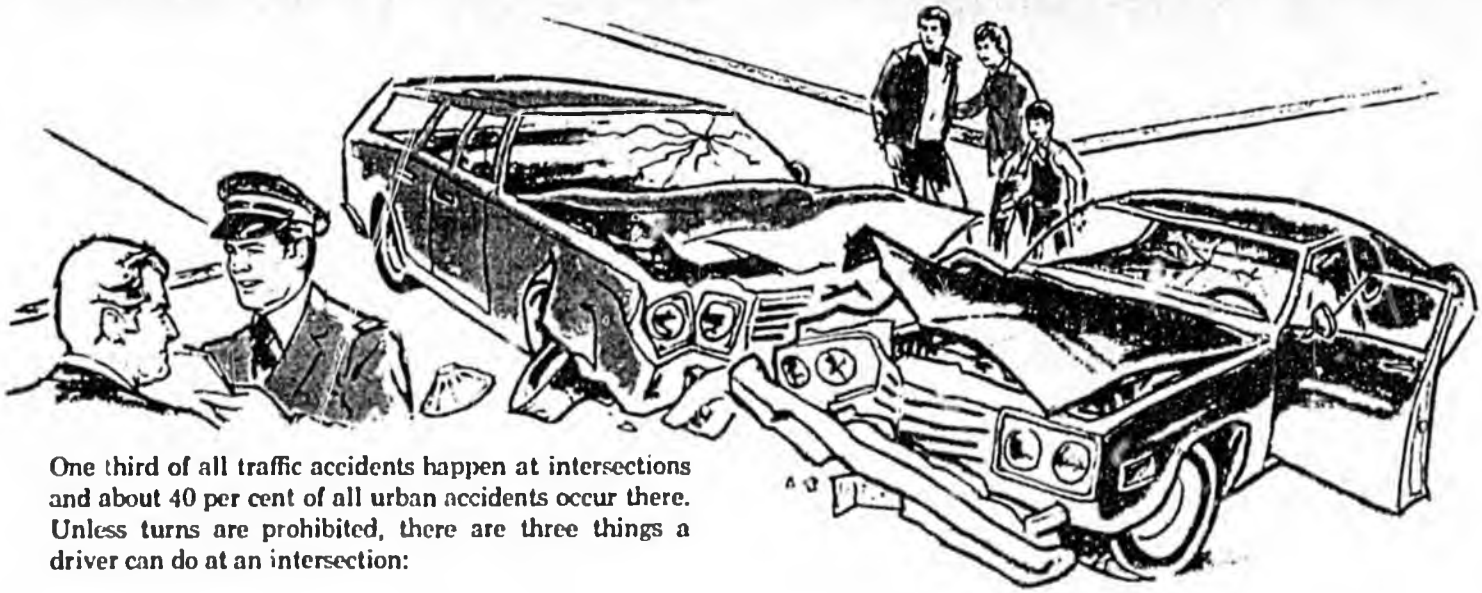
1. False. It is probably unreasonable to expect drivers to take special precautions against wrong-way drivers at exit lanes.

2. True. You were operating your vehicle in a reasonable manner, so from your standpoint, this was a nonpreventable accident.

3. False. It often is necessary to pass other vehicles near exits since some of these vehicles will be slowing down, preparing to enter the deceleration lane.

4. False. Your being farther to the left may have helped the erring driver avoid hitting you, but you had a perfect right to be in the lane you were at the speed you were traveling. The accident may be regarded as non-preventable as far as you were concerned.

SESSION FIVE / HOW TO AVOID AN INTERSECTION COLLISION



One third of all traffic accidents happen at intersections and about 40 per cent of all urban accidents occur there. Unless turns are prohibited, there are three things a driver can do at an intersection:

1. Make a right turn.
2. Go straight through.
3. Make a left turn.

The four general rules for intersection safety are:

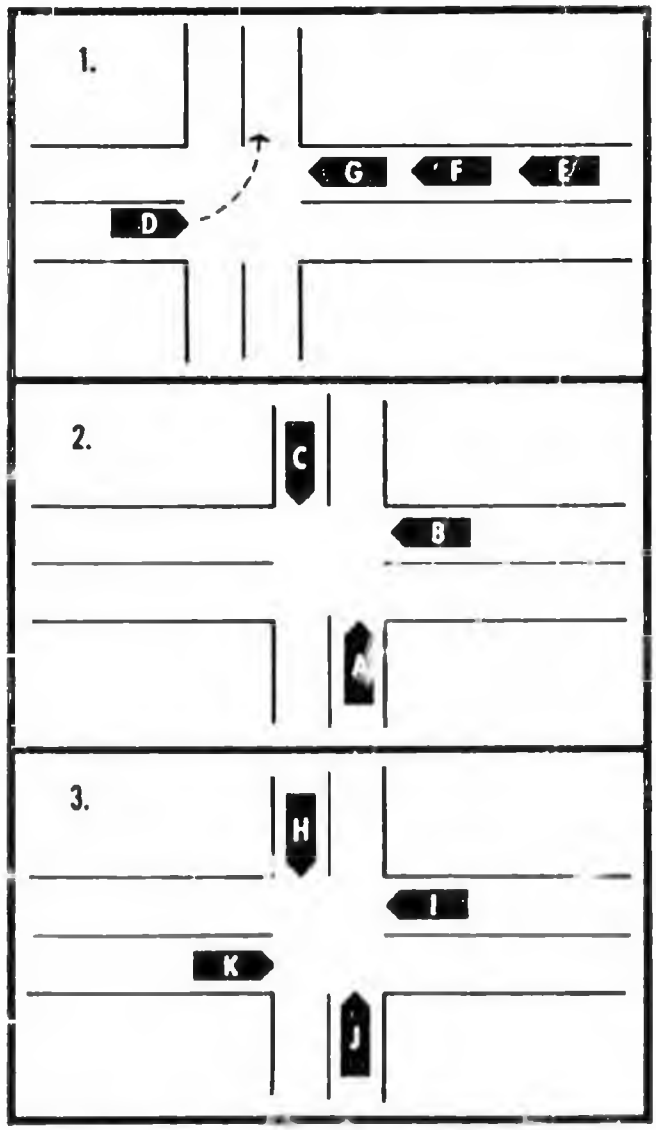
1. Know your route and plan ahead.
2. Slow for intersections and expect the unexpected.
3. Show your intentions by position and signals.
4. Go with care.

Who's Got the Right of Way?

Indicate by letter (A, B, C, etc.) the order in which the vehicles in the diagrams at right should proceed through the intersection.

They should go in the following order:

1. _____
2. _____
3. _____



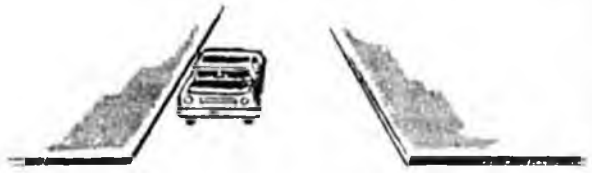
ANSWERS

1. G, F, E, D.
2. C, B, A.
3. Normally, a driver yields to the vehicle on his right, but in this instance, yielding involves some kind of agreement among the motorists involved. Through eye contact, gestures and deference, situations of this kind iron themselves out.

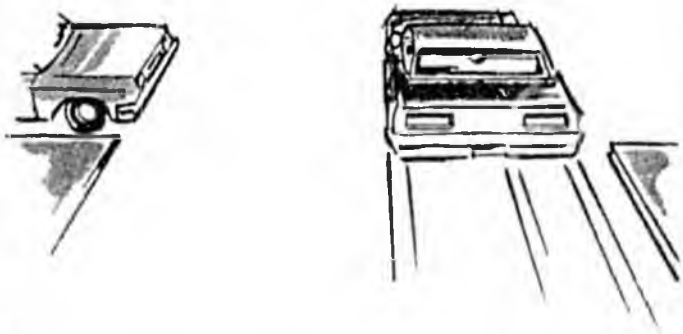
Rules for
Making a Right Turn at an Intersection

1. Get in the extreme right lane well in advance.
2. Turn on your right turn signal no less than 100 feet before the turn.
3. At the turn position place your vehicle so as to block out any vehicle that might try to squeeze beween you and the curb.
4. Make sure that you have the right of way and that there is no cross traffic.
5. Make your turn when it is safe to do so.

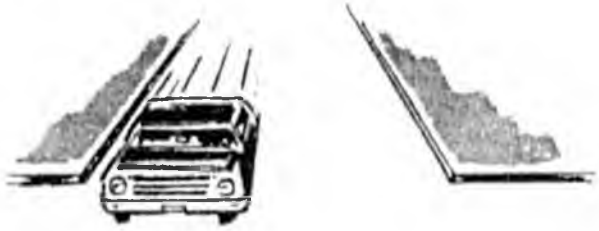
Rules for
Going Straight Through an Intersection



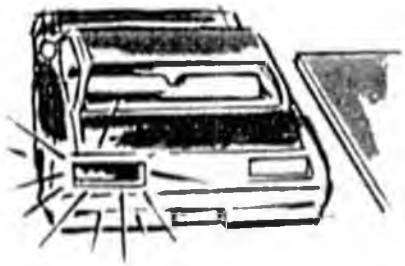
1. Be sure you have the right of way.
2. Slow down and be prepared to stop.
3. As you approach the intersection, have your foot off the accelerator and on the brake pedal to give yourself that extra split second of reaction time you need to stop if a vehicle or a pedestrian tries to cross in front of you.
4. Look first to the left, then to the right, because traffic coming from the left is closer to you and would cross your path first.
5. Accelerate through the intersection when it is safe to do so.

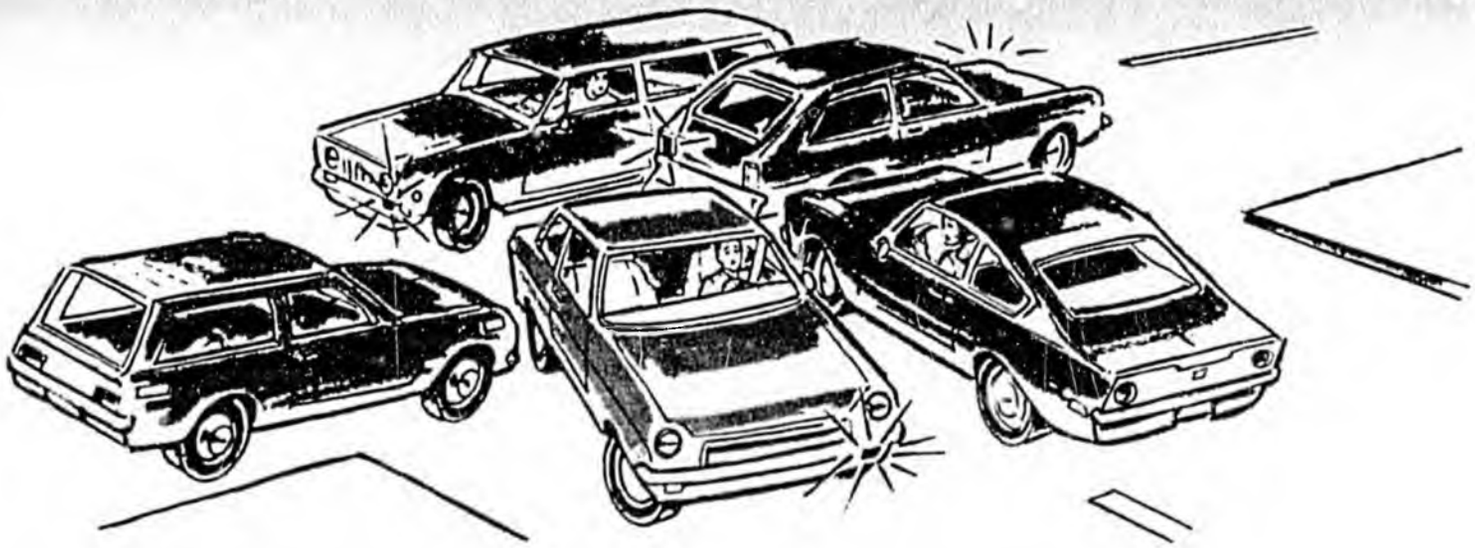


Rules for
Making a Left Turn at an Intersection



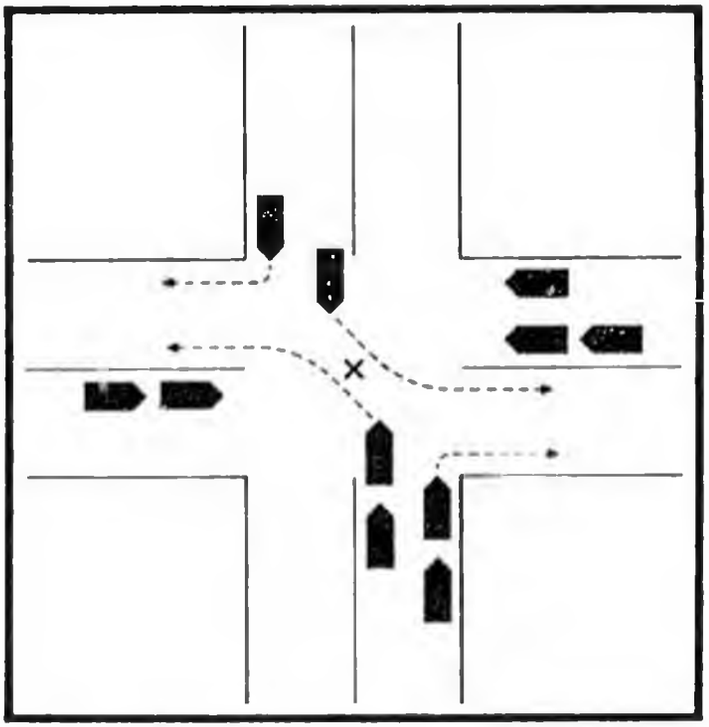
1. Get in the left lane well in advance.
2. Turn on your left turn signal no less than 100 feet before the turn.
3. Stop and yield right of way to cross traffic and vehicles approaching from the opposite direction and close enough to present a hazard.
4. When it is safe, make your turn in such a manner as to enter the cross street on the right side of the center line in the lane nearest to the center line.
5. In meeting other vehicles also turning left, be sure to pass them so that they are on your right.





Don't Be a Tangle Turner

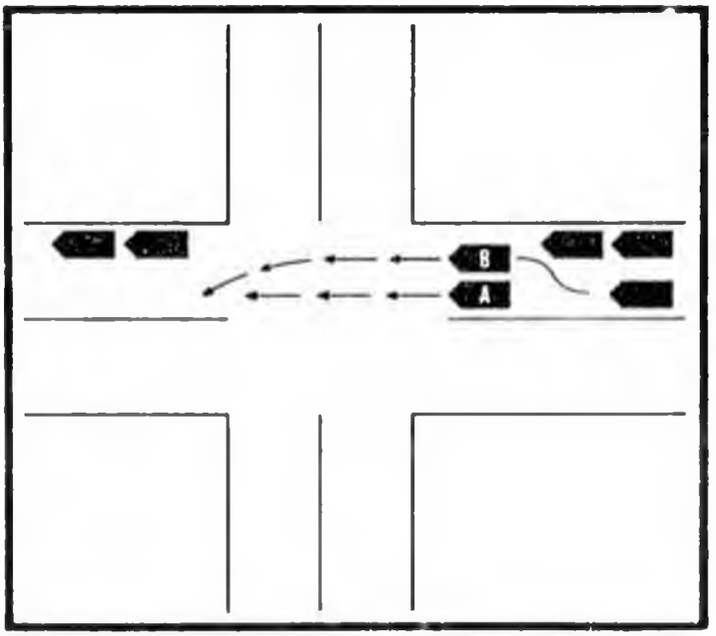
A bothersome uncertainty to many drivers in making a left turn is how to meet and pass other left-turners approaching from the opposite direction. The correct way is the tangent turn. The incorrect way results in the two streams of traffic tangling in the midst of the intersection.



This illustration shows why the tangent turn is the proper left turn path through an intersection. Imagine the "X" as the center of the intersection. By turning to the left of this point, left-turning traffic can move with no conflict and avoid getting locked in the tangle turn. Also note why it is important to enter the cross street in the lane closest to the center line. This prevents interference with traffic making a right turn into the same street.

Intersection Squeeze Play

This situation occurs frequently at urban intersections where there are nearside bus stops. The driver of car B pulls into the vacant bus stop space next to car A. He intends to go straight through the intersection. But parked cars on the other side of the intersection again narrow the street to a single lane. What will he do when the light turns green? Race across the intersection to get ahead of car A? Or wait until all the traffic clears in car A's lane before he moves across?



You can bet he will make a jackrabbit start and try to cut in front of A. The defensive driver in car A will avoid a race, allowing B to get ahead of him. The driver of car B should have stayed behind A. He should have moved into the bus zone only if he intended to turn right.

Be Your Own Traffic Judge

"I was stopped at an intersection controlled by traffic lights. I was in the left lane and the light had turned green. The vehicle alongside started through the intersection and I started, too. He slammed on his brakes, but I failed to see a car coming through the intersection from the right. I had a right-angle collision with this vehicle in the middle of the intersection, resulting in extensive damage."

	True	False
1. The accident was non-preventable because the vehicle on the intersecting street was going through against the light.	____	____
2. The accident was non-preventable because the vehicle in the right lane was partially at fault; he was in a better position to see the vehicle coming from the right, and should not have made a move until it was across the intersection.	____	____
3. The accident was preventable because you should have checked to see if all traffic had cleared.	____	____
4. The accident was non-preventable because if you can't trust signal lights, there is no hope for any driver who really wants to have a good safety record.	____	____
5. The accident was preventable because the green light is no guarantee of the right of way.	____	____

ANSWERS

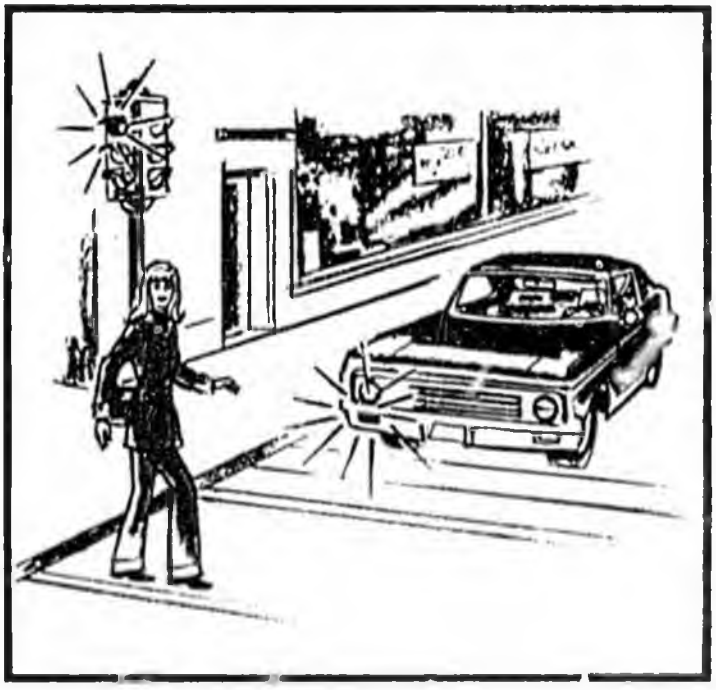
1. False. Very frequently a vehicle races up to a signalized intersection hoping to get through before the yellow light changes to red. When he doesn't make it in time, he rolls through on the red. Despite the fact that such a driving practice is illegal, it does not excuse the defensive driver from being on guard against it.

2. False. You can't excuse poor driving practice on the grounds that another driver did the wrong thing.

3. True. Although another vehicle obscured your vision, it does not excuse you from proceeding cautiously.

4. False. Mechanical signals are merely an aid to traffic movement. They cannot look and think. Only the driver can do that.

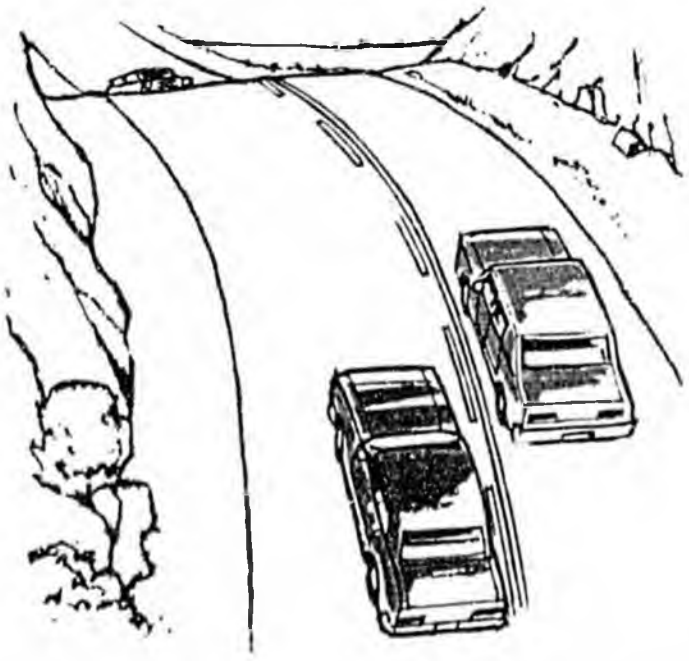
5. True.



Right Turn Permitted on Red

A law permitting a right turn on red has been adopted in many states. As with any new traffic procedure, drivers must become accustomed to the change. Defensive drivers, especially, should exercise added caution. Be certain to make a complete stop at the red light. Then, if you intend to turn right, yield the right of way to any approaching vehicle before making the turn, as well as to any pedestrian who attempts to cross. Defensive drivers will approach slowly and with care to turn right on red.

SESSION SIX/ THE ART OF PASSING AND BEING PASSED



The final two positions of the two-car crash to be discussed are those that involve (1) your vehicle being overtaken and passed by another, and (2) your own passing maneuver.

Both positions—*passing* and *being passed*—are potentially dangerous because they can result in head-on collisions, sideswipes or run-off-the-road accidents.

Be Alert to Passing Situations

Cars can pass you in a number of ways:

- They can overtake and pass you on a straight road—a normal passing situation.
- They can pass you as you are pulling out of a parking space.
- They can attempt to pass you just as you move out to pass another vehicle.
- They can pass you on the right, which is legal on multi-lane roads or one-way streets, but you still have the responsibility for preventing an accident.

How to Be Passed

There are a number of things you can do to prevent accidents that can happen when other cars pass you:

1. Help the other driver pass. Check oncoming traffic. Slow down if the passing car will need more room to get back in line in front of you.
2. Before you change lanes, check your side and rear-view mirror and glance back to make sure your blind spot is clear. Use your lane-change signal. Move over *only* when lane is clear.
3. Get into the proper lane for a turn *early*. When turning right stay close to the right curb to block anyone from passing on the right. Use your turn signal early.
4. Don't nose out of a parking space to check for oncoming traffic. Take a good look before you move. Signal your intentions, wait for a break in traffic and pull out slowly.

How to Pass

There are a number of reasons why you may want to pass another vehicle: You may feel it is going too slowly, you may be in a hurry, or you may simply want to be the front runner. There is nothing wrong with passing for the right reason, but it isn't likely to save you much time. And since passing often entails risk, the best rule is: When in doubt, don't!

In any passing maneuver, there are 12 things to do:

1. Decide if the pass is necessary.
2. Make certain you have maintained a safe following distance.
3. Check traffic ahead. If your vehicle and an oncoming car are both traveling at 55 mph, you are closing the gap between you at the rate of 1.8 miles per minute. Since it takes about 10 seconds to complete a pass, the oncoming car should be at least one-half mile away.
4. Check the traffic behind you before changing lanes. First check your mirrors, then your blind spot.
5. Signal before you change lanes.
6. Move into the left lane.
7. Accelerate as you move left.
8. Signal the vehicle you are passing by tapping your horn or flashing your lights.
9. Signal your intention to return to the right lane.
10. Return to the right lane when you can see all of the passed vehicle in the rear-view mirror.
11. Cancel your directional signal.
12. Resume cruising speed as soon as you have completed your passing maneuver.

Be Your Own Traffic Judge

"I was following a long line of cars that had stacked up behind a slow-moving farm vehicle. I had an important appointment in the next town, so I pulled out to pass and had almost passed when an approaching car came in sight from over a hill. It must have been doing about 80 miles per hour. I tried to cut into the right lane, but the driver of the car I was passing would not let me in. I pulled in anyway, forcing him off the road and damaging his left front fender. The door on the right side of my vehicle was scraped."

	True	False
1. The accident was non-preventable because there was nothing else you could have done in the emergency.	____	____
2. The emergency was created because the oncoming driver was exceeding the speed limit.	____	____
3. In situations of this kind, the car being passed is supposed to slow down, opening up a gap for the passing car to return safely to the right lane.	____	____
4. The accident was preventable because you did not allow enough room to make the pass.	____	____
5. The accident was caused by the slow-moving farm vehicle that had no right to be on the highway.	____	____

ANSWERS

1. False. You may or may not have been able to do anything else in the situation that developed. The fact that you created the emergency in the first place by passing when a hill prevented adequate sight distance makes this accident preventable.

2. False. The oncoming car may have contributed to the emergency, but even if he had been driving within the speed limit, the emergency might have developed anyway. The main problem was your attempt to pass without being sure of enough clear distance ahead.

3. True. This would have been the courteous thing to do. But the emergency may have developed too fast for the other driver to realize it and react properly.

4. True. The sight distance was not adequate.

5. False. Slow-moving farm vehicles have a right to be on the road.

Rules of the Road

Discuss the following on the basis of your state motor vehicle rule book:

1. What is the difference between daytime and nighttime speed limits?
2. How old do you have to be to obtain an operator's license?
3. How often does an operator's license have to be renewed?
4. Name three ways in which you may lose your driving privileges.
5. What happens if you are found operating a motor vehicle while your license is under suspension or revocation?
6. What does a flashing red light at an intersection mean? Flashing yellow?
7. What is the proper hand signal for a right turn? Left turn? Stop?
8. What must you do when you meet or overtake a stopped school bus? What if the roadway is wide with lanes separated by a median?
9. What two things should you do when you see or hear an emergency vehicle approaching?

Defensive Driving Workshop

Try this piece of traffic arithmetic: Your car is 20 feet long. The car you are passing is 20 feet long.

You are traveling at 55 miles per hour, or 81 feet per second. The car you are passing is traveling at 50 miles per hour, or 73 feet per second. There is no interference from other traffic, the road is straight and dry and the weather is clear. Answer the following questions:

1. From the moment you pull out to pass, how many feet must your car travel to overtake and pass the other car to the point where your rear bumper is exactly even with his front bumper?

2. How many feet will the other car have traveled by the time you reach this point?

ANSWERS

2. The other car is traveling at 73 feet per second. In 19 seconds, it will travel 19 times 73, or 1387 feet.

Since you are traveling at an actual speed of 81 feet per second, in 19 seconds your car will have traveled 19 times 81, or 1539 feet.

You are overtaking the other car at a speed differential of 8 feet (81 minus 73) per second. To travel 160 feet at 8 feet per second would require 19 seconds.

1. At 55 miles per hour, you should begin your pass 6½ car lengths or 110 feet behind the other vehicle. To this, add 20 feet for your car and 20 feet for the car being passed to figure the point at which your rear bumper is even with his front bumper. (110 plus 20 plus 20 equals 150 feet.)

SESSION SEVEN / THE "MYSTERY CRASH"

Profile of a Mystery Crash

The accident report stated: "The driver, a 23-year-old male, had consumed a pint of rum and one beer and was driving from a rock concert. He lost control of his car while attempting to negotiate an S-curve on a dry road at 1:30 in the morning. The car rolled down a 100-foot embankment and struck a tree. The driver was killed and his female passenger suffered a broken neck but survived. The driver's blood alcohol level was .17 per cent at the time of the accident. Safety belts were installed but not used."

This accident had most of the elements of the classic mystery crash profile—alcohol, speed too fast for conditions, unfamiliarity with roads, and possible fatigue.

What is a "mystery crash?" It's a one-car accident—the kind that involves a single vehicle in a traffic mishap.

Each year accidents of this type account for one-third of the traffic deaths, almost as many as the two-car crash. Why is it called a mystery crash? Because dead men can't answer the questions of accident investigators, and those who do survive often won't admit driving mistakes. It's a mystery why it happens to anyone, since it's the one type of accident over which the driver has almost complete control. The foregoing accident description is just one example of how a driver can set himself up for a mystery crash. You can prevent involvement in a mystery crash by learning its causes and avoiding them.

Speed

Speed is a killer when it is too fast for the condition of light, weather, road, traffic, vehicle and driver. Excessive speed is the most frequent violation noted on reports of fatal accidents today. The higher the speed the greater the chance for an accident, because there is less time to maneuver or to stop to avoid one. About three out of 10 drivers in fatal accidents were violating a speed law, according to reports from 18 states.

The American people learned some important lessons about speed in relation to accidents during the early months of the energy crisis starting in November of 1973. The 55-mph speed limit was a factor in reducing traffic deaths by 25 per cent.

Accident severity increases dramatically at speeds around 50 mph. The chance of death or serious injury in a traffic accident doubles for each 10 mph speed increase over 50 mph. So keep in mind these guidelines on speed:

1. Schedule trips so you provide ample driving time.
2. Be alert for speed limit signs and heed them. But remember these are for maximum speeds under ideal conditions. Lower speeds are necessary when road and weather conditions are bad.
3. Don't try to make up time on the road.

Distractions

Minor distractions may be a major cause of accidents and undoubtedly figure in some mystery crashes. They cause "near misses," minor accidents and sometimes major accidents, including fatalities.

From reported cases here are some of the ways drivers become distracted, with serious consequences:

- Searching for a smoldering cigarette on the seat.
- Trying to fasten a safety belt underway.
- Reaching across the seat to close a door or rummage in the glove compartment.
- Fishing for coins from pants pocket while driving up to a toll booth.
- Eating fruit; juice squirted in eye.
- Trying to wind and adjust wrist watch.
- Disciplining child passengers.
- Trying to struggle out of coat.
- Reading a map.

Defensive drivers recognize the accident potential of minor distractions. These can be avoided by:

1. Advance planning.
2. Checking seat position, safety belts, door locks and mirrors before you start.
3. Pulling off the road and stopping to take care of necessary tasks that may divert attention from the road.

Fatigue

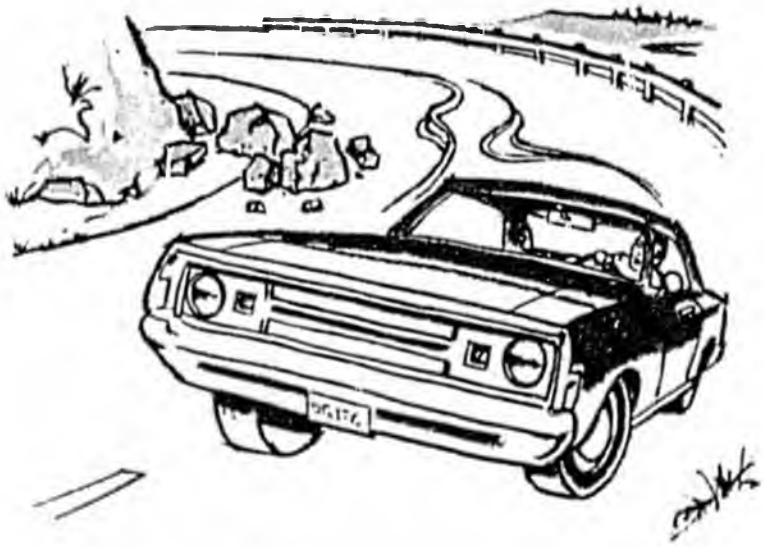
Excessive fatigue behind the wheel can be a killer. When fatigue and drowsiness get to the point where a driver notices them, fatigue has reached the acute stage. If you have to fight to keep your eyes open, you can bet you'll lose the fight. Ways to fight fatigue are:

1. Stop at the first safe place. Get out and walk around. Have a soft drink or coffee.
2. If you still get drowsy at the wheel, stop, roll down windows slightly, and sleep, if possible for 30 minutes or more.
3. When you resume driving, keep some windows open, play the radio, chew gum, sing, keep your eyes moving.
4. Stop for a night's rest at the first opportunity.

Caution: If fatigue is unusual for you, suspect an exhaust leak. Have the exhaust system checked before continuing your trip.

Steering Your Car to Safety

Even in a bad situation, such as a skid, running off the road or an impending head-on crash, a defensive driver can evade or diminish the severity of the crash by staying calm and using wheel, throttle and maybe the brake. A Cornell University study showed that the average driver uses only about 25 to 30 per cent of the maneuvering capability built into today's car, which would permit him to dodge many accident situations. In an emergency most drivers jam on the brakes and freeze rather than choose alternatives, such as veering around the obstacle or "steering into" a skid. Excessive braking causes loss of control, usually resulting in hitting the object the driver wanted to avoid.



The study showed that most drivers are not accustomed to making sharp maneuvers at either fast or slow speeds. The average driver will only turn his car sharply enough to experience up to about three-tenths of one "G." (At one "G" force a driver feels a side or centrifugal pull equal to his own weight.) At high speed the average driver is even more reluctant to make sharp changes of direction and will maneuver his car no more than about two-tenths of one "G." The maneuvering capability of the modern automobile is about seven to eight-tenths of a "G," so in effect the average driver is simply not using his car to best advantage in threatening situations.

When trouble looms, don't freeze. Stay with the situation, and use the maneuverability of your car. In the few seconds leading up to a crash, the cool, alert and skilled driver still has alternative choices that, if used wisely, can make the difference between a disastrous crash and a less serious one—or even avoid the crash completely. Here are some last-second choices to keep in mind:

1. Dodge to the right, away from oncoming traffic, even if it means leaving the road.

2. Drive off the road rather than skid off. Maintain control of the situation as long as you can.

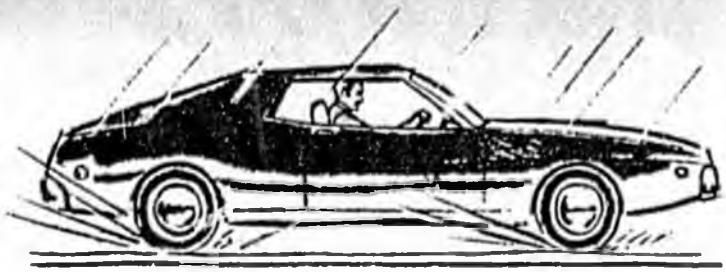
3. Choose to hit something that will absorb energy (brush, for example) rather than something hard.

4. Choose to hit something going your way before you hit something stationary.

5. Hit something stationary rather than something coming toward you.

6. Hit something stationary with a glancing blow. A sideswipe will dissipate energy and slow you down.

7. Never hit anything head on.



Hydroplaning

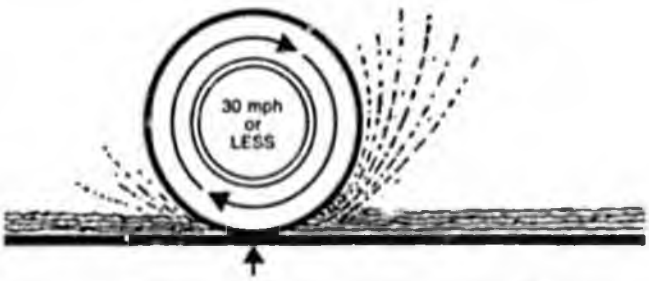
Speed, a lot of water or slush on the road and worn tires are the prescription for hydroplaning. Your front tires lose firm contact with the pavement surface. You ride up on a wedge of water with a terrifying loss of steering and braking. The only chance to recover control is to reduce speed and regain the contact between tires and road surface.

To avoid hydroplaning:

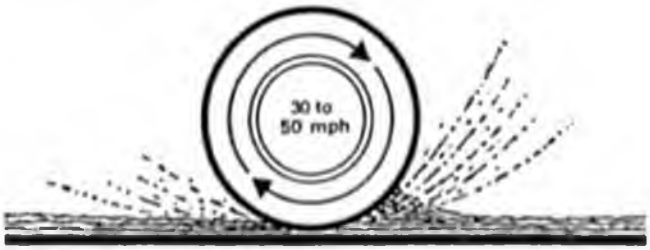
1. Don't drive with bald or badly worn tires.

2. Slow down when there is heavy rain, standing water or slush on the road.

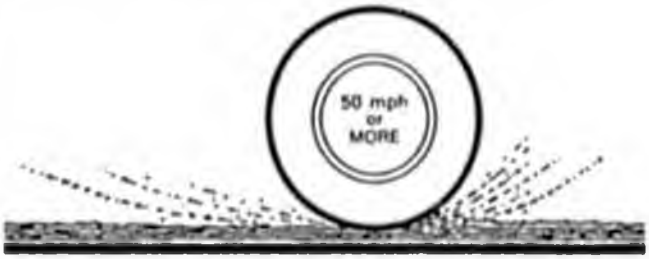
The sketches illustrate how hydroplaning occurs.



At low speeds, tire cuts through water at tire-road juncture, and remains in complete contact with the road.



At speeds above 30 mph, water wedge may penetrate tire-road contact and partial hydroplaning occurs.



At speeds above 50 mph, water wedge may increase and tire loses complete contact with road, causing total hydroplaning.

Drinking and Driving

Most adults drink and most adults drive. Unfortunately, they often do both too close together. "If you drink, don't drive" is still the safest course. But that advice is often ignored. In our society, there is almost universal acceptance of the view that a couple of drinks never hurt anyone. So hospitality and drinking—and driving—often go together.

Yet studies of fatal auto accidents show that more than 50 per cent of the drivers involved had been drinking. Does this mean that we are a nation of alcoholics? Not at all. It does mean that most drivers are dangerously ignorant of the physiological facts about alcohol. So let's see what happens to your faculties when you drink and then get behind the wheel.

Drinking and You

When alcohol enters your stomach, it is rapidly absorbed into your bloodstream and carried through your body. It quickly reaches your brain and begins to affect its function. This means your judgment is impaired, a false sense of confidence may develop, field of vision is reduced, hearing is less acute, concentration becomes difficult, and speech and balance are affected. In other words, you start feeling "tipsy."

Once alcohol is in the bloodstream, the body gets rid of it through elimination (about 10 per cent) and by oxidation (about 90 per cent). Oxidation takes place chiefly in the liver through a process that changes the alcohol into acetaldehyde (extremely poisonous), then to acetic acid (found in vinegar), and finally into harmless water and carbon dioxide. The process occurs at a constant rate and—remember this—it cannot be hurried along by physical exercise, black coffee or cold showers. The only thing such traditional so-called remedies do is turn a sleepy drunk into a wide-awake one. The *only* way to sobriety is the passage of time. The following chart shows how impairment increases with alcohol intake:

(read upward from bottom of chart)

Amount of Liquor Consumed	Alcohol in Blood—Per Cent	Status (when driving)	Descriptive Effects
			Death – approximate level
?	0.60		
			Coma – approximate level
?	0.50		
			Gross intoxication — Unmistakable impairment of all physical activity and mental faculties
7-8 oz.	0.15		
up to			Serious impairment of physical and mental functions; loss of judgment and inhibitions – clumsy, uncoordinated
5-6 oz.	0.10	In All States Now ILLEGAL	
up to		?	Exaggerated emotion and behavior – Less concern, mental relaxation. Decrease in finer skills of coordination
2-3 oz.	0.05		
up to		?	Mild effects — slight change in feeling. Existing mood (anger, elation, etc.) may be heightened
0-0	0.00		

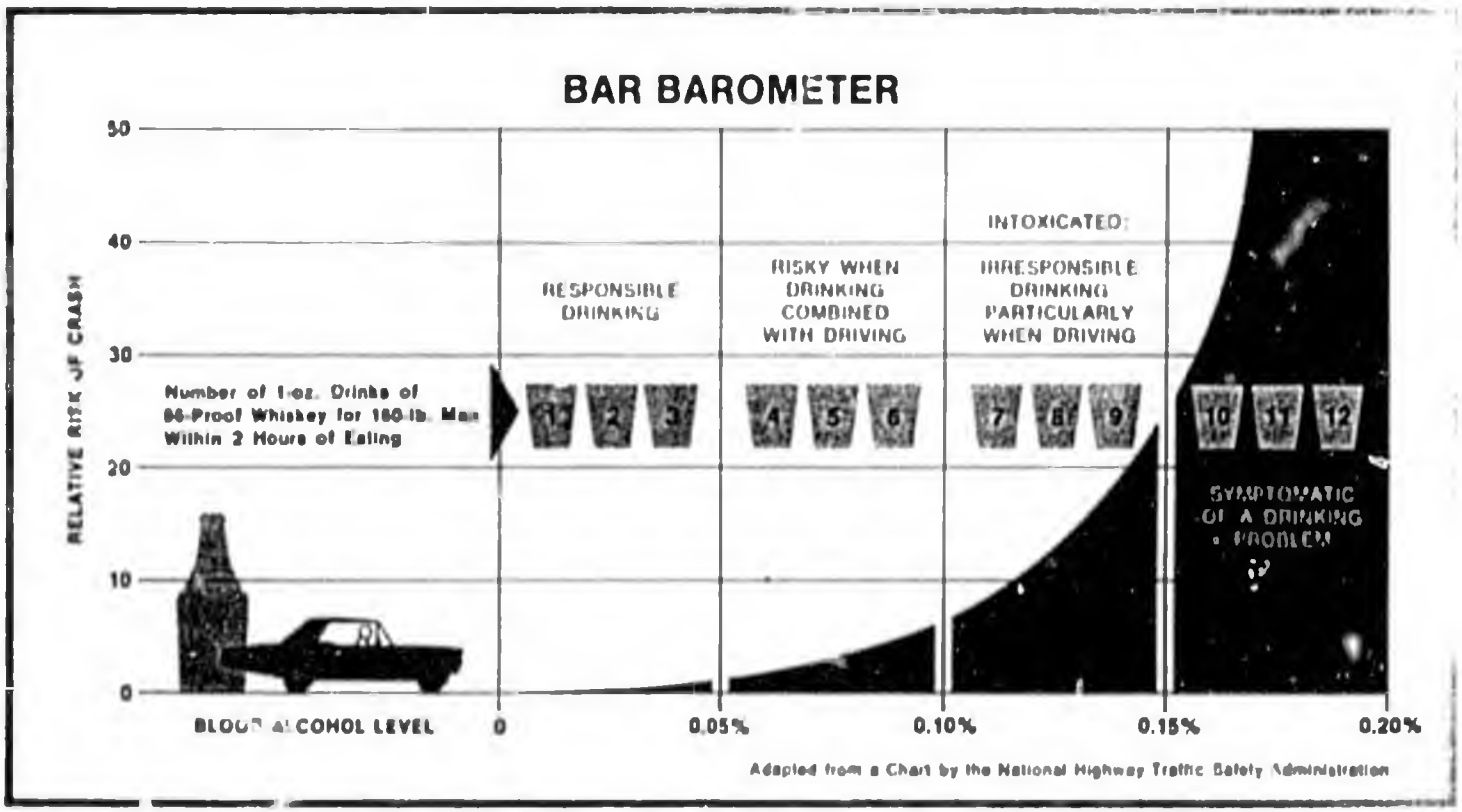
0.10% **CRITICAL LEVEL**: — recommended in *Uniform Vehicle Code (1971 Rev.)*

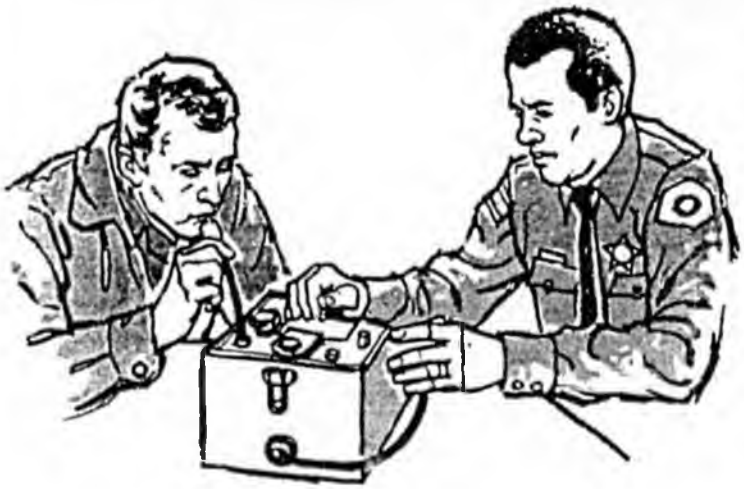
The question marks in the status column indicate that impairment begins for many people at alcohol concentrations which are well below the illegal level or levels generally associated with intoxication which may be socially acceptable in drinking groups. This has been confirmed repeatedly by driving tests in simulators and on experimental field courses. Note: In two states the presumptive level has been set at 0.08.

Alcohol concentration in the body is related to the person's weight, quantity and kind of food in the stomach, amount of liquor drunk, the time span of the drinking, and length of time since the last drink. As an extreme example of the time factor, a person could sip whiskey at a rate of three-fourths of an ounce per hour, consuming more than a pint in 24 hours, without accumulating enough blood alcohol concentration to become intoxicated, or even under the influence. On the other hand, eight ounces of 80 or 90-proof liquor consumed in an hour to an hour and one-half by a person weighing 180 pounds would produce alcohol levels in the blood of around 0.15 per cent. Such a drinker is about 10 hours away from complete elimination of the alcohol in his blood. Blood alcohol concentration of 0.10 per cent is presumptive evidence of being under the influence of alcohol and unfit to drive in all states but two, which have lowered the limit to 0.08. The "Bar Barometer" below shows effects of alcohol at various blood alcohol levels.

One of the insidious effects of drinking is that even a little alcohol can make you feel great and superbly able to handle a car. Because you can't trust your judgment, you should plan in advance how to get home from a party. You should (1) decide that one person in your car will not drink, or at least will follow the one-for-one rule—no more than one drink an hour and no drink an hour before driving, (2) decide to take a taxi or other public transportation, or (3) arrange to have some other person drive you home.

Before you accept a ride with anyone who has been drinking, consider the risk involved. The chance for a serious injury or a fatal accident is just as great for you, the passenger, as it is if you were driving after drinking. As a host, you should shut down the bar (without fanfare) at least an hour before you expect your guests to start home. Let them spend some extra time over food and coffee before they leave. Never insist that anyone have "one for the road."





Drinking and the Law

Chemical tests for intoxication were first used in the United States about 40 years ago. The procedure was endorsed in 1937 by the American Medical Association and by the National Safety Council. Following World War II, the use of chemical tests spread rapidly across the country. Currently, all 50 states use them, and all states have legislation providing for presumptive levels of intoxication.

In the Uniform Vehicle Code (1971 Rev.) the legal presumptions arising from chemical results are as follows:

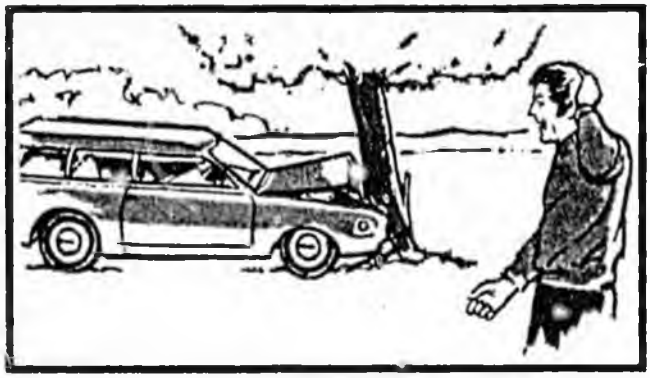
.10% - Blood alcohol concentration of 0.10 per cent or more is prima facie evidence of being under the influence of alcohol.

? Concentration between 0.05 and 0.10 per cent is no presumption either way. The blood level is considered along with other evidence such as speech, gait, etc.

.05% - Concentration of 0.05 per cent or less is presumptive evidence of *not* being under the influence of alcohol.

Studies have shown that the probability of causing an accident increases rapidly at levels over 0.08 per cent and becomes extremely high at levels above 0.15 per cent. Even levels above 0.04 per cent are definitely associated with increased accident involvement.

In 1953, New York adopted the so-called "implied consent" law. Under this law a driver, by virtue of being licensed by the state to drive on the highway, consents to a chemical test if arrested for a traffic offense involving suspicion of drinking. If he refuses, the test cannot be forced on him, but his license to drive can be revoked because he did not abide by this condition of the driving privilege. In 1962, the implied consent law was included in the Uniform Vehicle Code. All states now have such legislation.



Be Your Own Traffic Judge

"I was traveling along the open highway when I got to feeling drowsy. I decided to stop at the next roadside restaurant and have a cup of coffee to wake me up. I was thinking about how it would feel to be in the warm restaurant drinking a cup of coffee when I ran off the road and smashed into a tree."

	True	False
1. This accident was clearly non-preventable because it resulted from psychological forces over which you had no control.	____	____
2. The accident was preventable because you obviously had made yourself unfit for driving by not getting enough rest.	____	____
3. You should not have delayed your stop until reaching the restaurant. You should have stopped by the side of the road and walked or run until you felt wide awake again.	____	____

ANSWERS

1. False. Drowsiness is an insidious accident cause. It can be controlled by being recognized as the hazard it is. You postponed doing anything about it until it was too late. The accident was preventable.

2. False. Drowsiness is not always due to lack of sleep. Persons who regularly get the recommended amount of sleep can become drowsy behind the wheel.

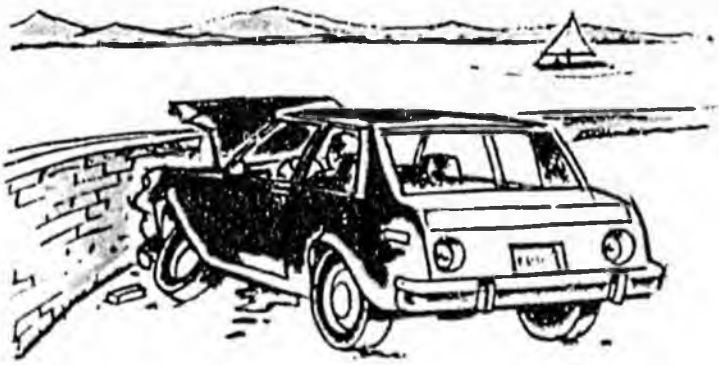
3. True. When drowsy, do something about it immediately. But the first thing to do is to park your car safely off the road.

Defensive Driving Workshop

Do you think people should not drive after drinking? Is it possible for them to police themselves if they understand the one drink/one hour rule of thumb?

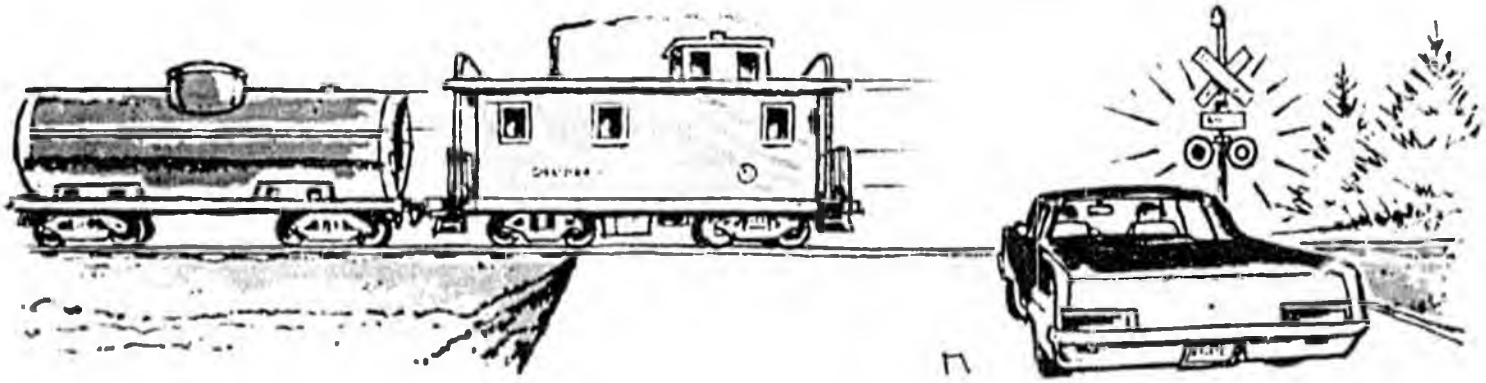
SESSION EIGHT / HOW TO AVOID OTHER TYPES OF ACCIDENTS

Together, two-car crashes and "mystery crashes" account for most of the traffic deaths and injuries that occur every year. However, the following types of accidents account for a large number of dead and injured:



Collisions with Fixed Objects

A collision with a wall, abutment or parked car usually results from poor judgment and failure to judge clearance all around your vehicle. Collisions of this type are more likely to occur if you attempt to drive when you are tired or under the influence of drugs or alcohol.



Collisions with Trains

There are almost a quarter of a million public railroad-highway grade crossings in the United States. Current experience shows nearly 13,000 collisions annually at these intersections, resulting in some 1,200 deaths and 4,000 injuries.

Such accidents should not happen.

Highway departments and railroad companies have marked public railroad crossings with warning devices for your protection. Learn what they are and watch for them.

Advance warning signs tell you to look, listen, and slow down because you may have to stop.

Pavement markings, consisting of an X and the letters RR, may be painted on the pavement at the approach to some crossings.

Railroad crossbuck signs will be found at most crossings. If there is more than one track, sign below crossbuck indicates the number of tracks.

Flashing light signals are used at many railroad crossings. Always stop when the lights begin to flash because a train is coming. Do not proceed until you can do so safely. If there is more than one track, make sure all tracks are clear before crossing.

Gates are used with flashing light signals at certain crossings. Do not drive around the gates. Stay in place until they are raised. It is against the law to go around crossing gates.

Preventing railroad grade crossing accidents is up to you. Here are some safety tips:

Expect a train on any track at any time.

Never get trapped on a crossing. Wait on the approach until you are sure you can clear the crossing.

Watch out for the second train. When the last car of a train passes do not start up until you are sure no train is coming on another track.

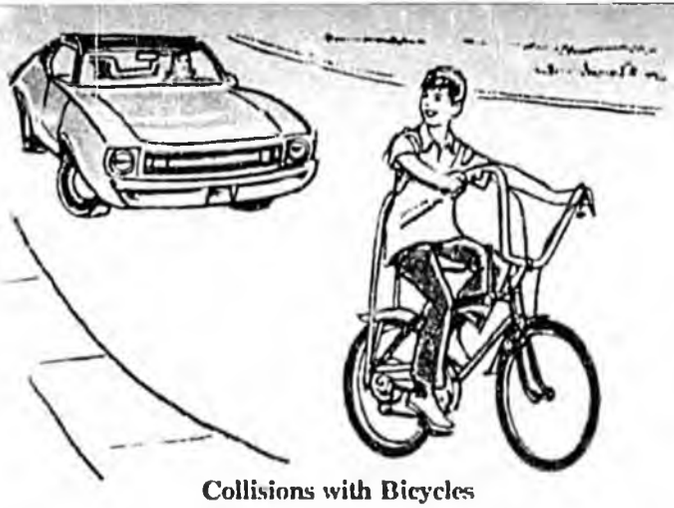
Never race a train. You may never have another chance if you lose.

Never shift gears on the crossing.

Watch for vehicles that must stop at crossings. Be prepared to stop when you are following buses or trucks.

Train speed is difficult to estimate. When in doubt, stop.

Remember it is not only against the law to disregard these signs and rules, the penalty for losing a contest with a train is very often your life.



Collisions with Bicycles

Many bicycle riders are children who may not know the rules or may have forgotten them. Watch out for cyclists. Tap your horn, and give them plenty of room when you pass. Be particularly watchful for cyclists at night.

Collisions with Animals

Proceed with caution in farm country or in range land where livestock or deer may cross the road. Slow down until you have passed an animal, because it may suddenly dart into your path.

You and the Motorcyclist

Motorcycles are more numerous on the nation's streets and highways with each passing year. With them comes an added responsibility on the part of the motorist. Half of the accidents that occur between the automobile driver and the cyclist are the fault of the autoist. Here are some tips to remember regarding motorcyclists:

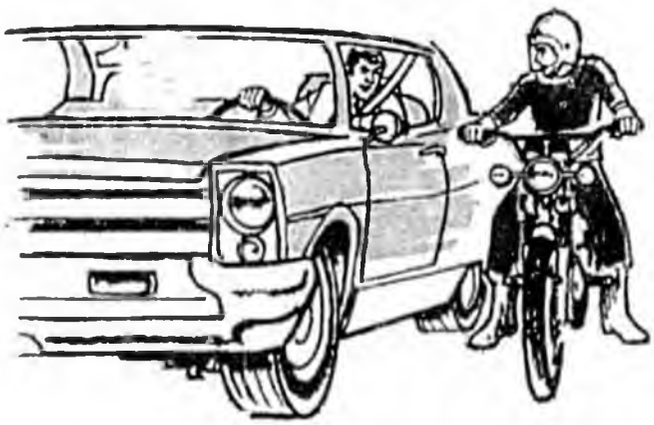
SHARING THE ROAD

Many motorists think motorcycles require less space on the road than do other vehicles, just because the cycle is smaller. That is not true. A cyclist is entitled to a full lane, just as is any four-wheeled vehicle. Do not try to crowd him in any way, or try to force him to the edge of the road. Respect him as a fellow driver.

RE-TRAIN YOUR EYES

Most cycle-auto accidents occur because the motorist simply doesn't see the cyclist. Often a cycle is hidden in the car's blind spot. Outside rear-view mirrors are not enough to rely upon; when changing lanes, it is a good policy to take a quick glance over your shoulder. Be alert for the presence of a cyclist on the outer edge of your traffic lane, especially on turns. A cycle often is screened by another car. Aware of his low visibility, the safety-conscious cyclist often keeps his single headlight on, even in daytime, to warn you of his presence.

Consider the cyclist as being less protected than you are, and watch his driving. He must contend with many more hazards than you do. Be especially cautious when passing a cyclist; the buffeting created by your windstream may cause him to wobble and lose control. The inexperienced cyclist should be given a wide berth. You



can recognize him if his cycle jerks when making gear changes, or if he is hesitant in making decisions in traffic. Always give him plenty of room, and be prepared to stop if something goes wrong.

JUDGING DISTANCE

Because a cycle is smaller, it may appear to be farther away than it actually is, and it may seem to be moving slower. Always allow yourself more following distance when overtaking one. To judge your following distance, it is a good idea to add an extra second to the two-second rule of defensive driving: count to "one thousand and three." But this three-second interval is only for *ideal conditions*. Add to it for adverse conditions.

WATCH FOR CYCLE HAZARDS

Hazards for the cyclist can entrap the auto driver, too. A cyclist ahead can lose control of his machine when sand, gravel, wet leaves or water are on the pavement. Always be aware of conditions that may cause him to spill. Give him plenty of room, and slow down.

How to Avoid Backing Accidents

The accident report read as follows: "I stopped for a few moments on a residential street to check my map and then decided to back into a side street to turn around. I looked in both rear-view mirrors and saw nothing, so I started to back up. I heard a small noise and stopped to get out and investigate. A three-year-old child had ridden his tricycle behind my car. The boy was not hurt but the tricycle was damaged."

This is a rather typical backing accident case history. It could have had tragic results.

Backing accidents are preventable. Because of the hazards of backing, the defensive driver avoids it wherever possible by planning his route to eliminate the need for it.

The defensive driver never backs around a corner; if necessary, he will drive around the block to avoid such danger. He doesn't back out of parking lot driveways or alleys when he can avoid it. Instead, he drives in and turns around so he can come out front first. When this is not possible, he backs in so that he can drive forward to come out. He knows it is safer to back out of traffic into a quiet area than to back into the traffic stream. He also is alert to the danger of backing when he parks parallel, making sure the space is clear.

When backing is unavoidable, follow these rules:

1. Get the complete picture before you back, even if you have to get out and walk around your vehicle to do it. Then start backing immediately, before the situation has a chance to change.

2. Back slowly.

3. Check both sides as you back. Use your mirrors as often as is necessary during the entire backing movement.

4. Don't depend entirely on mirrors to judge distance to the rear. Mirrors help you check clearances and enable you to spot pedestrians who may unexpectedly move into the path of your vehicle as you back, but they can be deceiving in measuring distance.

How to Drive on Expressways

If you travel any distance, you'll be using limited-access highways. The technique of driving on them is different from that used on regular roads.

Here are driving hints for expressway safety:

1. Start with a full gas tank and check the tires. Study the map before you start; be sure you know your correct exit.

2. Entering an expressway, speed up in the acceleration lane so you can match the speed of through traffic and blend right in.

3. Never slow down abruptly in a traffic lane. Stay with the pace set by the majority.

4. Don't stop, and *never* back up. If you miss an exit, go on to the next one. In case of vehicle breakdown, pull as far onto the shoulder as you can.

5. When passing or changing lanes, use your turn signals, check to the rear and get into position early. After passing, wait until you can see the vehicle you've passed in your mirror before returning to your former lane.

6. Keep widely spaced. Stay well behind vehicles ahead as a precaution against chain-reaction crashes.

7. Read the signs; they are all important. You have little chance for second-guessing.

8. When leaving the expressway, slow down in the deceleration lane to ramp speed. Believe your speedometer, not your senses.

Watch out for fatigue in expressway driving, and fight monotony with a rest at least every two hours. Keep your eyes moving, open the windows often, check the instruments, sing and chew gum.

If you must make an emergency stop on an expressway, pull completely off the road to the farthest edge of the shoulder. For help, raise the hood and tie a white cloth on the radio antenna or traffic-side door handle. Superhighways tempt you to overdrive your headlights at night. Remember, good lights illuminate about 450 feet.

That is a skimpy margin of safety for any evasive action you might need to take. In bad weather, expressways can be more dangerous than ordinary roads because of higher speeds. Adjust your driving to bad weather.

Defensive Parking

The supervisor of a sales fleet of 80 driver salesmen throughout the U.S. reported that 28 per cent of the accidents took place when the company vehicle was "legally" parked. But just being legally parked doesn't mean that your car is properly or defensively parked. Yes, there is such a thing as "defensive parking."

Here are some of the rules:

1. Off-street parking is usually better than curb parking.
2. Try to park so as to leave an empty space on both sides.
3. If possible, avoid parking next to a car with dents or banged-up fenders. This may indicate the driver's lack of consideration for his own car and an equal lack of concern for yours.
4. Park in the center of your marked parking space.

Rate the Parking Spaces Below

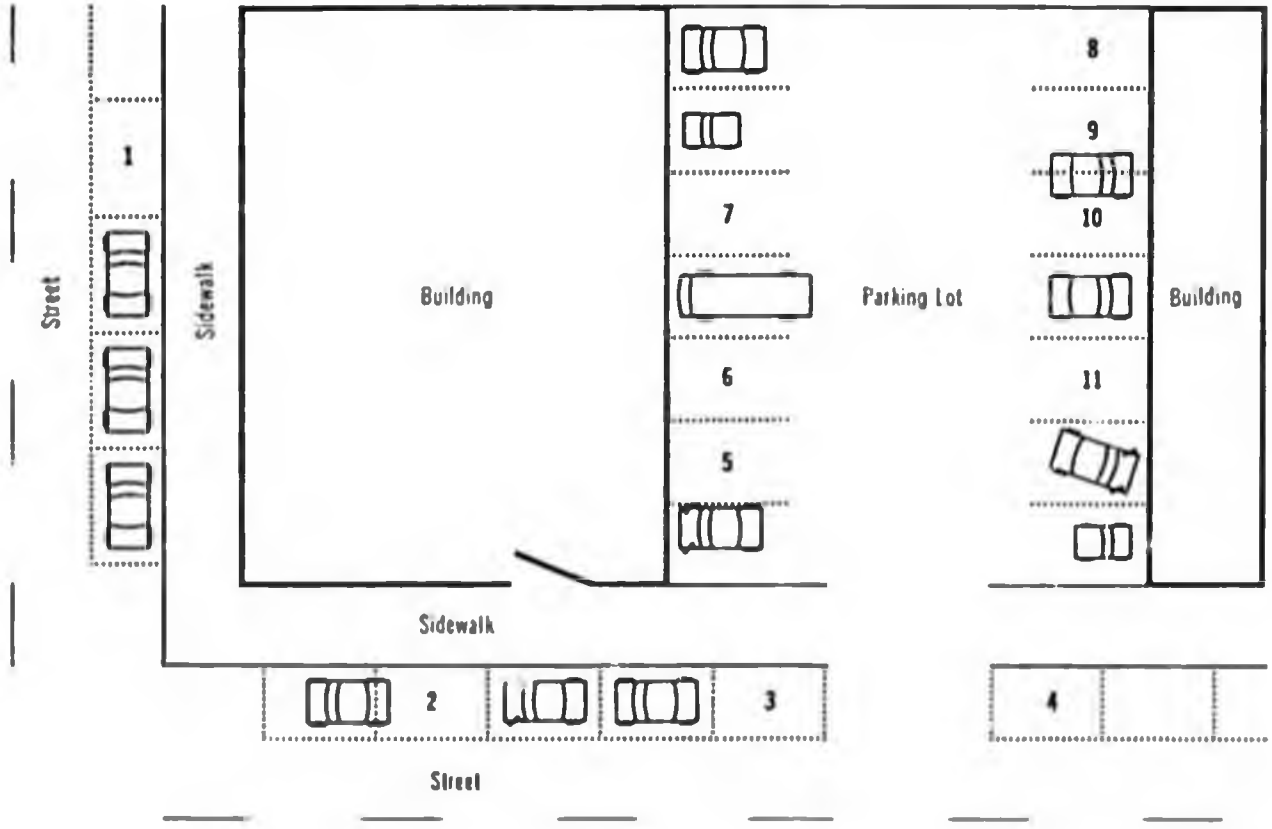
1. Good enough, but off-street parking would be better.
2. No! The car ahead extends into space 2 because it was parked by an inconsiderate parker. Even if you did manage to squeeze into the space, the car behind would probably clip your left rear in pulling out. Look at his wheels.

3 & 4. Definitely not! You are taking too much chance of getting clipped by cars cutting the corner entering and leaving the parking lot.

5. No, the car on the left made a big arc in getting into his space and he is crowding the space next to him. As he backs out, he could possibly scrape you.
6. No, that van is going to need all the space he can get when he backs out into the drive area. His front fender might catch your rear. If you left before he did, your vision would be blocked by the van until you were completely in the drive area. In order to back safely, you have to see around or look through the cars next to you.
7. Fair. That compact on the right should have no trouble getting out, but you would have to be careful clearing the right rear of the van. Also, if you leave while the van is still there, you may have visibility problems similar to 6.
8. The best. No danger from the left and plenty of room on the right.

9 & 10. Definitely too small. The big car taking up two spaces belongs to a parking space hog taking part of both spaces so that no other car can get near him. All the more reason for taking space No. 8.

11. No, the car on the right is parked at an angle. He might not straighten his wheels soon enough to avoid catching your right rear.



(These one-page outlines are designed to alert you to key ideas presented in each session and to provide space for recording them, as well as space for notes on other points you want to remember.)

STUDENT OUTLINE

SESSION ONE: Preventable or Not

1. Our State rule book is titled

_____

There will be a test on the State rule book at the end of Session _____.

2. _____ persons die annually in traffic accidents in the United States.
3. This is a course in how to drive to stay_____.
4. The most dangerous mile is the one_____.
5. A Perfect Trip involves avoiding the following types of driving errors:

   A _____

   T _____

   V _____

   S _____

   D _____

6. Private motorists are in the_____ business, too.
7. All accidents are either_____able or _____able.
8. Agencies involved in preventing accidents are:

   President

   G _____

   M _____

   L _____

   T _____

   P _____

   T _____

   H _____

   S _____

9. The kinds of accidents we will talk about in this course are those which are preventable by

   _____.

10. A preventable accident is one in which the driver failed to do everything he (possibly) (reasonably) could have done to prevent it.
11. An accident is a total loss unless _____

    _____ can be _____ from it.

12. Professional drivers make out an accident report for _____.
13. Exercises for studying preventability of accidents appear in the student workbook under the title of Be Your Own _____.

HOMEWORK ASSIGNMENT:

1. Read Session _____ in the Student Workbook.
2. Start reading the _____ book.

NOTES

STUDENT OUTLINE

SESSION TWO: The Practice of Defensive Driving

1. "Defensive Driving is driving to _____ accidents in spite of the _____ actions of others and _____ _____ conditions."
2. The Six Conditions of accidents are:
   1. _____ Conditions _____
   2. _____ Conditions _____
   3. _____ Conditions _____
   4. _____ Conditions _____
   5. _____ Conditions _____
   6. _____ Conditions _____
3. A review of the Six Conditions likely to be met in a trip ahead is called the _____ mental _____.
4. There are only (two) (four) (s.) (eight) ways that you can have a collision with another vehicle.
5. The two-car crash accounts for _____% of the total of all traffic deaths.
6. A safe following distance behind the vehicle ahead can be maintained by following the _____ second rule.
7. Reaction distance plus _____ distance equals _____ _____ distance.
8. The Slow-Moving Vehicle emblem is attached to the rear of vehicles which normally travel less than (5) (15) (25) (30) miles per hour.
9. Positions of the Two-Car Crash
   Collision with vehicle _____
   Collision with vehicle _____
   Collision with vehicle _____
   Collision with vehicle _____ _____
   Collision with vehicle _____ _____
   Collision with vehicle _____ _____
10. Causes of the Two-Car Crash
    1. Vehicle ahead _____ _____ and without _____.
    2. We in the following vehicle are not _____ _____ and have been _____ too _____.
11. Formula for preventing collision with the vehicle ahead:
    1. Stay _____ of the situation;
    2. Stay _____.
    3. _____ back;
    4. Start stopping _____.

HOMEWORK ASSIGNMENT:

Read Session _____

NOTES

STUDENT OUTLINE

SESSION THREE: How To Avoid a Collision with the Vehicle Behind

1. The Standard Accident Prevention Formula is:

   1. _____ _____ the hazard

   2. _____ the _____

   3. _____ in _____

2. Elements of Defensive Driving are:

   1. K _____

   2. A _____

   3. F _____

   4. J _____

   5. S _____

3. Learning about accident preventability from newspaper accounts of crashes:

   Factors in the Slayton, Minnesota, crash:

   Factors in the Longview, Texas, crash:

   Factors in the Lemont, Illinois, crash:

4. What do you owe the driver behind?

5. Why should you slow down gradually?

6. What should you do about the car that is following too closely?

HOMEWORK ASSIGNMENT:

NOTES

STUDENT OUTLINE

SESSION FOUR: How To Avoid a Collision with an Oncoming Vehicle

1. The Strategy of Total Safety

PRE-CRASH	CRASH	POST-CRASH
Direct Action		
Indirect Action		

2. What are the reasons why an oncoming vehicle crosses the center line into your path?

   1.

   2.

   3.

3. What is the proper way to round a curve?

4. Prescription for avoiding the Head-On Crash

   R_____ _____

   R_____ _____

   R_____ _____ _____

   R _____

5. Split-Second Decisions

   1. Move _____ instead of _____.
   2. _____ off the road instead of skidding.
   3. Hit something _____ instead of _____.
   4. Hit something moving instead of _____.
   5. Hit something fixed instead of _____.
   6. _____ instead of head-on.

HOMEWORK ASSIGNMENT:

NOTES

STUDENT OUTLINE

SESSION FIVE: How To Avoid an Intersection Collision

1. "A preventable accident is one in which you _____ to _____ you _____ _____ done to _____."
2. Factors in Vehicle Ahead Collision:
3. Factors in Vehicle at an Angle Collision:
4. Factors in Vehicle Behind Collision:
5. Factors in Oncoming Vehicle Collision:
6. When two vehicles enter an intersection from different highways at the same time, the driver of the vehicle on the _____ shall yield the right of way to the vehicle on the _____.
7. A yield sign means _____ and yield the right of way to any vehicle in the intersection.
8. A stop sign means _____ and yield the right of way to any vehicle in the intersection.

In making a right turn:

1. Get in the _____ lane.
2. Signal _____ feet ahead of intersection.

10. In making a left turn:
    1. Get in the _____ lane.
    2. Signal _____ feet ahead of intersection.
    3. Let the _____ clear before making your turn.
    4. Keep your wheels _____.

HOMEWORK ASSIGNMENT:

11. In going straight through an intersection:
    1. Have your _____ off the _____ and poised over the _____.
    2. Look first to the _____ and then to the _____.
    3. Cross only when _____.
12. Four-Point Plan for Intersection Safety:
    1. K_____
    2. Sl_____
    3. Sh_____
    4. G_____.

NOTES

STUDENT OUTLINE

SESSION SIX: The Art of Passing and Being Passed

1. A vehicle passing can create these hazards:

   When most vehicles are passing you it means that you are probably traveling _____ for the stream of traffic.

   What hazards does this create?

2. The defenses against collision with a vehicle passing you are:

   1.

   2.

3. What safety measures should be followed with regard to passing vehicles when you are pulling away from a parking space?

4. When you are passing another vehicle, the following kinds of accidents are possible:

5. Passing is illegal in the following situations:

   1.

   2.

   3.

   4.

   5.

6. You (can) (cannot) exceed the speed limit when passing another vehicle.

HOMEWORK ASSIGNMENT:

7. The 12 points of a Perfect Pass are:

   1.

   2.

   3.

   4.

   5.

   6.

   7.

   8.

   9.

   10.

   11.

   12.

8. In passing a motorcycle, you should remember:

   1.

   2.

   3.

NOTES

STUDENT OUTLINE

SESSION SEVEN: The "Mystery Crash"

1. The run-off-road type of accident is called the "Mystery Crash" because:

2. The accident factors present in the film sequence of a typical "Mystery Crash":

3. What bad driving attitudes were displayed by the young men in the film?

4. What good driving attitudes were displayed?

5. Was the trip portrayed necessary?

6. Traffic accidents are the number one cause of death in the _____ age group.

7. Drugs affecting driving are:
   1.
   2.
   3.
   4.
   5.

8. The most dangerous drug to mix with driving is _____.

HOMEWORK ASSIGNMENT:

9. When you expect to drive after drinking, allow _____ to elapse after each _____ of alcohol consumed before driving.

10. Alcohol is involved in _____% of the fatal accidents in the United States.

11. The "Mystery Crash" is the most preventable kind of accident because:

NOTES

STUDENT OUTLINE

SESSION EIGHT: How To Avoid Other Common Types of Collisions

1. Vehicle-pedestrian collisions account for _____% of all traffic fatalities annually.
2. Approximately _____ pedestrians are killed in traffic accidents annually.
3. Approximately _____ pedestrians are injured in traffic accidents annually.
4. Most frequent factors in pedestrian accidents are:

   O _____

   Y _____

   D _____

   N _____

5. The law provides that drivers must exercise _____ and take _____ under all circumstances to avoid collisions with pedestrians.
6. How can we avoid collisions with a fixed object?

7. Four points of good backing technique:

   1. _____

   2. _____

   3. _____

   4. _____

8. Defenses against collisions with railroad trains:

   1. _____

   2. _____

   3. _____

   4. _____

9. If your car stalls on the tracks, you should:

10. We protect bicyclists by:

    1.

    2.

    3.

11. In 1973 _____ motorcycle riders were killed.
12. Over _____% of these were the fault of the automobile driver.
13. We must treat motorcyclists as _____ road users.
14. Each year about _____ persons are killed and _____ injured in vehicle-animal collisions.
15. "Old Chauffeurs Contrive New Cares" is a way of remembering the five points of Defensive Driving. The points are:

    O _____

    C _____

    C _____

    N _____

    C _____

NOTES

To all DDC graduates:

Congratulations on completing the Defensive Driving Course! As a graduate, you join over 9,000,000 other DDC alumni who make up the most safety-minded group of drivers in the world.

I hope the course has given you new and lasting insights into the problem of traffic accidents and what you reasonably can do to prevent them.

But, it takes more than an eight-hour course to make a Defensive Driver. You now begin the most important phase of your experience—the application of Defensive Driving techniques in your daily driving.

In this phase, you must consciously and systematically put into practice behind the wheel what you have learned in the classroom. This means replacing old habits by the repetitive use of new and better habits.

The application phase may be difficult, even uncomfortable, and most assuredly, it will take time. You should expect this. Remember that safety is not passive. It is an active attitude of awareness toward the hazards of any trip. It requires a continual application of knowledge, alertness, foresight, judgment and skill.

Once these habits are established, Defensive Driving will become almost automatic for you. But even after the habit has been formed, you will need to pay continuous attention to your driving technique to avoid slipping back to old ways.

Defensive Driving does have its costs in terms of mental and physical effort. Fortunately, the pay-off is more freedom from accidents. It is the best investment any driver can make.

The National Safety Council is honored that you have participated in the program. We hope you will want to continue your association with concerned and well-trained drivers by joining the Defensive Driving League—an organization of DDC graduates dedicated to personal responsibility for Driver Safety, Driver Citizenship and Driver Courtesy.

Thank you for participating and best wishes for a lifetime of "Perfect Trips."

Vincent L. Tofany

Vincent L. Tofany

FINAL EXAMINATION / DEFENSIVE DRIVING COURSE

PART I. Multiple choice. Circle the letter preceding the correct answer.

1. Approximately (a) 30,000, (b) 50,000, (c) 75,000 people die in traffic accidents in the United States every year.
2. The single most significant cause of fatalities, serious injuries and property damage is: (a) the one-car, or "mystery crash," (b) the two-car crash, (c) the rear-end collision.
3. The most effective way to deal with a tailgater is: (a) slam on your brakes to give him a scare, (b) speed up to increase the distance between your vehicles, (c) slow down to force him either to pass or slow down.
4. On a right-hand curve, centrifugal force will tend to pull your car to (a) the left, (b) the right.
5. While waiting to make a left turn, have your wheels pointing (a) straight ahead, (b) turned to the left.
6. Your maximum nighttime seeing distance with headlights on upper beam on an unlighted road is (a) 225 feet, (b) 350 feet, (c) 450 feet.
7. When approaching an intersection, look first to the (a) right, (b) left.
8. In negotiating curves, slow down (a) before you enter the curve, (b) after you are in the curve.
9. While being passed you should (a) honk horn, (b) speed up, (c) maintain constant speed.
10. The first point in a perfect pass is (a) check ahead, (b) tap horn, (c) decide "is this pass necessary?" (d) check behind.

PART II. True or False. Circle T if statement is true; F if it is false.

1. The federal government has relatively little concern with traffic safety. T F
2. Reaction distance is the number of feet your car travels between the time your foot hits the brake and the point at which you are able to bring your car to a halt. T F
3. After the signal light turns green, you should count "one-thousand-one, one-thousand-two" before you move. T F
4. Mystery crashes are accidents over which the drivers involved had little or no control. T F
5. If your right wheel drops off the pavement while you are traveling at high speed, brake and steer sharply to the left. T F
6. If a tire blows, don't brake, but hold the wheel steady and coast to a spot that is safely off the road. T F
7. If you see a car coming at you head-on, signal him with your lights and horn and then swerve to the left to avoid a collision. T F
8. The best rule to follow is always to give the pedestrian the right-of-way. T F
9. When you overshoot a crosswalk, back up to a proper position and wait. T F
10. Over half of fatal car/motorcycle collisions are the fault of the car driver. T F

PART III. Fill-in. Fill in the blanks to complete the following sentences.

1. Defensive driving is driving to prevent accidents in spite of the _____ _____ ___ _____ and _____ _____.

2. A perfect trip involves avoiding _____, _____, _____, _____, and _____.

3. List the six positions your car can take in relation to another in order to be involved in a two-car crash.

   1. _____ 4. _____

   2. _____ 5. _____

   3. _____ 6. _____

4. _____ distance + _____ distance = stopping distance.

5. Compute the reaction distance for the following speeds:

Speed	*Reaction distance (in feet)*
(a) 34 mph	_____
(b) 47 mph	_____
(c) 55 mph	_____

6. The likelihood of a collision with the vehicle ahead can be reduced if you allow _____ seconds following distance under ideal conditions.

7. The four points of intersection safety are: _____, _____, _____, _____.

8. Alcohol is involved in approximately _____% of all fatal traffic accidents in the United States.

ANSWERS

Part I. 1. (b) 2. (b) 3. (c) 4. (a) 5. (a) 6. (c) 7. (b) 8. (a) 9. (c) 10. (c)

Part II. 1. F, 2. F, 3. T, 4. F, 5. F, 6. T, 7. F, 8. T, 9. F, 10. T

Part III. 1. incorrect actions of others, adverse conditions. 2. accidents, traffic violations, vehicle abuse, schedule delays and discourtesy. 3. ahead, behind, oncoming, intersection, passing, being passed. 4. reaction + braking. 5. (a) 37 (b) 51 (c) 60. 6. two. 7. know, slow, show, go. 8. 50

CONGRATULATIONS—on becoming a DDC graduate!

But don't rest on your diploma . . .

Graduation is a beginning, not an ending. How you apply your new knowledge, how you now react on the highway—that's the true test of your defensive driving skills. And excellent as those skills may be, there's a way you can keep improving them . . . keep them razor-sharp . . . keep yourself alive.

JOIN THE DEFENSIVE DRIVING LEAGUE

As a Defensive Driving Course graduate, you are now eligible to join an elite group of concerned and well-trained drivers—the Defensive Driving League. The League is the *only* national organization devoted exclusively to achieving safer highways through voluntary individual excellence behind the wheel.

The League goals are simple but vital: to improve driver skills and attitudes, to promote courtesy and cooperation among all highway users, to support sound traffic safety programs, and to obtain better services for the automobile owner.

The League motto is "Traffic Safety Begins with Me" and its Creed appears on the reverse page. If you share these beliefs, the League needs your support and you need the League.

The League offers you a professionally planned safety program designed to sustain the high-level defensive driving performance demanded of the safest drivers in the world.

LOOK WHAT YOU GET FOR ONLY $7.00 A YEAR!

Defensive Driving League Bulletin. A monthly Bulletin especially prepared to keep you reminded of DDC concepts and applications to new problems. Through opinion surveys and letters, the Bulletin will serve as the voice of the most safety-minded segment of the driving population. It will speak out on such consumer concerns as auto safety features, improved automotive products and services, and constructive traffic safety programs.

Safe Driver Magazine. A monthly eight-page, pocket-size magazine—newsy, informative, thought-provoking—designed for quick reading but memorable impact.

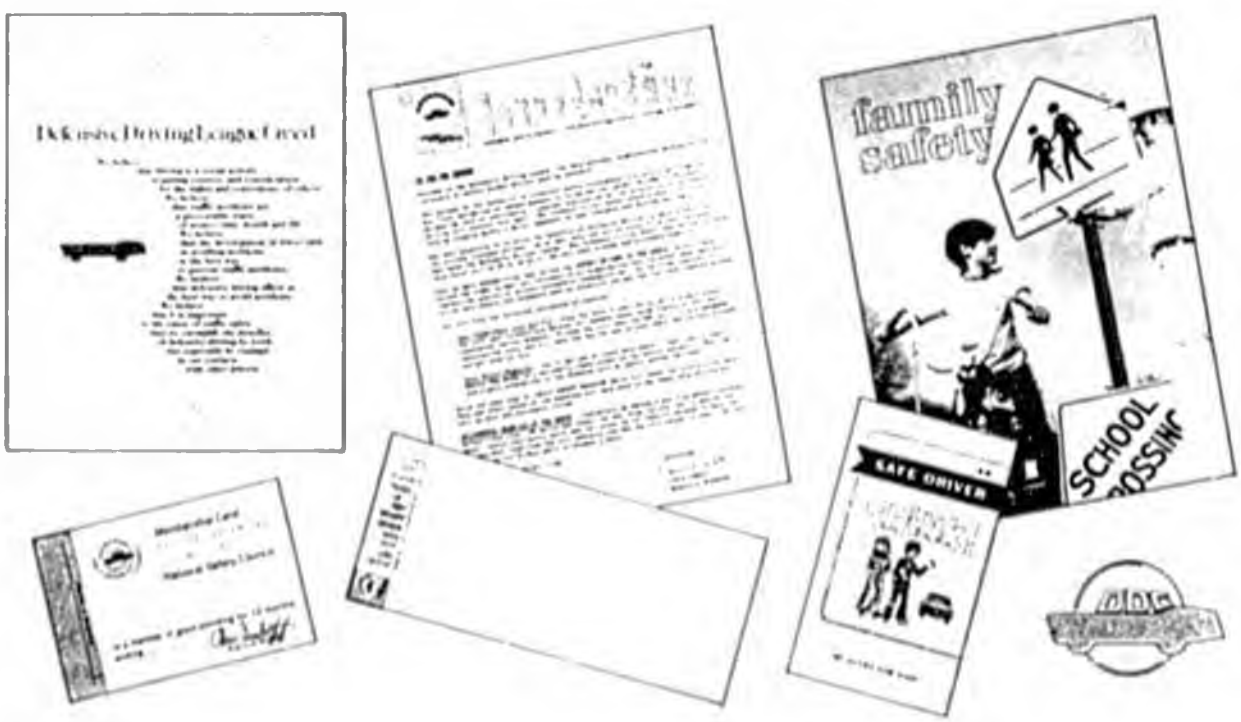
Family Safety Magazine. A 32-page quarterly magazine that has won acceptance from more than a million and a half readers as the leading consumer periodical in the safety field. It covers home and recreational safety as well as traffic accident prevention. Its authoritative articles will inform League members on the entire range of family safety interests.

Membership Card. A wallet-size card, bearing the Defensive Driving League emblem, identifies you as a responsible, safety-conscious driver.

Membership Pin. A handsome red and gold League emblem with clutch-back fastener that you can wear proudly as a defensive driver who cares about highway safety.

Add it all up! The low membership fee of only $7.00 a year will keep you informed, keep you involved—and it may keep you alive! Use the application on the reverse side.

JOIN THE DEFENSIVE DRIVING LEAGUE NOW!



MEMBERSHIP APPLICATION FORM
Defensive Driving League

Defensive Driving League Creed

THE DEFENSIVE DRIVING LEAGUE

DDC DEFENSIVE DRIVING COURSE

DRIVER SAFETY
DRIVER CITIZENSHIP
DRIVER COURTESY

We believe
that driving is a social activity
requiring courtesy and consideration
for the rights and convenience of others.
We believe
that traffic accidents are
a preventable waste
of money, time, health and life.
We believe
that the development of driver skill
in avoiding accidents
is the best way
to prevent traffic accidents.
We believe
that defensive driving offers us
the best way to avoid accidents.
We believe
that it is important
to the cause of traffic safety
that we exemplify the benefits
of defensive driving by word,
but especially by example,
in our contacts
with other drivers.

FOR OFFICE USE ONLY

ORDER NUMBER

SHIP TO:

BILL TO:

SERVICE TYPE

CATALOG NUMBER

EXPIRATION DATE

mo yr

I agree that traffic safety begins with me and I subscribe to the objectives of the Defensive Driving League. Please enter my membership according to the information submitted.

(signature)

The serial number of my graduation card from the Defensive Driving Course is

(date of graduation)

I certify that the above applicant is eligible for membership in the Defensive Driving League.

(signature of cooperating agency official)

(agency code no) (date)

SAMPLE ENTRY

To assist us in setting up your membership properly and accurately, complete the blanks below by printing a letter or punctuation mark in the boxes provided. For example:

NAME
JOHN A. SMITH

NAME

STREET ADDRESS

CITY AND STATE

ZIP CODE

Mail this completed application with check or money order for $7.00 to:

NATIONAL SAFETY COUNCIL 444 N. Michigan Avenue, Chicago, Illinois 60611

Or forward application through your cooperating agency.

DEFENSIVE DRIVER'S MANUAL

INDEX

Problems with Pedestrians

Vehicle-pedestrian collisions account for about 10,000 deaths and 150,000 disabling injuries annually. This toll represents about 20 per cent of all traffic deaths and 8 per cent of all disabling injuries. For obvious reasons, such collisions have a high pedestrian death rate.

When a car hits a pedestrian, there is no question about who is going to get the worst of the encounter. When two vehicles collide, a personal injury or death occurs only about 20 per cent of the time. But a vehicle-pedestrian accident results in personal injury or death for the pedestrian in almost every instance.

The long-range defense against the pedestrian accident requires education so that each class of highway user may appreciate the unique problems of the other. Since all drivers are also pedestrians as soon as they park their cars, defensive drivers have a self-interest in being actively concerned about the pedestrian problem. And, of course, no driver wants to be responsible for injuring or killing another person.

Since pedestrians can walk into the path of a car anywhere, at any hour of the day or night, it is difficult to develop a defensive formula or "put a handle" on the problem from the standpoint of defensive driving except for a rather general admonition to be careful of pedestrians and to give them the right of way.

Drivers and pedestrians both need to understand that the four main classifications of pedestrian fatalities are: (1) the young pedestrian (up to 14 years of age), (2) the older pedestrian (65 and over), (3) the drinking pedestrian, and (4) the unseen pedestrian in darkness.

Pedestrian Rights

Unlike drivers, pedestrians do not need to comply with a licensing law or meet an age requirement. Therefore people of all ages walk on streets and highways. When they walk with due care and attention, they are protected by such basic rights as: (1) priority of right in using pedestrian crosswalks; (2) the right to use the crosswalk at a signalized intersection during a green or "walk" indication, without being subjected to hazard from vehicles; (3) the right to priority use of crosswalks where or when signals are not in operation, as long as they show proper regard for approaching vehicles in the roadway; (4) the right to walk on the left side facing traffic along or upon a highway without sidewalks; (5) with certain exceptions, the right to cross a roadway at places other than a crosswalk, but only by yielding right of way to all vehicles; and (6) the fundamental right to expect drivers to use every precaution to avoid hitting them.

Pedestrian Responsibilities

Because of his vulnerability in a vehicle-pedestrian collision, the pedestrian has been granted certain protection by the law. Yet, the pedestrian has legal and moral responsibilities for his own safety. He is expected to cross city streets at crosswalks if a hazard is created by his doing otherwise. At signal-controlled intersections, he is required to obey the "walk" and "don't walk" signals. The law does not allow the pedestrian to leave the curb suddenly and walk into the path of a car that is close enough to be a hazard.

Where there are no sidewalks, pedestrians are expected to walk on the side of the road or street facing oncoming traffic. When walking at night in unlighted areas where there is also vehicle traffic, the pedestrian should take measures to make his presence as visible as possible.

Driver Rights With Respect to Pedestrians

For all practical purposes, the motor vehicle operator has few rights over the pedestrian where the possibility of a vehicle-pedestrian collision exists. While there are laws regulating the behavior of the pedestrian in traffic, enforcement of those laws has a low priority in most jurisdictions and seldom results in pedestrian citations.

Drivers have a responsibility to take proper precautions to avoid collision with pedestrians at all times and places, even if the pedestrian jaywalks. Under no circumstances is the driver of a motor vehicle privileged to exercise the right of way over a pedestrian.

Defensive Practices for Pedestrians

The following practices should be observed by pedestrians to defend against the vehicle-pedestrian collision:

1. Always cross the street in marked crosswalks or at intersections in line with sidewalks.
2. Walk only with the signal light or at the direction of a police officer if either is present.
3. Before leaving the curb, look first to the left and then to the right to be sure the way is clear; watch for turning cars.
4. Walk fast but don't run, and be alert for cars that may suddenly turn into the street. Be especially careful if the pavement is slippery or uneven.
5. Walk directly across; do not loiter in the street.
6. If you carry an umbrella, do so in such a way as to have a clear view of traffic.
7. Get into or out of a car on the curb side if possible. If you use the door on the street side, be sure to look for approaching cars and wait for an interval in traffic before opening the door.

8. Wait for buses on the curb or in the safety zone. If you must walk through traffic to get to the safety island, use due care.
9. When alighting from a bus in mid-street, walk in the safety zone to the crosswalk and then directly to the curb. If crossing to the opposite side of the street, wait until the bus has moved on so it does not screen your view. Never dash behind or in front of the bus and risk being caught in traffic passing on the other side.
10. At night, cross where the lights are bright and visibility is good.
11. Always stand on the curb, not in the street, while waiting to cross.
12. When walking along a road where there is no sidewalk, walk on the left side facing oncoming traffic.
13. At night, wear or carry something white or reflective, or carry a light, so that motorists' attention will be attracted to you.
14. Never use streets or roadways for play, or run suddenly into the street after balls, pets, etc.
15. Make use of subways or elevated crossings, safety islands and other safeguards.
16. Be just as alert and careful when walking in a group as when alone, do not move into the street just because someone else does, and do not depend on others to watch out for your safety.
17. It is as dangerous to drink and walk in traffic as it is to drink and drive.

Young Persons

Pedestrians most frequently involved in accidents are young people up to 14 years of age. Approximately 30 per cent of the population of the United States is in that age category, yet the group accounts for 52 per cent of all pedestrian casualties (deaths and injuries). Young people usually have good eyesight, fast reactions and agility, but those abilities often are offset by lack of experience and poor judgment. The very young also may suffer from undeveloped physical coordination. As a result, about 20 per cent of all pedestrians killed are in the under-14 age group. Playing in the street, running from between parked cars, dashing across streets without looking, chasing someone or pursuing pets, balls or other objects—those are some of the actions of children that the defensive driver must always watch for.

Many young children involved in pedestrian accidents are injured on residential streets while playing during daylight hours. Drivers should be particularly watchful on streets and at times when youngsters are likely to be playing.

The Over-65 Age Group

Persons over 65 years of age represent 9 per cent of the population, yet they account for 27 per cent of the fatally injured pedestrians. The elderly person is more often involved in accidents at intersections and during hours of darkness. They tend to rely on the movement of other pedestrians and vehicles to tell them when to cross, rather than on traffic signals. Nearly all adult pedestrian fatalities are persons who have not been licensed to drive, so never having driven automobiles, they are unfamiliar with the limitations of both the vehicle and the driver. They are not aware of a car's stopping distance at various speeds. The speed of an oncoming vehicle (closure rate) is difficult to judge, even for a pedestrian with perfect eyesight and excellent depth perception. Many elderly people tend to be inattentive, or overconfident regarding what drivers can do to avoid hitting them. They are not able to react fast enough to danger and often make little effort to compensate for this inability.

The Drinking Pedestrian

Evidence suggests that drinking and walking is as great a problem as drinking and driving. A large proportion of drinking pedestrians are involved in fatal accidents. Recent studies of fatally injured pedestrians in several states have indicated that up to 69 per cent of the victims aged 15-64 showed blood alcohol concentration levels of 0.15 per cent or more. It has been generally presumed that a blood alcohol concentration level of 0.10 per cent or more constitutes "under the influence of alcohol." Persons in this condition should not be walking in traffic. With dulled judgment and, at the same time, loss of inhibitions, persons under the influence of alcohol lose both mental alertness and physical coordination.

Fatalities to drinking pedestrians are eight and one-half times more frequent during hours of darkness than during daytime hours. Obviously, it is as dangerous to drink and walk in traffic as it is to drink and drive.

Pedestrian Visibility in Darkness

More than 55 per cent of all motor vehicle accidents occur during the hours of darkness, despite reduced pedestrian and motor vehicle traffic during those hours. Pedestrian deaths are most numerous in the early hours of darkness, especially in the fall and winter months.

A recent study by a group of Indiana researchers reported that while the average distance from which pedestrians thought they could be seen was 343 feet, the true distance was 173 feet. Statements made by the investigating officer and the driver revealed that 87 per cent of the drivers who hit a pedestrian at night claimed difficulty in seeing the pedestrian, and 23.4 per cent of the nighttime drivers claimed that they didn't see the pedestrian until impact.

Pedestrians are the only moving "objects" permitted on the roadways without a legal obligation to display a light or use other means to make themselves visible to vehicle drivers.

The solution to the pedestrian visibility problem lies in better highway and street lighting, motorist recognition that they must drive within the illumination range of their headlights, and precautions by pedestrians, such as wearing light-colored clothing or reflectorized materials or carrying a light.

The Critical Age Groups in the Traffic Accident Problem

The Older Driver

When the number of miles driven is taken into account, aging drivers—those 55 and over—have a poorer accident record than drivers in their middle years. Aging drivers, numbering 25 million, comprise 22 per cent of the licensed drivers in the United States, and their number is growing.

People age at different rates and in various ways—physically, psychologically and sociologically. The rate of aging is not constant even within the same person. Nevertheless, certain general areas of lessening capabilities among aging drivers must be considered.

As the years mount up, sensory and physical changes interact to decrease the efficiency of the aging driver. How and to what extent these disabilities contribute to accidents is only beginning to be defined. Even so, we can speculate about their effect on driving.

EYESIGHT

Four important age-related changes in vision take place that can hinder defensive driving ability: (a) there is a general narrowing of the visual field beginning in the late 30's; (b) the need for increased illumination rises steadily with age, (c) glare sensitivity increases beginning at about age 40, and (d) the rate of dark adaptation decreases as one grows older.

Narrowing of the visual field may be a significant factor in sideswipes, in collisions involving cutting in or merging, and even in pedestrian accidents, day or night. The aging driver's increased need for illumination, his heightened sensitivity to glare, and the extended time span he needs to adapt to the dark appear to be relevant in night collisions, especially on two-lane rural roads.

HEARING

Impaired hearing is often another by-product of aging. Auditory response diminishes gradually to a point where 40 per cent of drivers over the age of 65 have noticeable defects in hearing, especially at high frequencies and particularly among men. The precise role that hearing loss plays in highway accidents has not been determined. It would seem, however, that city traffic with its crowded streets and expressways places a greater burden on hearing than does rural driving. Of particular concern to the hard of hearing may be avoidance of collisions with emergency vehicles.

BEHAVIORAL PROCESSES

Defensive driving depends on three important behavioral processes: stimulus or cue identification, decision-making and motor (muscular) reaction. Each of these activities become less efficient as a person ages and the nervous system's ability to transmit and control response to stimuli slows down.

The aging driver is distracted more easily and finds it harder to sort out relevant cues from the irrelevant. As the pace of tasks is increased, these conditions worsen.

Decision-making becomes more difficult because short-term memory and logical thinking skills tend to be less acute with the passing of time. The aging tend to recall what they hear better than what they see and remember things best when they have both visual and auditory cues. They also tend to show a high degree of redundancy in thought and increased difficulty in dealing with new concepts.

Not only does it take an aging person longer to assimilate what is happening around him, but it also takes him longer to respond to it physically. Participation in physical activity over a period of time, however, does increase response speed to some extent.

Given these behavioral deficits, the aging driver is less likely to be aggressive. He tries to move slowly in traffic. He fails to observe signs and signals as well as he once did. He has problems with yielding the right of way, changing lanes and turning. In particular, when making movements in traffic, the speed with which the aging driver is able to identify cues, decide on a course of action and then react often is inadequate, causing errors of omission and commission.

MEDICAL DISABILITIES

Medical problems increase with age, and disabilities such as cardiovascular disease, diabetes and epilepsy have been associated with increased accidents and violations. Unfortunately, most of the studies that link medical handicaps with accident occurrence permit only the most general conclusions.

SOME RECOMMENDATIONS

Despite the compensatory caution and slower driving speeds that typify the aging driver's habits, he still is responsible for more accidents that his numbers on the road warrant. On the average, people reduce the amount of driving they do as they grow older. However, accidents involving aging drivers are more often fatal than those involving young and middle-aged drivers. Following are some pointers that could reduce the number and severity of accidents among older drivers:

1. Consult a physician for an annual checkup, and *follow his advice*. Take corrective measures, such as eyeglass prescription changes.
2. Ask your physician whether any drugs you are taking have side effects that might impair your driving.
3. Never "push" yourself while driving. Take more frequent rest periods while on extended trips. At day's end, make a habit of retiring earlier.

4. When driving on well-traveled highways, take the slower lane; don't try to compete in traffic.
5. When driving, don't get too involved with your thoughts or passenger conversation; driving requires your full attention.
6. Avoid driving when upset. Anxiety can lessen your perception of impending accident situations.
7. Plan your routes so you will not be in dense or high-speed traffic. "Shun-pikes" can be enjoyable.
8. Try to avoid rush-hour and nighttime driving.
9. If possible, stay off the road when conditions are difficult. In winter the weather is unpredictable.
10. Participate in physical activity. Regular and reasonable exercise sharpens reactions.
11. Keep your car in good shape, wear safety belts and be sure head restraints are properly adjusted.
12. Honestly recognize your driving mistakes and your near-misses. If the time comes when you feel uneasy at the wheel and unsure of yourself, relinquish your license for your safety and that of others.

The Youthful Driver

Young drivers, aged 15 to 24, are disproportionately involved in motor vehicle accidents. Though they comprise about 22 per cent of the driving public, they represent almost 35 per cent of the drivers involved in all accidents and 34 per cent of the drivers involved in fatal accidents. Those figures point to the young driver as a hazard both to himself and to other highway users.

Various studies have attempted to discover why the young comprise an especially accident-prone group. Some researchers have investigated personality variables and have noted relationships between these variables and driving behavior. However, personality traits explained only a small amount of difference in individual driving behavior. Most investigations of the young driver emphasized that he has less real-world driving experience and more exposure to hazardous driving conditions than his elder counterpart. In other words, the young driver is more likely to drive at night, on weekends and on wet and slippery roads than older drivers. But even when such exposures are considered, the 15 to 24-year-old still emerge with the worst record. Clearly, the combination of inexperience, high exposure and immaturity adds up to the "dangerous young driver."

An important task is making the young driver less of a risk to himself and to other highway users, a task that can be done only by imparting knowledge and developing correct attitudes and driving skills. High school driver education plays a prominent role in the national approach to the problem. Most driver education courses offer at least three segments—classroom, simulator and behind-the-wheel instruction.

Of utmost importance to the young driver's ability to handle a vehicle safely is accomplishing, through formal training, the following objectives:

1. Knowing the rules of the road.
2. Knowing how the automobile functions.
3. Being able to maneuver the vehicle safely in traffic, including emergency situations.
4. Being able to drive competently in various light, road, traffic, vehicle and weather conditions.
5. Remembering that driving is a privilege carrying with it responsibilities; it is not a right granted to everyone.
6. Learning to do everything within reason to prevent an accident.
7. Driving defensively.

The Child Passenger

Traffic accidents are a leading killer of children, many of them while passengers in autos. Each year about 1,000 passengers under the age of five are killed, and another 60,000 are injured in auto accidents. Proper child passenger restraints could prevent much of this toll.

TYPE OF RESTRAINT	CHILDREN TO BE PROTECTED		
	Up to 9 mos.	8 or 9 mos. to 4 yrs.	4 yrs. & up
INFANT CAR BED	YES		
INFANT CARRIER	YES		
CHILD CAR SEAT	NO	YES	
CHILD HARNESS	NO	YES	
VEHICLE LAP BELT	NO	NO	YES
VEHICLE SHOULDER BELT (worn with lap belt)	NO	NO	YES*

*If child is at least 55 in. tall.

POINTERS ON CHILD RESTRAINTS

1. A restraint designed especially for the child passenger should be fastened to the car either by the adult safety belt or by anchoring the restraint itself to the car structure. Check the label for proper use instructions and to be sure restraint meets Federal safety standards. Seats that hook over the seat back are worthless.
2. A seat should give cushioned protection from both front and rear crashes.
3. A child's upper body should be restrained by belts at least 1½ inches wide, or by an impact pad.
4. Adequate padding meeting Federal standards should line all areas a child's head might encounter upon impact. Check for any sharp or pointed hardware.
5. The safest position for a child to ride in an automobile is in the center rear seat.
6. Children under four years of age should not be permitted to use the adult safety belt. Lap belts put too much pressure on too small an area of the child's body, and they can slip out from under them. Shoulder belts are dangerous, too, when they cross the child's neck or face.
7. Children over the age of four years may use the adult lap belt, again preferably the one in the center rear seat.
8. Restraints must be used *every time*. Short trips are no exception.

Safe Winter Driving

Winter Driving . . . It's come a long way

Winter driving sure isn't what it used to be. Time was when cold weather and the first snowfall spelled big trouble for car owners. Just getting the engine started on a cold winter morning was one thing, and getting anywhere was another. Automobiles and roads just weren't built for safe winter driving. Winter driving today is still a tricky and dangerous business despite better cars, better roads and better all-weather maintenance. The trouble is, many motorists, lulled by the ease of modern motoring, fail to adjust their driving to meet winter's changing and hazardous conditions of roadway and visibility. The result can be disaster.

You can reduce your chances of having an accident with a little modern "know how"—a mixture of plain common sense and a few special driving skills recommended by the Committee on Winter Driving Hazards of the National Safety Council. Safe winter driving has come a long way from the "not-so-good old days."

Get Your Car Ready for Winter

BATTERY

Don't take it for granted that your battery will see you through another winter. Battery power goes way down in cold weather. Get a charge if you need it, or maybe it's time for a new battery.

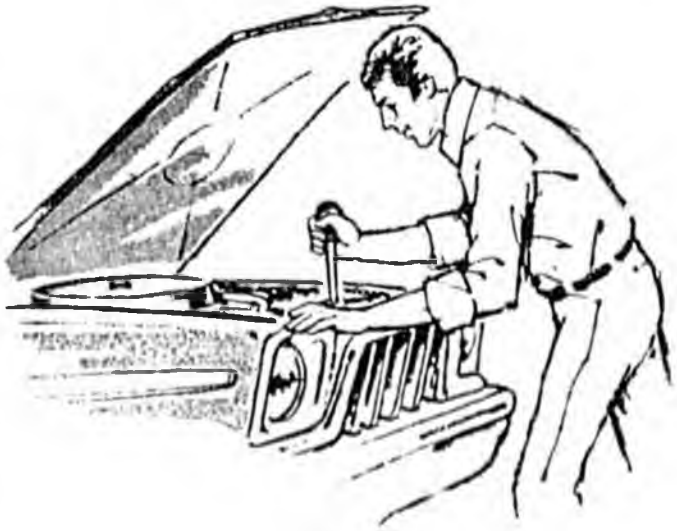
BRAKES

Good brakes are a "must" for winter safety. Have the equalization checked. A pull to one side can cause a dangerous skid.

TIRES

Put your snow tires on before the snow falls. If studded tires are allowed in your state, be sure to observe the approved use dates. Although studded tires do provide improved traction and braking on icy roads, they are not nearly as effective as reinforced tire chains for improving traction and braking on all winter road surfaces. For this reason plus the fact that studs are illegal in many areas, normally the best combination for winter driving is using snow tires and keeping a set of reinforced tire chains in the trunk for severe road conditions.

A tip on winter tires: When you remove studded or radial tires for summer storage, mark the wheel position where the tire was mounted so it can be remounted in the same position next winter. Also if the tires are mounted on their own rims, reduce inflation pressure to about five pounds and store the tires in a cool dry place.



WINDSHIELD

Wipers should have adequate arm tension; worn blades should be replaced. Use an anti-freeze windshield solvent in the washer system. Make sure defrosters will do the job.

MUFFLER

Carbon monoxide kills. A faulty exhaust system could mean disaster. Have the entire system checked for leaks.

Make Sure You Can See

Keep windows clear—front, rear and all sides. Remember, danger can come from any direction. Brush snow off all around before you start out; don't be a peephole driver. Don't forget to clear the air intake in front of the windshield to free wiper blades if they are frozen.

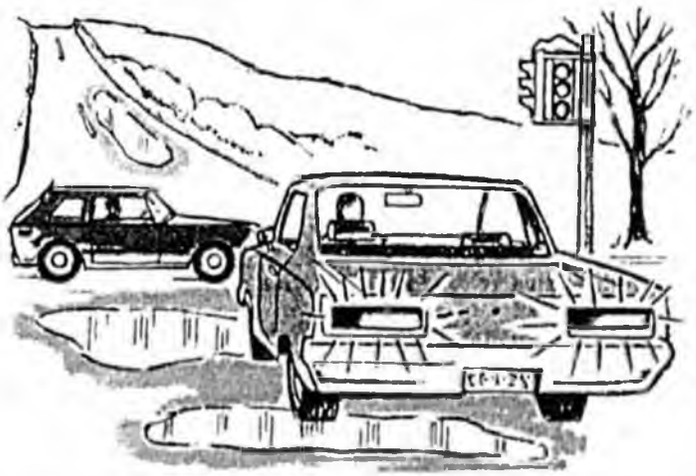
Road splatter from slush and salted wet roads can greatly reduce visibility. Use windshield washers often, and if you're driving at night, stop occasionally to clean headlights and taillights. Headlight efficiency can be cut in half by road splatter.

It's best not to drive at all in fog, sleet or heavy snow. But if you must, keep your headlights on low beam; high beams give less illumination, more glare.

On the Road in Winter . . . Anticipate Stops

You can't stop on a dime when you're driving on ice or snow. If you try it, you'll spin out for sure. Slow down gradually, well ahead of intersections where the going may be slippery; starting and stopping at crossings has a polishing effect on ice and packed snow.

Give yourself plenty of time and space to stop. Never jam on the brakes; you'll only go into a skid. Pump the brake with hard, rapid jabs. That way your wheels will keep rolling and you will be less likely to lose steering control. With disc brakes, make the brake applications less rapid.



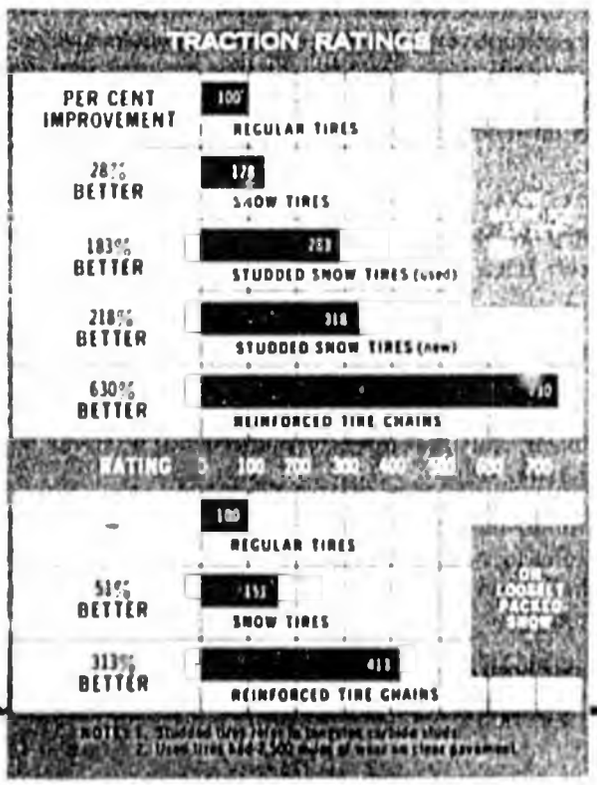
On the Road in Winter . . . Steer Steady

Speed, fast acceleration and abrupt steering movements are dangerous in winter driving. Sudden lane changes or sharp turns can put you into a spin.

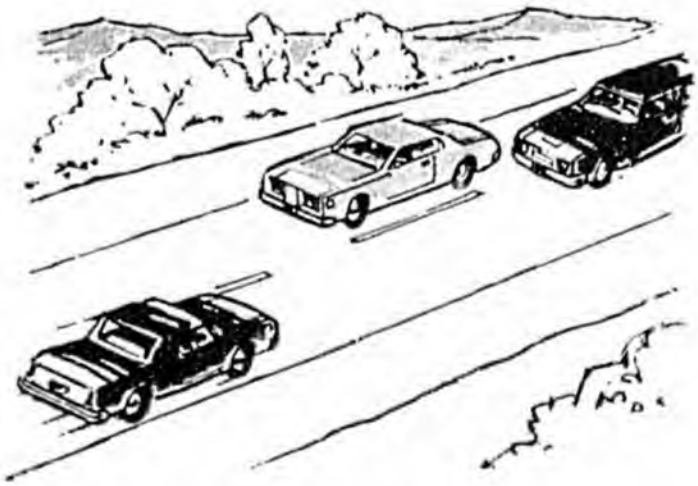
If you do go into a skid, take your foot off the gas and turn your wheels in the *same* direction the rear of the car is skidding. When you feel the car recover, straighten your wheels. Never hit the brakes when the rear end starts to slide.

Tailgating is always hazardous, but more so when the roads are slick. Increase your following distance. You'll need the extra room to make a safe stop. Take a look at these traction ratings.

Ice is twice as slippery at 30° as it is at 0°. Watch the temperature. And watch out for ice patches in shady areas and on bridge floors. If you hit an ice patch, hold the wheel steady and drive through. Decelerate, but don't jam on the brakes.



Driving Emergencies



Would You Know What To Do?

You're behind the wheel of your car, driving at a brisk clip on the open highway. Suddenly, a car from the opposite traffic lane swerves directly into your lane and speeds toward you on a collision course.

Would you know what to do? Or would you panic? Would you do the wrong thing, or would you choose the right defensive action to put the odds in your favor?

Emergency situations are a threat anytime you're at the wheel of your car. A panic reaction could be disastrous. Your very survival may depend on two things—your ability to stay calm, and your knowledge of the best defensive action to take. Obviously you can't "practice" an emergency driving situation. So the next best thing is to develop the skill and know-how beforehand—in your mind. You must visualize in advance emergencies that might confront you, and plan mentally the defensive action you will take. You can do this by studying the advice of the experts. Fix in your mind *now* what you should do if any of the following emergencies happen to you:

Your Brakes Fail

You step on the brake—and the pedal slaps uselessly on the floor. It's a terrifying experience!

If there is any resistance, pump the pedal. You may be able to work up enough pressure to help somewhat. If there is no pressure and the way is clear ahead, coast in drive gear and use the parking brake. If you need to slow faster, shift into lower forward gear and let engine compression help.

On a hill or mountain grade, you're in trouble. Look for something to sideswipe—roadside brush, a snowbank, a guardrail, even parked cars. (Dented sheet metal can be repaired.)

Use your horn or lights to warn other drivers and pedestrians that you are out of control.

You Go Into a Skid

Abrupt turns, sudden lane changes or hard braking can throw you into a skid, especially on wet or icy roads.

If your rear end starts to slide, take your foot off the gas at once. Your first instinct may be to turn hard away from the direction of the skid. Don't! That will *really* spin you into a crash.

Instead, turn your wheels in the same direction the rear of the car is skidding. But be careful about it; don't oversteer. You'll be able to "feel" when the car regains rolling traction. Then straighten the wheels.

By all means, *never* hit the brakes during a side skid correction. For the fastest stop with the least chance of causing a side skid, pump your brakes with a hard, *rapid* jabbing and releasing of the brakes. (Disc brakes require slower application.)

Your Accelerator Sticks

You let up on the gas pedal and nothing happens. Keep cool; this is one of the easiest emergencies to handle.

If you're on the open highway and there's plenty of room ahead, try to pull the pedal up with the toe of your shoe or have a front seat passenger do it. Don't reach down yourself and take your attention from the road. If there isn't time, simply turn off the ignition and brake to a stop.

But remember—with power brakes and steering, turning off the engine will make steering and braking hard work. Be ready for the stiffness and bear down.

If a quick stop or maneuvering is necessary, you *can* leave the power on and shift into neutral or depress the clutch. But get stopped in a hurry and shut off the engine at once; a motor racing without load can tear itself to pieces quickly.

You Have a Blowout

Keep a firm and steady grip on the steering wheel, and don't oversteer to correct swerve or pull. If a front tire goes, there will be a strong pull toward the side with the blowout. A rear blowout tends to cause weaving of the rear end. Above all, don't slam on the brakes! Brake smoothly—but easy does it. Sudden braking may throw you into a spin or out of control.

Get onto the shoulder and limp along until you find a place level enough to change the tire safely. A ruined tire is better than risking your life in a hazardous location. Day or night, set out flares or other warning devices and turn on flashers.

Your Headlights Go Out

If your headlights go out and you're suddenly plunged into darkness, hold a straight steering course and brake to a stop. Then ease onto the shoulder as far from a traffic lane as you can get. The idea is to pull your speed down before a steering error takes you off the road. Headlights are on a circuit breaker and should go on and off. Turning on emergency flashers gives you some intermittent light.

Once you are stopped, set out flares or reflective devices to warn oncoming traffic. Use the four-way flashers if they are operable.

Your Car Catches Fire

Although car fires are quite rare, a short circuit in the electrical system can cause a fire in the engine compartment. If you do have a fire, pull off the road quickly, shut off the ignition to cut electrical power and get all passengers safely away from the car. Do not attempt to disconnect the battery cables to cut electrical power since this is difficult without tools and would probably take too long to do any good. If you have a type C fire extinguisher designed for electrical fires, carefully open the hood and put out the fire. Never jerk the hood open since this will feed oxygen to the fire. If you don't have the proper type extinguisher, you can try to smother the flames with a heavy blanket or coat or use the jack handle to carefully remove the burning wires. However, remember that fighting any fire can be dangerous—especially if you don't have the proper equipment; if the fire is beyond your control, get away from the vehicle and flag down help.

You Must Stop On a Highway

On an expressway with paved shoulders, signal and pull off at near traffic speed, then slow down. Where the shoulder is unpaved, signal a right turn and slow down to a safe speed before turning off.

Leave low-beam headlights on at dusk, darkness or bad weather, turn on interior lights and four-way flashers if you have them.

If you must stop close to a traffic lane, on a curve, over a hill or in any risky location, get everyone out of the car and well away from traffic. By all means, don't obscure taillights at night by standing or working behind the car.

Day or night, place a flare or other warning device about 15 feet behind the car and another at least 300 feet back (that's about 120 paces). Raise the hood and tie a white handkerchief to the antenna or traffic-side door handle as a signal if you need help.

Your Hood Flies Up

Brake smoothly and ease onto the shoulder. You'll have to depend on the view from your left window for steering reference. Or on some cars you may be able to peek through the gap under the hinge edge of the hood.

Make it a habit after a service station stop to check whether the attendant securely latched the hood.

You Are On a Collision Course

Suddenly your blood chills! Another car is speeding toward you in your lane—a head-on crash looms!

Is he drunk, asleep, ill, inattentive—no matter. You'll need to keep all your wits about you to avoid the worst of all highway accidents.

Brake hard—every mile you take off your speed reduces the impact force. Head for the right shoulder and give him the entire road. If there's time, lean on the horn and flash your lights.

If he continues toward you, take the ditch or any open ground to the right free of solid obstructions. Remember that any alternative, even a roll-over, gives you a better chance than a head-on collision.

Whatever you do, don't try to outguess him and swerve to the left around him. He may recover at the last instant and instinctively veer back into his own lane—and hit you head-on.

Your Car Plunges Into Water

Submersion is about the most unpredictable of all auto accidents, both in the way the car will perform and the way people will react. Water causes more unreasoning panic than any other emergency.

A few tips have grown out of actual tests:

A car with windows and doors closed will float from three to 10 minutes. The best escape route is through a window. It is difficult to open a door against water pressure, but a window can be rolled down easily. Power windows may short out, so try to open them immediately. Tempered glass in the side and rear windows can be broken only with a heavy, hard object.

A front-engine car will sink nose first, and some air may be pushed to the rear near the roof. When pressure inside and out is equalized, it is easier to open a door.

Remember that three to 10 minutes is a lot of time in an emergency. If your safety belts are fastened so you won't be knocked out, and if you don't panic, there's usually time to escape.

Safety Belts Save Lives

The most important passenger protection feature in the American car is the safety belt system. Yet, it is estimated that less than 30 per cent of those who travel by automobile wear lap and shoulder belts regularly. As a result, each year more than 14,000 persons die in highway crashes that would not have been fatal if these victims had been wearing safety belts.

Millions of dollars have been spent trying to persuade motorists to "buckle up" voluntarily. The first country to adopt a law making the wearing of safety belts mandatory was Australia. Public acceptance of the law, and the decrease in driver and passenger fatalities and injuries following passage of this law, attracted worldwide attention.

The U. S. Department of Transportation and the National Safety Council have endorsed and encouraged the adoption of mandatory safety belt use legislation throughout the U. S.

On the horizon are passive restraint systems (such as airbags). But even with these, cars will still have to be equipped with safety belts.

In the meantime, wise drivers will use their safety belts voluntarily. They will not try to "short circuit" the buzzer reminder system. All drivers should support the enactment of belt use laws. They are intended to save lives. And they do.

Sense and Nonsense About Safety Belts

The reasons given for not using safety belts all have one thing in common—fallacy. See if you believe any of the following nonsense reasons for not using safety belts:

NONSENSE

"Safety belts are all right on long trips, but they're a nuisance when I'm just driving around town."

SENSE

Half of all traffic deaths occur within 25 miles of home, and at speeds of 40 mph or less.

NONSENSE

"Some people are thrown clear in a crash and walk away with hardly a scratch."

SENSE

The chance of surviving a crash is five times as good if you stay inside the car.

NONSENSE

"If my car catches on fire or goes into water, I don't want to be trapped by a safety belt."

SENSE

Fire occurs in only 0.2 per cent and submersion in only 0.3 per cent of all injury-producing accidents. Even then, your safety belt can increase your chances of escape by keeping you from being knocked unconscious.

NONSENSE

"Good drivers don't need them. I've never had an accident."

SENSE

Four out of five drivers in accidents never had one before. Besides reducing injuries and saving lives in accidents, safety belts are comfortable, give you better control, and make you less tired. Once the safety belt habit is acquired, you will automatically buckle up *every* time you get in a car.

First Aid in Traffic Accidents

At some time or other during your travels you may come upon a traffic accident. Many of them are serious and the persons involved may need help quickly. If you are trained in first aid, you will know what to do. If you are not a trained first-aider, it is important to remember that there are only a few things you can do.

1. If you are the first one on the scene, warn oncoming traffic.

2. As soon as possible, send someone to notify police and call for an ambulance, if needed. If in doubt, assume an ambulance is needed.

3. If someone arrives on the scene who is a first-aider, nurse or doctor, turn the responsibility over to him and offer your help.

4. If you are the only one who can help, here are some of the things you can do. As others arrive on the scene, ask them to help you.

   - Quickly examine the injured and help each in order of urgency. Try to help the injured where they lie.

   - If a person has stopped breathing, start artificial resuscitation at once.

   - To stop bleeding, a compress made from any clean cloth should be pressed directly over the wound. If one is not immediately available, use your bare hand. When the bleeding has subsided, find a cloth and then bandage and bind the wound snugly, but not too tight. Articles of your own clothing can be used to bandage wounds if necessary.

   - If bleeding is very severe, apply a tourniquet, but only tight enough to control bleeding. Tourniquets should not be used unless the alternative is probably death from loss of blood. Once a tourniquet is applied, it should not be removed and medical attention should be sought immediately.

5. Do not move the injured unless there is further danger of injury from traffic or fire. Unnecessary movement of a person with an injured neck or spine can complicate the injury, or even cause loss of life.

6. If removal is necessary, a person should be moved in the direction of the long axis of the body by the arms or shoulders, or by the feet. Move him carefully and as gently as possible. Use a blanket, coat or similar item as a skid if available and time permits.

7. Make the injured as comfortable as possible. The best position usually is flat on his back. Do what you can to prevent shock. Keep him warm. If the ground is cold, put a blanket or heavy garment under him. Elevate the legs eight to 10 inches. If the person is bleeding from the lower part of the face and jaw, turn him on his side. Do not give fluids, stimulants or alcohol.

8. The transportation of a seriously injured person to the hospital should be undertaken only by qualified persons, such as first-aiders, nurses or doctors. The victim must be prepared and handled properly, usually a task for more than one person. Transportation in a truck or station wagon can result in more injury unless the bed has been prepared to cushion the shock from the road and the vehicle is driven very slowly.

   The good samaritan at the scene of the accident must exercise sound judgment. A general rule is to do what you can for the injured at the scene but await the arrival of authorities and an ambulance to move the victims.

9. Cooperate fully with authorities, giving them any information about names and addresses you may have obtained, as well as your knowledge of the circumstances of the accident.

10. If there are fatalities, do not move or permit the bodies to be moved until the authorities arrive and take over. Coming upon an accident scene can be frightening, shocking and unnerving. You may be unable to help the injured, but even so, you can be of great help by warning oncoming drivers, directing traffic if necessary, and most of all, sending for help.

Remember, most states have laws that require you to stop and render aid in any way you can, unless authorities are already on the scene. If they are, don't complicate a difficult situation by forming a "gapers' block." Move on as officers direct.

Taking Care of Your Car

The modern automobile is a complicated device made up of some 15,000 parts, integrated into several systems —braking, suspension, steering, power, fuel, drive train, exhaust, cooling and electrical.

A car in which "all systems are go" is essential to safety because failure of the car's ability to move, turn, stop or be seen can involve you and others in an accident.

The average driver needs more knowledge about his car and the importance of each system—how it functions, early symptoms of malfunction, and what corrective action to take. A car-wise driver can save himself many a headache on the road, stay out of accidents, save money and get better service from his service man.

Here are some things the defensive driver should know to build up his fund of car lore:

1. Read the owner's manual. Re-read it occasionally.
2. Read the automotive news sections of your newspaper and magazine articles about car care.
3. All of the major manufacturers have consumer information and customer service departments whose function is to make a driver more knowledgeable about his car and its needs. Write to them for information. You also can write to the following organizations for helpful literature:

   Automotive Information Council Handbook
   P. O. Box 7593
   Chicago, Illinois 60677
   (35¢ per copy)

   Car Care Council
   2130 Buhl Building
   Detroit, Michigan 48226

4. Form the habit of performing more of the routine inspection and maintenance tasks yourself. This will add to your interest and knowledge and should result in your having a better maintained and safer car.
5. Take a car-care course in a local high school evening class.

Vehicle Condition and Defensive Driving Technique

A car that is in top running condition is safer, more responsive and gives you a more comfortable ride. Various parts of your car contribute to your Defensive Driving Technique as follows:

DEFENSIVE DRIVING TECHNIQUE

	OBSERVATION	COMMUNICATION	NAVIGATION	COORDINATION	CONSIDERATION
BRAKES				X	
STEERING SUSPENSION			X	X	
SHOCK ABSORBERS			X		
TIRES				X	
LIGHTS	X	X		X	X
HORN		X			X
GLASS/MIRRORS/DEFROSTER	X				
WIPERS/WASHERS	X				

Steering and Suspension System

Several parts and operating systems are involved in your ability to steer the car, and they are all connected or interrelated in some fashion. If one or more of the parts are bent, damaged, too loose or too tight, it can affect the entire steering system.

SHOCK ABSORBERS

These are designed to dampen or "absorb" the shock of a bump and keep the wheels on the road. They also help keep the car level on turns and uneven road surfaces. Test your shocks by pushing down on each corner of the car body and releasing the car. If the car bounces more than one time before stabilizing, new shocks are probably needed.

STEERING WHEEL

If play in the steering wheel exceeds two inches, it calls for adjustment or repair of loose or worn parts. Have the system inspected by a trained mechanic.

WHEEL ALIGNMENT

This is the angular setting of the front wheels in relation to the steering and suspension parts. Correct front wheel alignment will insure a straight forward course, and it will greatly lessen tire wear.

Braking System

The braking system of your car is designed for one purpose: to stop two tons of metal when you want it stopped. It is probably the single most important safety feature in an automobile.

There are two kinds of brakes—drum and disc. In the drum brake, shoes are pushed against the inner surface of drums and the resulting friction stops the car; in the disc brake, a disc replaces the drum and caliper pads squeeze the disc when the brakes are applied. Many autos are equipped with power brakes which do not stop the car any faster than mechanical brakes, but make braking easier for the driver.

Some tips on brake care:

1. Unless you must make an emergency stop, don't jam on the brakes. Anticipate stopping and brake lightly but steadily. Hard application causes wear.

2. When driving down steep hills, shift to a lower gear. Do not ride the brakes.

3. Check the level of brake fluid each time you have your oil checked. Have brake linings inspected at least once a year.

Tires and Tire Care

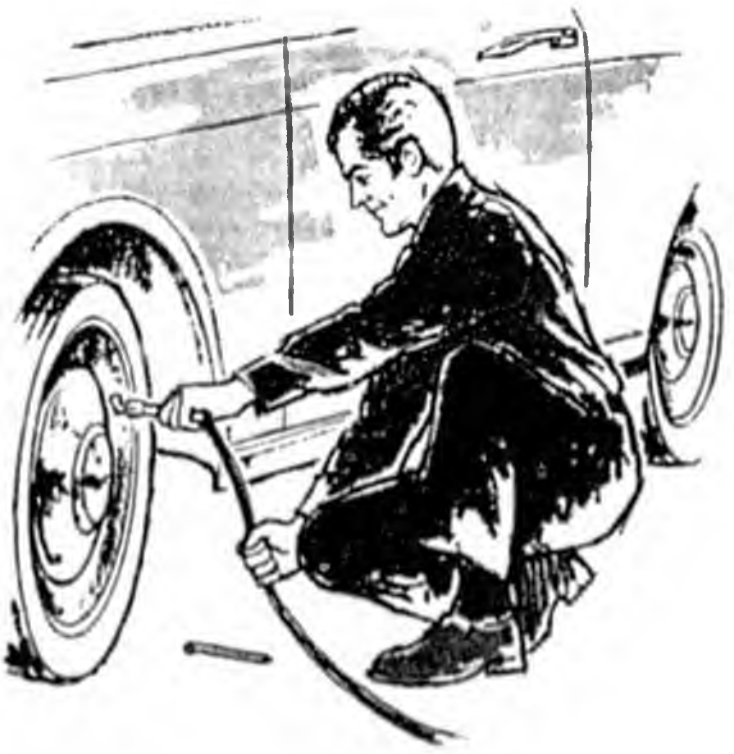
Tires act as the primary bump absorber between the car wheels and the road. They provide driving traction and steering control. They have to grip the road when you apply the brakes so the car will stop. Here are some special tips on tire care:

1. Correct tire inflation provides better traction and braking, easier steering, better cornering, extra insurance against blowouts and longer tread life. Check air pressure at least once a month and before setting out on long trips, but only when the tires are cool. Cold pressure means the vehicle has not been driven for at least three hours or it has been driven slowly less than one mile after standing for three hours or more.

2. During winter months check inflation more frequently, because readings change by approximately one pound for every 10° variation in temperature.

3. Keep an accurate tire gauge in your glove compartment; hose gauges at service stations can be very inaccurate.

4. Check front tires occasionally to detect uneven wear that may denote poor wheel alignment. Good treads provide the multiple road gripping edges vital to traction and to channel off water between the tread and the road in wet weather driving, thus reducing the danger of hydroplaning.



Trip Tips

Make a Trip Plan

ITINERARY

Write state capitals for official touring information; contact an oil company touring service; request a complete trip plan from your auto club. From these sources work out your route to cover all the places you want to visit. But allow for flexibility—time for unplanned side trips that can be the most memorable parts of your journey.

How far to go in a day? That depends on the driver, whether you can be relieved at the wheel, the kind of roads, how often you stop. On older roads, 300 miles a day may be a safe maximum (that's six hours on the road at a 50 mph average). On turnpikes and interstate highways, considerably more mileage can be rolled up. But where traffic is heavy, roads are winding or sight distances are poor—or where scenery is an important part of the day's travel—hold the mileage down for greatest safety and enjoyment.

BUDGET

A couple should budget about $50 a day to cover meals, a night's double-room lodging, gas, oil and normal car maintenance, plus $5 to $8 a day for incidentals. Taking along a couple of teenage children could raise the tab to about $70 a day. Camping out, on the other hand, can cut daily expenditures by about half, especially if you picnic frequently at roadside parks and take it easy on unnecessary expenses. It's up to you and your pocketbook. But be sure you do estimate expenses. Enjoy the trip without money worries.

CHECK LIST

A week or so before you start, begin making a list of things to take along. Add other items as they come to mind. Use the list as a checkoff when you pack and load the car; it's the only way to avoid forgetting something essential.

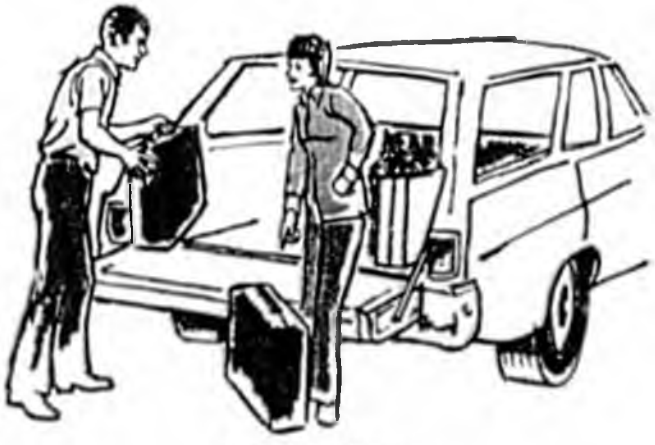
Safety Check Your Car

Before you leave, get complete maintenance service—with emphasis on *safety*. A stall on today's high-speed roads can be a frightening and dangerous experience. So if you're not happy with your car's start, idle or road performance, tell your mechanic. A tune-up before setting out may prevent a breakdown in a hazardous place or towing expense later.

Tell your serviceman you're going to take a trip. Ask him to make a complete safety check covering:

Tires (including spare), steering, brakes, hoses and belts, exhaust system, windshield wipers and washers, all lights, front-end alignment and fluid levels (water, oil, master brake cylinder, power steering reservoir, transmission, differential, battery).

A lengthy trip at sustained speeds means *safety up*, not just *gas up*.



Packing Pointers

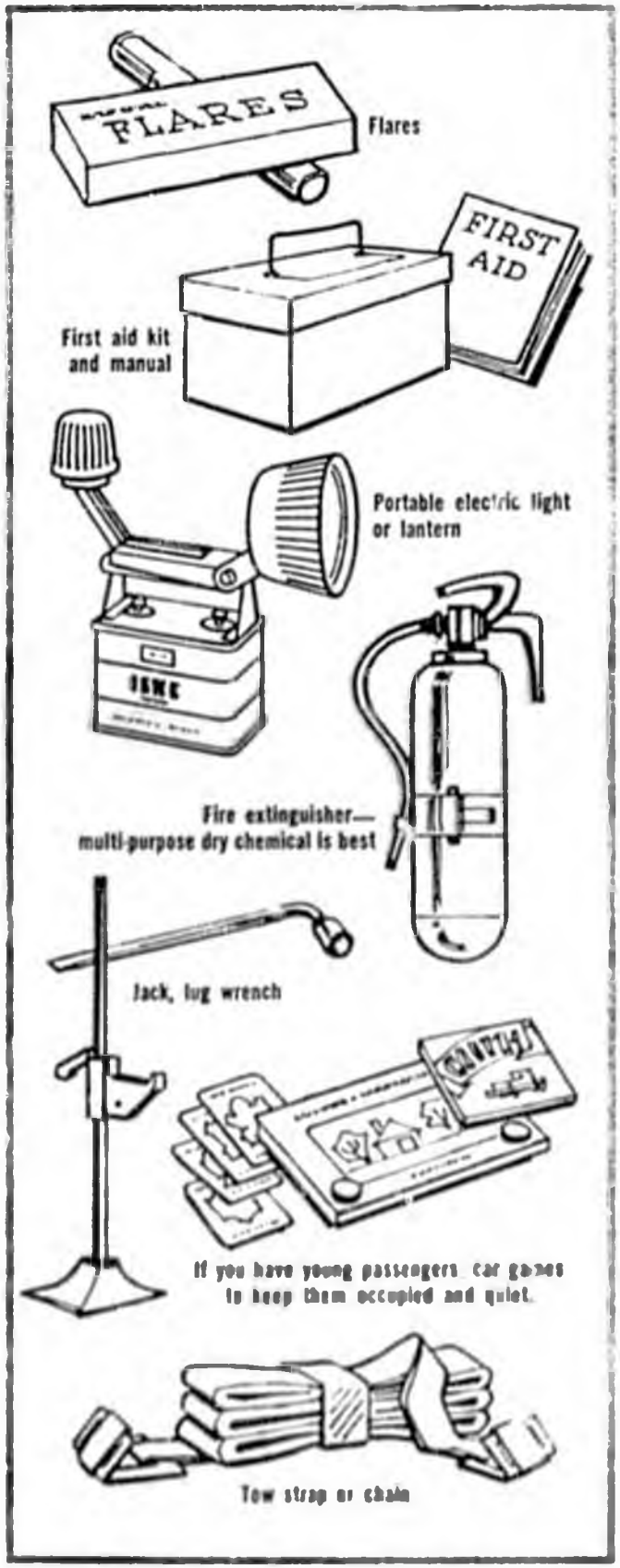
A heavy load changes the handling characteristics of your car, so don't expect the performance you are accustomed to in no-load driving. Acceleration will be more sluggish. Stopping distances will be greater. And you'll find increased sway on curves. More room for passing and stopping will be needed.

Load the car so that you don't block rear-corner vision or the rear-view mirror. A heavy trunk load can dangerously affect steering and headlight aim. This is especially hazardous in rain when the shift of weight balance from the front wheels can contribute to hydroplaning and loss of steering control. A top carrier or a small trailer may distribute a heavy load better.

By all means, keep hard, pointed or heavy objects off the rear shelf. In a minor collision or even a sudden stop, they can become lethal missiles. Proper tire inflation and adequate tire size are all important considerations when carrying extra cargo. You may need additional air pressure, or larger tires may be necessary for safety. But be sure to consult your owner's manual or check with your car dealer.

Emergency Equipment

Highway troubles are rare for the modern motorist, but they do happen. Here's what the wise driver keeps in his car for possible on-the-road emergencies:



Car Trouble

Your car can be stopped by:

1. Empty fuel tank
2. Overheating
3. Electrical failure
4. Flooded carburetor
5. Wet ignition
6. Fuel system dirt
7. Vapor lock
8. Broken fan belt
9. Frozen gas line

Most stalls you can handle. Here's how:

1. Check your gas gauge. If it reads "Empty," do not attempt to re-start the engine until the tank is refueled.
2. If the engine overheats, stop in the shade if possible. Put transmission in neutral or park. Lift the hood. If the fan belt is tight and hoses are not leaking, run the engine at fast idle. If you have air conditioning, shut it off. Turn on heater to help dissipate engine heat. If temperature does not return to normal after a few minutes drive slowly to the nearest service station, stopping for 15 minutes every couple of miles.
3. Electrical failure usually means a blown fuse or opened circuit breaker, a loose or broken wire or corroded or loose battery terminals. If everything is dead, the trouble is with the battery, battery cables or connections. Remove cables and clean battery terminals. Check tightness of cable connections to starter and engine block. If only the headlights are out, the circuit breaker has opened. It is heat-actuated and will open and close, giving intermittent light that will help you get off the road until the trouble is corrected.
4. Gas odor means a flooded engine. Remove the air filter, flip the choke open, crank the engine with accelerator pedal fully depressed. Engine will dry out and start. (Don't drive with air cleaner off, it also acts as a flame arrester).
5. Wet ignition can short out, causing the engine to miss or stall. Dry off top of ignition coil, inside of distributor cap, and all cables and spark plug porcelain with a rag.
6. If a fan belt breaks, the engine will overheat and the generator or alternator and air conditioner will quit. Stop to let the engine cool off (about 15 minutes), then proceed slowly to the nearest service station, stopping from time to time to cool the engine.
7. Gas line freeze is caused by the accumulation and freezing of moisture, usually in low spots of the fuel line. If waiting doesn't bring a thaw, you'll have to get a tow to a warm garage. Keeping a full gas tank will help prevent condensation.

Safety and Conserving Energy Go Hand-In-Hand

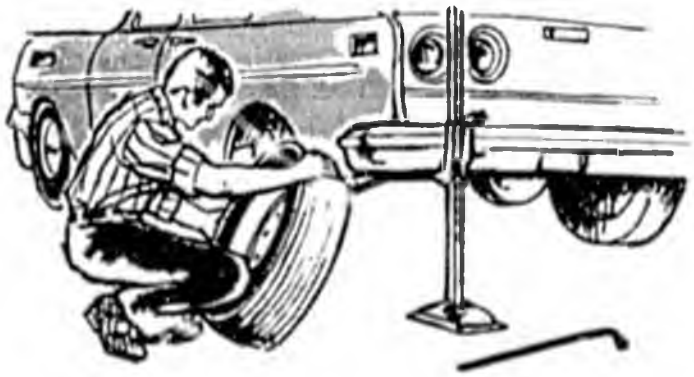
Now that fuel may not be as plentiful as it once was, here are a few tips on saving gasoline and enhancing your safety at the same time:

Drive Slower—Driving at 55 mph instead of 70 mph reduces fuel consumption 20 per cent. Even reducing your speed from 55 to 50 mph saves 10 per cent of your gas.

Drive Steadily—Speeding up and slowing down uses more gas than does driving at a steady pace. Avoid a lot of passing or surges of speed.

Think Ahead—Look Ahead—If the light ahead is red, ease into a stop instead of jamming on the brakes. It may turn green before you reach it. This kind of long-view driving can save around 20 per cent of the gas you use in the city.

Go Easy—Don't be tempted to make jackrabbit starts. They're gas-wasters. So is "drag racing"—keeping your car in first or second gear and flooring the accelerator. Besides, such heavy-footed driving certainly is not the mark of a defensive driver.



How To Change a Tire in Ten Minutes

A tire change places you and your car in danger. Here's how to do it quickly and get moving again:

1. When a tire goes flat, steer firmly and guide the car well off the road. *Don't slam on the brakes.*
2. Set the parking brake *tight*. Chock the wheel diagonally opposite the flat. Get out the jack, lug wrench and spare tire.
3. Pry off the wheel cover with the chisel end of the lug wrench. Slightly loosen each lug nut.
4. Place the jack on firm ground, making sure it is perfectly vertical. See your owner's manual or the instruction sheet sometimes on the under side of the trunk lid for directions on using the jack. Pump jack until the wheel is off the ground two to three inches.
5. Remove the lug nuts, place them in the wheel cover for safekeeping.
6. Lift the wheel off, replace it with the spare and screw lug nuts on until snug.
7. Lower the car until the tire just touches ground. Then tighten nuts hard and finish jacking the car down. Replace wheel cover.

WARNING

A bumper jack is only for tire changing. Never crawl under a car when it is on a bumper jack.

When Your Car Won't Start

If you know you're not out of gas, do these things:

Check to make sure your gear selector is in "N" (neutral) or "P" (park). Jiggle the lever from one position to the other. Often a balky neutral safety switch can be freed this way.

Turn off the radio, lights and everything electrical. This relieves the battery of excessive drain.

Wait a full minute. This rests the battery.

Activate the automatic choke according to instructions in owner's manual.

Turn the starter key and hold it until the engine starts, or for five to 10 seconds. If the engine still won't start, it may be flooded. An odor of gasoline may be a clue to flooding.

Wait two or three minutes. Then press the accelerator all the way to the floor and *hold* it there. Crank the engine again. Never pump the accelerator; this will only cause worse flooding. When the engine starts to "catch," the cylinders may not all fire evenly at first. Don't pump—keep your foot steady on the gas pedal until the engine smooths out. Then let up on the accelerator, but idle at least 30 seconds before starting off.

People Emergencies—and how to handle them

YOU NEED A DOCTOR

Observe speed limits but hurry to the nearest town. Flash your headlights at any patrol car you see along the way, then pull over and park. Officer will escort you. Without such help look for a policeman as you drive into town, or stop and ask directions to the nearest hospital, clinic or doctor. At the hospital, look for the "Emergency" sign and drive directly to that entrance.

If You Have an Accident and Are Not Disabled

Stop at once near the scene but away from traffic.

Help the injured but don't move anyone unless necessary. Give first aid only if you are qualified.

Protect the scene by clearing the road if possible, and putting out flares or warning signals.

Notify police or sheriff if there are injuries or property damage.

Get name and address of other driver and owner and license number of other vehicle.

Get names and seating positions of other occupants if you can.

Write down names and addresses of witnesses.

Make a diagram of the physical details of the accident. If possible, take pictures.

See a doctor at the first opportunity; you might be injured and not know it.

Report to your insurance company immediately.

File an official accident report with the state.

Do You Know That—

1. Even before the arrival of police, it's permissible to move cars if they are a traffic hazard.
2. You are required to tell only your name and address and show your driver license and vehicle registration. The law recognizes that you may be in a condition of shock and not competent to make a statement.
3. You don't have to make statements to anyone except proper authorities.

Towing a Trailer

Towing a trailer, boat or house trailer requires special skill and added caution on the road. The extra overall length must be taken into consideration. Some safe trailering pointers:

EQUIPMENT

A strong hitch is essential. Make sure it is installed so that when your trailer is attached and tightened, the tongue of your trailer tracks on a horizontal plane with the road. Be sure your hitch is welded or bolted to the frame of your car and has the correct ball coupling. (A bumper hitch is only suitable for short-haul, light trailering.) Connect safety chains. Check the brake connections to the trailer, and see that trailer lights are in working order.

STARTING

Always start slowly. Check traffic. Signal that you intend to move into traffic lanes.

TURNING

When turning corners, stay in the center of your lane, *close to, but not on* the centerline. On right turns, look in your right mirror, signal and slow down. Move forward until the car's front wheels are well ahead of the intersection curb, then turn right. On left turns, observe traffic, signal and proceed slowly well into the intersection. Swing wide to allow for trailer to track with adequate clearance.

PASSING

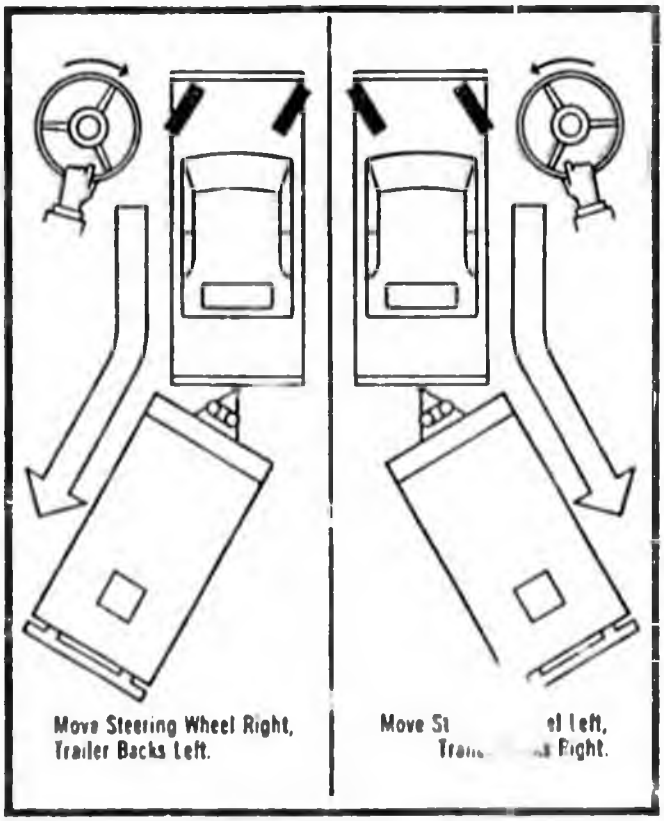
Remember that your car and trailer combination needs more room and more time to pass than a car does. On two-way roads, make sure you have at least half a mile of unobstructed road ahead. Check your mirrors on both sides. Be well ahead of the vehicle to be passed before moving back into your lane. When being passed, help other drivers to pass you where it is necessary. Try not to hold up a line of traffic.

STOPPING

Stop gradually. A sudden stop may jacknife your trailer. When preparing to stop, get into the slower lane.

BACKING

Always back slowly, with only small corrections of the steering wheel. To back a trailer right, turn the front wheels of your car left; to back left, turn car wheels right. Practice backing in a safe open area, such as an empty parking lot.



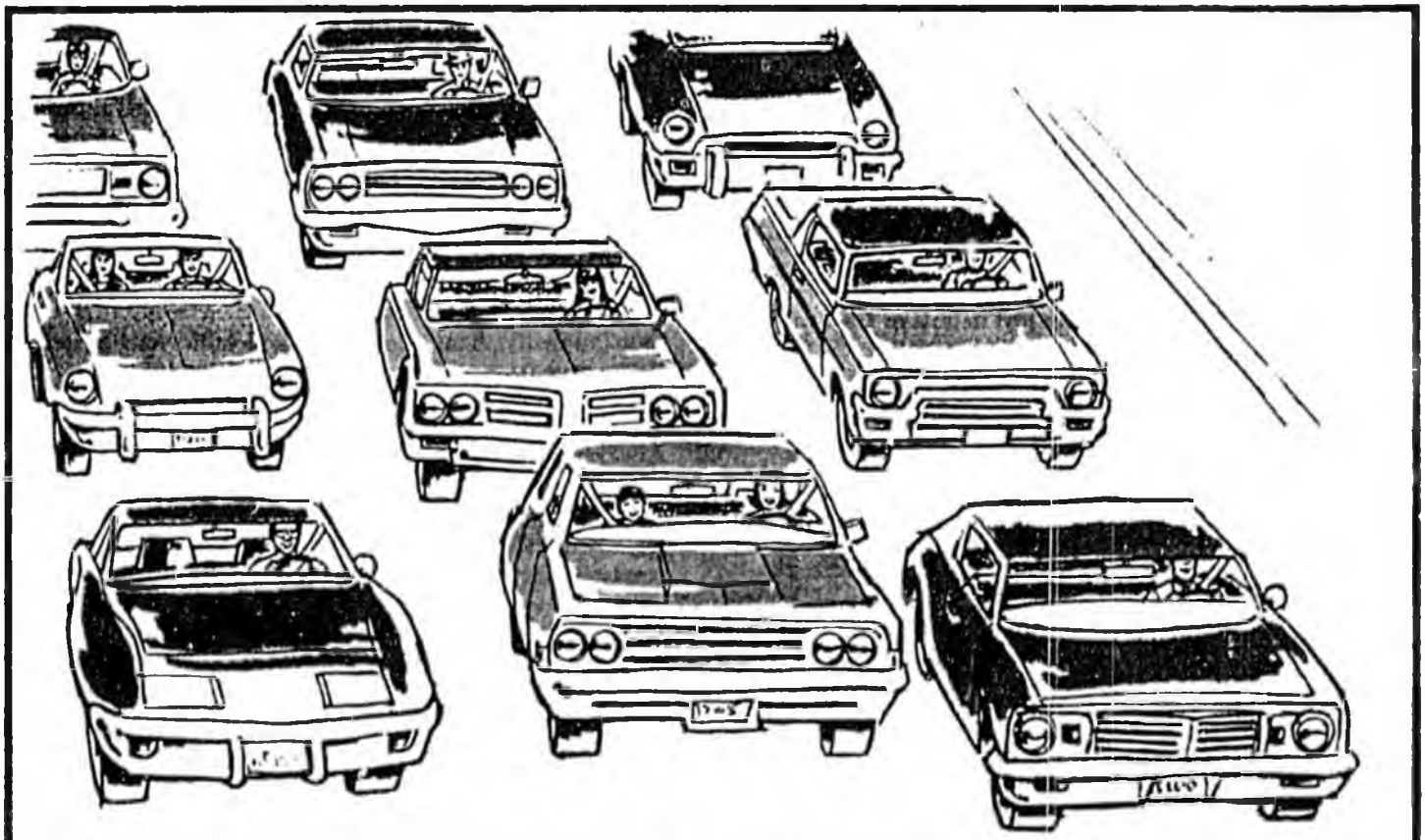
IF YOUR TRAILER FISHTAILS

Swaying occurs because of wind or passing vehicles. When this happens, depress accelerator slightly and apply trailer brakes. *Do not let up on gas or apply car brakes.*

FOLLOWING DISTANCE

Allow one second following distance for every 10 feet of your car-trailer unit combined. If your combination is 30 feet long, allow a three-second interval.

You and Total Highway Safety



Traffic accidents and their toll in needless death, personal injury and property damage affect all of us and constitute one of the leading social problems of our time. There is no simple solution. The problem must be attacked in a balanced program that mobilizes all of the accident countermeasures available in our national community.

While the control of traffic is the responsibility of official agencies, the individual also has a vital role.

On the highway, your immediate safety and that of your passengers is largely in your own hands. Many of the safety problems that arise in the course of a routine trip can be dealt with directly and effectively by driving defensively. But there are numerous other safety factors not under your control—road design and maintenance, speed limits, visibility factors, etc.—that can affect your trip for better or worse. Most of these factors are the responsibility of official agencies. How well the agencies deal with them often depends on the degree of citizen understanding and support for safety measures within a given jurisdiction.

It is a political fact of life that government agencies will not extend their role in traffic safety beyond that which the public finds acceptable. As an individual, you contribute to the quality of this political climate by your everyday acts as a citizen, taxpayer, voter and consumer and/or as a member of an active citizen support group.

Maximum control of traffic accidents and their effects in any given geographical area depends upon a partnership between the citizens and their official agencies in a comprehensive traffic safety program involving these three traffic concerns:

Prevention—Measures taken by individuals and officials to prevent traffic accidents from occurring in the first place.

Mitigation—Measures taken by individuals and officials to protect against or reduce the severity of personal injuries if an accident occurs in spite of preventive efforts.

Rehabilitation—Measures taken by individuals and officials to insure prompt and adequate medical aid to the injured, to remove accident debris, and to restore the roadway to safe operating condition after a traffic accident.

What individuals and officials can do in each of these three phases of an accident control program is shown in the accompanying table.

THREE POINTS OF ATTACK ON TRAFFIC ACCIDENTS

PREVENTION

What You Can Do

Take the Defensive Driving Course.

Apply defensive driving principles on the highway.

(Experience in professional vehicle fleets has demonstrated that group accident rates can be cut in half by the conscious practice of defensive driving by all drivers in the group.)

Maintain your vehicle in good condition.

Support meritorious official programs.

Can you think of other things you could do to prevent accidents?

What Official Programs Are Doing

Motor vehicle registration

Motorcycle safety

Codes and laws

Alcohol in relation to highway safety

Identification and surveillance of accident locations

Emergency medical services

Traffic engineering services

Pedestrian safety

Police traffic services

Debris hazard control and cleanup

Pupil transportation safety

Accident investigation and reporting

Can you think of other things official programs could do to prevent accidents?

MITIGATION

What You Can Do

Equip your vehicle with accepted safety devices.

Keep doors locked.

Use safety belts at all times.

Make sure passengers use safety belts. (It is estimated that as many as 3,500 lives were saved in a recent year because the persons involved in crashes were wearing safety belts. If everyone involved in accidents had been wearing safety belts, it is estimated that 14,000 lives would have been saved.

Can you think of other things you could do to minimize injuries in a motor vehicle accident?

What Official Programs Are Doing

Federal safety standards for motor vehicle manufacture, such as the energy-absorbing steering column, padded interiors, side rails, roll-over protection, penetration-resistant windshields.

Removal of roadside hazards.

Can you think of other things official programs could do to minimize injuries in a motor vehicle accident?

REHABILITATION

What You Can Do

Know first-aid procedures.

Keep a first-aid kit in your car.

Have emergency equipment in your car, such as flares, portable electric lights, etc.

Support official programs.

Can you think of other things you could do to provide faster, better medical aid to the injured?

What Official Programs Are Doing

Emergency communications.

Emergency medical services.

(Physicians estimate that from 10,000 to 20,000 persons die annually in traffic accidents for lack of prompt, adequate medical care.)

Identification and surveillance of accident locations.

Debris removal.

Can you think of other things official programs could do to insure faster medical service to those injured in traffic accidents?

The Problem of Automobile Theft

Excluding his home, probably the most expensive single item the average person buys is an automobile, and automobile purchases, maintenance and operating expense during a lifetime may even exceed the cost of a home. Unlike your home, your car is mobile and often must be left unattended on the public streets where it can be stolen.

Criminals and joy-riding youths recognize the vulnerability and value of a car. Almost 1,000,000 cars are stolen each year in the United States—more than two every minute. Although there are more cars on the streets every year, thefts have risen at a rate more than three times that of vehicle registrations.

More than 86 per cent of the vehicles stolen each year are recovered. However, the value of the 14 per cent not recovered exceeds $100,000,000. And the 86 per cent that are recovered frequently are returned to the owner with serious damage.

Stolen cars are also a threat to other drivers. A study conducted by the U. S. Department of Justice revealed that 17 per cent of all stolen cars become involved in accidents after the theft. That is over 200 times the normal accident rate.

How Can You Prevent Your Car from Being Stolen?

There are 10 steps you can take to lessen the chance of being victimized. Close attention to each of these steps will almost guarantee the thief will bypass your car in search of greener pastures:

1. When you park, close all windows and lock the ignition (and steering wheel if possible) and all doors. Take the key with you. This simple act will prevent most thefts. A study showed that more than three-quarters of all cars stolen were parked unlocked, and almost three-fifths of such cars had the key in the ignition.
2. Do not leave packages, bags or valuables visible in a parked car. Even an empty bag or box will attract a thief. Place all these items in the trunk, but don't do it when you leave the car. You can be observed, so do it at another location.
3. Park in well-lighted, busy areas. Avoid dark alleys and shaded sidestreets.
4. Install an alarm in your car.
5. Guard your car keys. If a thief can obtain temporary possession, he can duplicate them.
6. Do not leave your driver's license in the glove compartment. This along with the car registration is convincing evidence that the thief owns the car.
7. When you enter your car, immediately lock all doors to prevent an intruder from entering.
8. Do not pick up hitchhikers.
9. Be sure you get a claim check when parking at a lot or garage.
10. Buy your car and parts only from reputable dealers. Do your bit to close the market for stolen items.

The Problem of Litter

What does litter have to do with defensive driving? Being a defensive driver involves more than just skillful manipulation of a vehicle. It means being a responsible, courteous and mature citizen. It means obeying all laws, including those against littering. Tossing trash from an automobile shows a contempt for law that can indicate equal contempt for traffic rules.

Litter is an eyesore, as well as a health and safety menace. It destroys the natural beauty of the countryside, drives away tourists, lowers property values and can cause accidents.

One state reported 621 accidents caused by vehicles striking or swerving to avoid foreign objects on the road. Of these, 261 resulted in personal injury and 360 in property damage with an economic loss of $611,000. Litter may be the direct cause of many "mystery crashes."

What Can Be Done About Litter?

What most litterbugs don't realize is that every scrap of paper, every used matchbook, every empty can or bottle are like grains of sand that finally make up a dune. Curtailing litter must start with the individual, much like defensive driving which also starts with the individual. Each person must accept the responsibility and vow that "litter spreading stops with me."

The most important anti-litter device for the individual motorist is a litterbag or other portable container kept in the car. Once the practice of keeping a litterbag has been established, the motorist will find he is no longer tempted to toss a gum wrapper or tissue out the window. By practicing such motoring manners, the driver will demonstrate the courtesy that marks a safe, thoughtful driver, and he will be cooperating with the many national and local organizations whose efforts are directed toward keeping our highways and recreation areas clean. And he will not be contributing to someone's accident.

Glossary/ DRIVER IMPROVEMENT PROGRAM

ACCELERATION LANE—A speed-change lane for the purpose of enabling a vehicle to increase its speed to a rate at which it can more safely merge with through traffic.

ACCIDENT—An event, occurrence or happening which is unexpected or undesigned, which has an element of chance or probability, and which usually produces unintended injury, death or property damage.

ACCIDENT PREVENTION FORMULA—A three-step, time-honored method of avoiding accidents. It consists of: (1) recognizing the hazard, (2) understanding the defense, and (3) acting in time.

ACCIDENT REPORT—The description and details of an accident, usually reported on a standard form, for the purposes of determining guilt and/or preventability and compiling accident statistics as a guide for countermeasures.

BICYCLE—A device propelled by human power, having two tandem wheels both of which are more than 20 inches in diameter.

BLOOD-ALCOHOL CONCENTRATION—The percentage of alcohol in a person's bloodstream, used by enforcement agencies to determine the degree of a driver's intoxication. In most states, a BAC of .10 per cent is prima facie evidence of intoxication. If your total blood supply were equal to 1000 drops, this would mean 1 drop worth of pure alcohol.

BRAKE DETONATOR DEVICE—An instrument used to demonstrate and measure reaction, braking and stopping distances by firing a marker on the pavement when brakes are applied.

BRAKE FADE—A temporary reduction of brake effectiveness resulting from heat.

BRAKING DISTANCE—The total distance traversed by a vehicle while it is being brought to rest, measured from the position of the vehicle at the instant the brake shoe touches the brake drum.

BRAKING TIME—The time elapsed between the instant of first applying the brakes and the instant at which the vehicle comes to rest.

BYPASS—A highway intended to divert through traffic from a particular area by going around or passing by the area.

CAR LENGTH—The measurement in feet of an average automobile. Usually used in the abstract sense to measure the distance between two vehicles, especially when determining following distance. When used in this sense, a car length should never be figured at less than 20 feet.

CAUSE (of accident)—A combination of simultaneous and sequential circumstances without which the accident would not have happened.

CENTRIFUGAL FORCE—The component of apparent force on a body in curvilinear motion that is directed away from the center of curvature. This is responsible for the "pull" of an automobile going around a curve or corner.

CONTRIBUTORY NEGLIGENCE LAW—A statute providing that a driver may not recover damages resulting from another's negligence in a motor vehicle accident if he also contributed to the accident by his own negligence.

CRITICAL APPROACH SPEED—At an intersection, that speed above which a vehicle does not have sufficient distance to stop in time to avoid collision with another vehicle approaching the intersection on the cross street.

CURB—A vertical or sloping ledge along the edge of a pavement or shoulder forming part of a gutter, strengthening or protecting the edge, and clearly defining the edge to vehicle operators.

DAYTIME—Including twilight, from a half hour before sunrise to a half hour after sunset.

DECELERATION LANE—A speed-change lane for the purpose of enabling a vehicle that is to make an exit from a roadway to slow to a safe speed for the turn or exit ramp after it has left the main stream of faster-moving traffic.

DEFENSIVE DRIVING—Driving to prevent accidents in spite of the incorrect actions of others and adverse conditions.

DISCOURTESY—One of the errors which makes driving unpleasant and more hazardous, and which defensive drivers must avoid.

DRIVER IMPROVEMENT PROGRAM—[illegible] tional Safety Council program with the [illegible] saving lives and preventing injuries a[illegible] damage due to traffic accidents, chie[illegible] ministering the Defensive Driving Cou[illegible]

DRIVER-JUDGMENT DISTANCE—T[illegible]ce a vehicle travels during driver-judgme[illegible]

DRIVER-JUDGMENT TIME—Time required by a driver to appraise a situation, deciding on its threatening potential, immediately after perceiving the situation and immediately before reacting to it.

DRIVING UNDER THE INFLUENCE—Operating or being in physical control of any vehicle while faculties or judgment are impaired by ingested alcohol of any kind.

ELEMENTS OF DEFENSIVE DRIVING—Five elements which a defensive driver must possess and use at all times are: knowledge, alertness, foresight, judgment and skill.

EVASIVE ACTION—The response of a driver to a dangerous situation that has been perceived.

FATAL ACCIDENT—An accident that results in the death of one or more involved persons within 12 months of the date of the accident.

FINANCIAL RESPONSIBILITY—A driver's or car owner's ability to pay up to a legally limited amount for damage caused by negligence in driving. It may be in the form of property, a bond or liability insurance.

FIXED OBJECT—An obstruction hit by a vehicle, which accounts for approximately 5 per cent of all traffic deaths each year. Fixed object collisions are an accident classification covering vehicles that strike a light standard, bridge abutment or like objects immediately adjacent to the roadway.

FLASHING RED—A red lens illuminated by blinking intermittent flashes. A driver of a vehicle must stop before entering the nearest crosswalk at an intersection or at a stop line when marked, and the right to proceed shall be subject to the same rules relating to stopping at a stop sign.

FLASHING YELLOW—A traffic signal indication for which a yellow lens is illuminated with intermittent flashes to signify that drivers of vehicles may proceed through the intersection or past such signal only with caution.

FOLLOWING DISTANCE—The distance from the front of a vehicle to the rear of the car ahead in the same traffic lane.

FOUR-STEP PRESCRIPTION—Four rules used by defensive drivers to guard against the headon crash are: (1) read the road ahead, (2) ride to the right, (3) reduce speed and (4) ride right off the road.

FRONTAGE ROAD—A roadway contiguous to and generally paralleling an expressway, freeway, etc. so designed as to intercept traffic desiring to cross or enter such facility and to furnish access to property which otherwise would be isolated as a result of the controlled-access feature.

GRADE SEPARATION—A crossing at different levels of two highways or a highway and a railroad.

GRADIENT—The rate of rise or fall with respect to the horizontal along the length of a road, or a length of road which is not level.

GUARDRAIL—A highway safety device consisting of posts and rail members, or of wall sections, erected at the sides of a roadway to mark points of major hazard and to restrain out-of-control vehicles.

HEADWAY—The time interval between passages of consecutive vehicles, measured from head to head, moving in the same direction as they pass a given point.

HIGHWAY—The entire area included within the right-of-way of a public way for purposes of vehicular travel in rural areas, or in urban areas where there is comparatively little access and egress, and generally a way between prominent terminals.

HYDROPLANING—A phenomenon whereby automobile tires lose contact with the road and the automobile rides up on a wedge of water between the tires and the road. This occurs when the right combination of speed, road surface, water volume, vehicle weight and tire tread is present.

IMPLIED CONSENT—Under this law, prevailing in all states, a driver by virtue of his possessing a driver's license consents to a chemical test if arrested for an offense involving drinking and driving.

INNER LANE—The left lane in one direction on a road with two or more lanes in that direction.

INTERCHANGE—A system in conjunction with a grade separation of interconnecting roadways providing for the interchange of traffic between two or more roadways or highways on different levels.

INTERSECTION—The area embraced within the prolongation or connection of the lateral curb lines, or, if none, then the lateral boundary lines of the roadways of two highways which join one another at, or approximately at, right angles, or the area within which vehicles traveling upon different highways joining at any other angle may come in conflict.

INTERSTATE SYSTEM—A national network of 41,500 miles of arterial, limited-access highways which, according to Congressional directive, shall be "so located as to connect by routes, as direct as practicable, the principal metropolitan centers to serve the national defense, and to connect at suitable border points with routes of continental importance in the Dominion of Canada and the Republic of Mexico."

JUNCTION—The general area where two or more highways join or cross within which are included the roadway and roadside facilities for traffic movements in the area.

LOCAL TRAFFIC—That part of the traffic circulating within a given area having both origin and destination within the area.

MEDIAN—The portion of a divided highway separating the traveled ways for traffic in opposite directions.

MERGING—The process by which drivers in two separate traffic streams moving in the same general direction combine or unite to form a single stream.

MOTORCYCLE—A motor vehicle having a seat or saddle for use of the rider and designed to travel on not more than three wheels in contact with the ground.

MOTOR SCOOTER—A motor-driven vehicle with two wheels less than 18 inches in diameter.

MOTOR VEHICLE—Every vehicle which is self-propelled or is propelled by electric power obtained from overhead trolley wires but not operated on rails.

MOVING VIOLATION—A violation of any law, ordinance or regulation affecting the use or protection of streets or highways enacted primarily to regulate safe movement of vehicles and pedestrians.

MYSTERY CRASH—The run-of-the-road accident which accounts for approximately 30 per cent of all traffic deaths. It is so called because the only witness is often killed in the accident and the exact cause is difficult to determine.

NATIONAL HIGHWAY SAFETY ACT—The Act passed by Congress in 1966 that provides standards for state safety programs developed jointly by federal and state officials and agencies.

NATIONAL SAFETY COUNCIL—A federally chartered, non-governmental, not for-profit organization of industries, agencies, schools, associations and individuals organized to promote industrial, traffic, transportation, home, farm and other forms of safety directly and in cooperation with local chapters and other safety organizations.

NON-PREVENTABLE—An accident which occurred in spite of the fact that the driver(s) did everything reasonable to prevent it.

OPERATOR—Every person, other than a chauffeur, who drives or is in actual physical control of a motor vehicle upon a highway or who is exercising control over or steering a vehicle being towed by a motor vehicle.

OUTER LANE—The right lane in one direction on a road with two or more lanes in that direction.

PARKING—The standing or halting of a vehicle, whether occupied or not, otherwise than temporarily for the purpose of, and while actually engaged in, loading or unloading merchandise or passengers.

PASSENGER CAR—A four-wheeled self-propelled vehicle designed for transportation of persons, but not including buses. It includes taxicabs, limousines and station wagons, but not motorcycles.

PASSIVE RESTRAINTS—Devices used to enhance the occupant's chances of surviving a crash by preventing his ejection and minimizing the effects of the second collision (hitting steering wheel, etc.) The passive system, unlike the active (safety belts, etc) requires no conscious effort on the part of the occupant. Passive devices range from air bags and cushions to padded dashboards and energy-absorbing steering assemblies.

PEDESTRIAN—Any person afoot.

PERFECT DRIVING—Safely completing each trip by avoiding the errors of accidents, traffic violations, vehicle abuse, schedule delays and discourtesy.

PORTRAIT OF A PERFECT PASS—Executing a perfect pass by following these twelve steps: (1) Ask yourself "Is it necessary?", (2) Stay back, (3) Check ahead, (4) Check behind, (5) Signal left, (6) Move left, (7) Accelerate, (8) Tap horn, (9) Signal right, (10) Move right, (11) Cancel directional signal, (12) Resume speed.

PRE-TRIP MENTAL INVENTORY—The defensive driving practice of taking a few moments before each trip to determine what adverse conditions of light, weather, traffic, road, vehicle and driver are present, and how they can be met.

PREVENTABLE—A preventable accident is one in which a driver failed to do everything he reasonably could have done to prevent it.

RAMP—A turning roadway at an interchange for travel between intersection or junction legs.

REACTION DISTANCE—The distance traveled during reaction time, depending on speed.

REACTION TIME—The time that a person takes, after sensory perception of a situation, to realize the meaning of the situation, decide what to do about it, and start acting.

REVOCATION—The termination by formal action of a state Department of Motor Vehicles of a person's driver's license or privilege to operate a motor vehicle on the public highways, which termination shall not be subject to renewal or restoration, except that an application for a new license may be presented and acted upon by the department after the expiration of at least one year from the date of revocation.

ROADWAY—That portion of a highway which is improved, designed or ordinarily used for vehicular travel, exclusive of the berm or shoulder.

RIGHT-OF-WAY—The privilege of the immediate use of the roadway.

SAFETY-ZONE—The area or space officially set apart within a roadway for the exclusive use of pedestrians and which is protected or is so marked or indicated by adequate signs as to be plainly visible at all times while set apart as a safety zone.

SCHEDULE DELAYS—One of five errors which a defensive driver must avoid in order to have a perfect trip.

SECOND LANE—On a multi-lane roadway, the traffic lane to the left of the right lane available for traffic traveling in the same direction.

SECURED—A parked vehicle that has been properly locked. This would include closing all windows and side vents and locking the ignition, steering wheel and all doors.

SHOULDER—That part of the graded width of a trafficway exclusive of the traveled way or pavement.

SIX ADVERSE CONDITIONS—Conditions encountered singly or in combination that can trick a driver into an accident if proper defenses are not taken. They are light, weather, road, traffic, vehicle and driver.

SIX POSITIONS OF THE TWO-CAR CRASH—There are six, and only six, positions which one car takes in relation to another when they collide. A driver can be involved in a collision with: (1) the car ahead, (2) the car behind, (3) the car coming from the opposite direction (head-on), (4) the car at an intersection, (5) the car passing and (6) the car being passed.

SPEED-CHANGE LANE—An auxiliary lane, including blending areas for acceleration or deceleration of vehicles entering or leaving regularly established traffic lanes.

STANDING—A vehicle stopped for a brief interval (as when loading or unloading).

STOP LINE—A broad line painted on the pavement behind which vehicles should stop when directed by a traffic officer, traffic control signal, stop signal or stop sign.

STOPPING—The unauthorized halting, even momentarily, of a vehicle, whether it is occupied or not, in a roadway, except when necessary to avoid conflict with other traffic or in compliance with the directions of a police officer or traffic-control sign or signal.

STRATEGY OF TOTAL TRAFFIC SAFETY—A traffic safety concept that divides the accident sequence into three time zones: pre-crash, crash, and post-crash. These zones are studied to gain a better understanding of what can be done to prevent or alleviate the effects of the accident.

TAILGATING—The hazardous practice of one car following another at less than recommended distance of one car length for each 10 mph of speed.

THIRD LANE—On a multi-lane roadway, the traffic lane third from the right in the direction of traffic flow available for moving traffic.

THROUGH TRAFFIC—That part of the traffic circulating within a given area, or at a given point in that area, having neither origin nor destination within the area.

TIDAL TRAFFIC—Traffic on a two-way road proceeding predominantly in one direction or the other according to time or other recurrent circumstances.

TOTAL REACTION DISTANCE—The distance traveled between the point at which the driver perceives that braking or evasive action is required and the point at which he activates the brake.

TOTAL REACTION TIME—The time required for a vehicle to move the total reaction distance.

TOTAL STOPPING DISTANCE—The distance in which a vehicle comes to rest after the driver discovers a hazard that requires stopping. It is the sum of reaction distance and braking distance.

TOTAL STOPPING TIME—The time required for a vehicle to move the total stopping distance.

TRAFFIC—Pedestrians, ridden or herded animals, automobiles, trucks, buses and other vehicles and conveyances, either singly or together while using any highway for purposes of travel.

TRAFFIC UNIT—Any person using a trafficway for travel, parking or other purpose as a pedestrian or driver, including any vehicle, other device or animal.

TRAFFIC VIOLATION—The breaking of any traffic law or ordinance. It is one of the errors a defensive driver must avoid to have a perfect trip.

TWO-CAR CRASH—An accident category that accounts for approximately 42 per cent of the traffic deaths each year.

TWO-SECOND RULE—A defensive driving rule of thumb used to determine a safe following distance. If one car stays two seconds behind the car ahead, a safe distance will be insured under ideal conditions.

UNIFORM VEHICLE CODE—A model law recommended by the National Committee on Uniform Traffic Laws and Ordinances for adoption by the states to obtain uniformity in motor vehicle legislation.

VEHICLE—Every device in, upon, or by which any person or property is or may be transported or drawn upon a highway, excepting devices moved by human power or used exclusively upon stationary rails or tracks.

VEHICLE ABUSE—A costly error that must be avoided by the defensive driver to insure a perfect trip.

WEAVING—The crossing of traffic streams moving in the same general direction accomplished by merging and diverging.

WHEEL BASE—Distance from the center of the front wheel to the center of the rear wheel.

WORD MARKINGS—Word messages marked on the pavement to aid in the control of traffic.

*Special thanks to Northwestern University Traffic Institute for permission to quote from Dictionary of Highway Traffic.

Certificate of Appreciation

TO _____

For personal effort and application to reduce deaths, injuries and property damage due to traffic accidents in the United States as demonstrated by successful completion of the National Safety Council's Defensive Driving Course.

For participation in the National Safety Council's campaign to make every driver a defensive driver.

_____
Name of Cooperating Agency

National Safety Council

DDC DEFENSIVE DRIVING COURSE

Vincent L. Tofany
President

_____
Date

NATIONAL SAFETY COUNCIL DEFENSIVE DRIVING CAMPAIGN

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National Safety Council
DRIVER IMPROVEMENT PROGRAM

_____

Has completed the National Safety Council's DEFENSIVE DRIVING COURSE as presented by:

_____
Cooperating Agency

_____ _____
Instructor Date

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President

№ 13875682

This page carries your graduation card and a Certificate of Appreciation from the National Safety Council.

Your instructor will call for the at some point during the cour that they may be processed and returned to you when you have completed the course.

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Licensed Drivers in Family _____ Make of Car _____ Year _____

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№ 13875682

STUDENT REGISTRATION CARD

DDC DEFENSIVE DRIVING COURSE

This page of your Workbook carries your name tent and a course registration card.

Your instructor will tell you when and how these are to be used.

MY NAME IS

_____

DDC DEFENSIVE DRIVING COURSE

COMMITTEE REPORT

SENATE

FURTHER: None

3/4/81

Date: _____

Mr. President:

The Committee on HEALTH, EDUCATION AND SOCIAL SERVICES has had SSSB 69

making a driver improvement course mandatory for certain drivers who receive driving demerit points

under consideration and (a majority of the committee) (the committee) reports it back with the following recommendations:

[ ] do pass [ ] do not pass

[ ] do pass with attached amendments(s)

[ ] replace with CS for _____ [ ] same title [ ] new title

and recommends _____

[ ] AND attaches a "Letter of Intent" [ ] New Fiscal Note

[ ] reports it back without recommendation

[ ] referred to the _____ Committee

MEMBERS SIGNING
DO PASS

MEMBERS HAVING
OTHER RECOMMENDATIONS:

CHAIRMAN

DRIVER IMPROVEMENT STATISTICS

July 1, 1976 - June 30, 1980

	JUL 76 - JUN 77		JUL 77 - JUN 78		JUL 78 - JUN 79		JUL 79 - JUN 80		
	TOTAL	PER MONTH	TOTAL	PER MONTH	TOTAL	PER MONTH	TOTAL	PER MONTH	INCREASE (+) DECREASE (-) FROM PREVIOUS THREE YEAR AVERAGE
ARNING ETTERS *	10681	890	16950	1412	16029	1336	15883	1324	+9%
ASE EVIEWS ** Identified for Possible Suspension)	3641	303	6035	503	4761	397	4210	351	-13%
USPENSIONS	2072	173	3308	276	2821	235	2541	212	-7%
ORMAL EARINGS Driver Improvement Only)	40	3	72	6	32	3	0	0	-100%

16% of the letters were returned by the Post Office undelivered in the current fiscal year, a 3% reduction over '78 - '79.

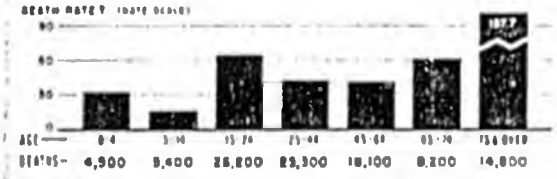
* Prior to October 20, 1978 a personal interview was required to be scheduled for each individual identified by the case (one person per case)

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED AS A UNIT IN THE ORIGINAL DOCUMENT

How people died accidentally in 1979

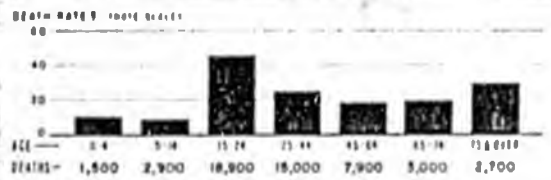
Type of accident and age of victim

	Death Total	Change from 1978	Death Rate†
All accidents	103,500	−1%	47.0



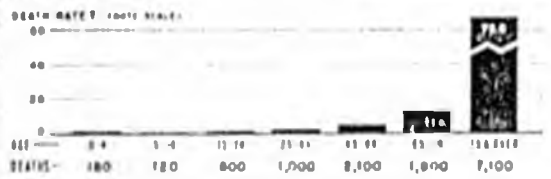
The term "accidents" covers most deaths from violence—excluded are homicides, suicides, deaths for which none of these categories can be determined, and deaths in war operations.

Motor-vehicle accidents	51,900	+1%	23.6



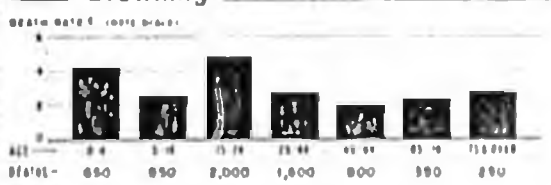
Includes deaths involving mechanically or electrically powered highway-transport vehicles in motion (except those on rails), both on and off the highway or street.

Falls	13,000	−6%	5.9



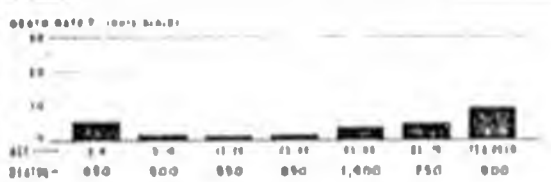
Includes deaths from falls from one level to another or on the same level. Excludes falls in or from transport vehicles, or while boarding or alighting from them.

Drowning	6,600	−4%	3.0



Includes all drownings (work and nonwork) in boat accidents and those resulting from swimming, playing in the water, or falling in. Excludes drownings in floods and other cataclysms.

Fires, burns, and deaths associated with fires	5,800	−8%	2.6



Includes deaths from fires, burns, and from injuries in conflagrations such as asphyxiation, falls, and struck by falling objects. Excludes burns from hot objects or liquids.

Leading causes of all deaths

	No. of Deaths	Death Rate*
All Ages	1 893 597	878
Heart disease	718 850	332
Cancer	386 686	179
Stroke**	181 934	84
Accidents	**103 202**	**48**
Motor vehicle	49 510	23
Falls	13 773	6
Drowning	7 126	3
Fires, burns	6 357	3
Other	26 436	13
Under 1 Year	46 975	1 485
Anoxia	10 604	335
Congenital anomalies	8 420	266
Complications of pregnancy and childbirth	5 786	183
Immaturity	3 714	117
Pneumonia	1 665	53
Accidents	**1,173**	**37**
Ingestion of food, object	275	9
Motor vehicle	251	8
Mech. suffocation	206	6
Fires, burns	159	5
Other	280	9
[redacted]		17
		27
		10
Drowning	[illegible]	[illegible]
Fires, burns	[illegible]	[illegible]
Ingestion of food, object	[illegible]	1
Falls	[illegible]	1
Other	[illegible]	[illegible]
Congenital anomalies	[illegible]	[illegible]
Cancer	[illegible]	[illegible]
[redacted]		[illegible]
		17
		[illegible]
Drowning	[illegible]	1
Fires, burns	[illegible]	1
Firearms	181	1
Other	[illegible]	[illegible]
Cancer	[illegible]	[illegible]
Congenital anomalies	[illegible]	2
[redacted]		[illegible]
		43
		44
Drowning	[illegible]	[illegible]
Poison (solid, liquid)	[illegible]	[illegible]
Firearms	[illegible]	[illegible]
Other	[illegible]	[illegible]
Suicide	[illegible]	[illegible]
Homicide	[illegible]	[illegible]

	No. of Deaths	Death Rate*
[redacted]		
Drowning	[illegible]	3
Poison (solid, liquid)	1 349	2
Fires, burns	1 091	2
Falls	[illegible]	2
Other	5 351	10
Cancer	16 753	30
Heart disease	14 392	25
45 to 64 Years	[illegible]	[illegible]
Heart disease	[illegible]	[illegible]
Cancer	[illegible]	[illegible]
Stroke**	[illegible]	[illegible]
Accidents	**19 167**	**44**
Motor vehicle	[illegible]	[illegible]
Falls	[illegible]	[illegible]
Fires, burns	[illegible]	[illegible]
Drowning	[illegible]	[illegible]
Surg. complications	[illegible]	[illegible]
Other	[illegible]	[illegible]
Cirrhosis of liver	[illegible]	[illegible]
Suicide	[illegible]	[illegible]
65 to 74 Years	[illegible]	[illegible]
Heart disease	[illegible]	[illegible]
Cancer	[illegible]	[illegible]
Stroke**	[illegible]	[illegible]
Diabetes mellitus	[illegible]	[illegible]
Accidents	**9 004**	**62**
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Pneumonia	[illegible]	[illegible]
Cirrhosis of liver	[illegible]	[illegible]
75 Years and Over	[illegible]	[illegible]
Heart disease	[illegible]	[illegible]
Stroke**	[illegible]	[illegible]
Cancer	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Accidents	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Diabetes mellitus	[illegible]	[illegible]
Emphysema	[illegible]	[illegible]

Accidents vs other causes of death

Accidents are the leading cause of death among all persons aged 1 to 38. Among persons of all ages, accidents are the fourth leading cause of death. The following table shows the number of deaths and death rates for all ages and selected age groups by leading causes in 1977 (latest official figures) separately for male and female.

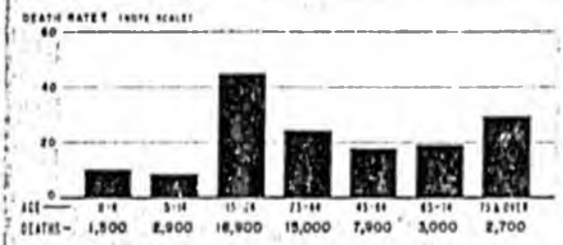
[redacted]

Cause	Number of Deaths			Death Rates*		
	Total	Male	Female	Total	Male	Female
All Ages						
All Causes	**1,899,597**	**1,046,243**	**853,354**	**877.9**	**993.9**	**765.0**
Heart disease	718,850	396,482	322,368	332.2	376.6	293.1
Cancer	386,686	210,459	176,227	178.7	199.9	158.6
[redacted]						
Drowning	7,126	6,006	1,120	3.3	5.7	1.0
Fires, burns	6,357	3,866	2,491	2.9	3.7	2.2
Poison (solid, liquid)	3,374	2,024	1,350	1.6	1.9	1.2
Pneumonia	49,889	27,109	22,780	23.1	25.8	20.5
Diabetes mellitus	32,989	13,632	19,357	15.2	12.9	17.4
Cirrhosis of liver	30,848	20,167	10,681	14.3	19.2	9.6
Arteriosclerosis	28,754	11,648	17,106	13.3	11.1	15.4
Suicide	28,681	21,109	7,572	13.3	20.1	6.8
Homicide	19,968	15,355	4,613	9.2	14.6	4.2
Emphysema	16,376	12,594	3,782	7.6	12.0	3.4
1 to 14 Years						
[redacted]						
Drowning	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fires, burns	[illegible]	[illegible]	[illegible]	2.4	[illegible]	[illegible]
Firearms	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cancer	2,364	1,417	[illegible]	[illegible]	[illegible]	4.0
Congenital anomalies	[illegible]	[illegible]	840	[illegible]	[illegible]	[illegible]
Homicide	766	421	345	[illegible]	[illegible]	[illegible]
Pneumonia	487	365	[illegible]	1.4	[illegible]	[illegible]
Heart disease	545	282	263	1.1	1.1	1.1
Meningitis	294	[illegible]	111	0.6	0.7	0.5
15 to 24 Years						
[redacted]						
Drowning	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Poison (solid, liquid)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Firearms	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Suicide	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Homicide	[illegible]	[illegible]	[illegible]	[illegible]	19.3	[illegible]
Cancer	2,612	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Heart disease	1,035	646	389	[illegible]	[illegible]	[illegible]
75 Years and Over						
All Causes	**797,318**	**355,616**	**441,702**	**[illegible]**	**[illegible]**	**7,726.4**
Heart disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Stroke (cerebrovascular disease)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cancer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pneumonia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arteriosclerosis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Accidents	**15,175**	**7,023**	**8,152**	**170.2**	**216.9**	**141.5**
Falls	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Motor-vehicle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Surgical complications	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fires, burns	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Diabetes mellitus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Emphysema	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source: National Center for Health Statistics. † [illegible] estimated. *Deaths per 100,000 population.

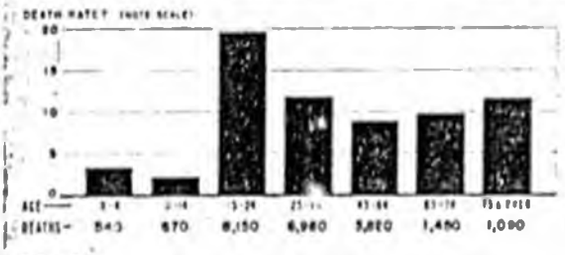
How people died in motor-vehicle accidents, 1979

Type of accident and age of victim	Death Total	Change from 1978	Death Rate†
All motor-vehicle accidents	**51,900**	**+1%**	**23.6**
Urban	19,100	+4%	
Rural	32,800	−1%	



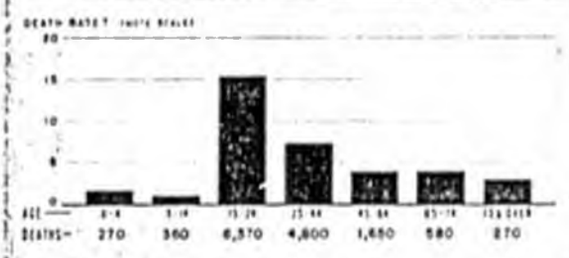
Includes deaths involving mechanically or electrically powered highway-transport vehicles in motion (except those on rails), both on and off the highway or street.

Collision between motor vehicles	**22,700**	**−1%**	**10.3**
Urban	6,600	−10%	
Rural	16,100	+ 3%	



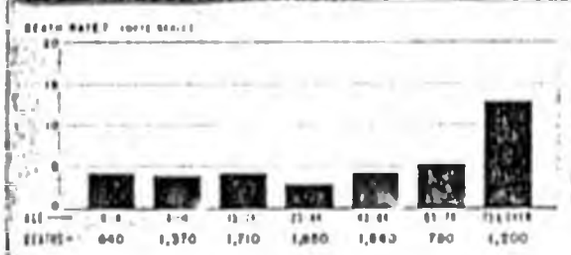
Includes deaths from collisions of two or more motor vehicles. Motorized bicycles and scooters, trolley buses, and farm tractors or road machinery traveling on highways are motor vehicles.

Noncollision accidents	**14,300**	**+5%**	**6.5**
Urban	2,800	+40%	
Rural	11,500	− 1%	



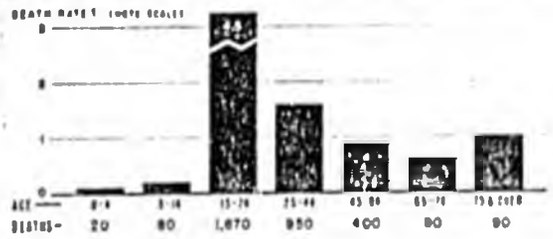
Includes deaths in all types of noncollision accidents. Classification is according to first injury or damage producing event.

Pedestrian accidents	**9,400**	**+1%**	**4.3**
Urban	6,700	+14%	
Rural	2,700	−21%	



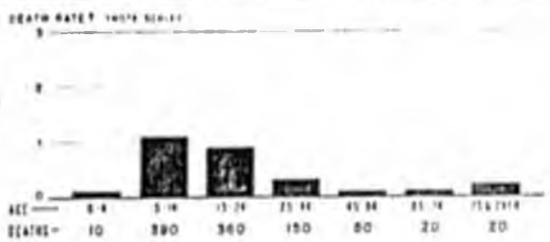
Includes all deaths of persons struck by motor vehicles, either on or off a street or highway, regardless of the circumstances of the accident.

	Death Total	Change from 1978	Death Rate†
Collision with fixed object	3,500	0%	1.6
Urban	1,900	−5%	
Rural	1,600	+7%	



Includes deaths from collisions in which the first harmful event is the striking of a fixed object such as a guardrail, abutment, impact attenuator, etc.

Collision with pedalcycle	1,000	0%	0.5
Urban	600	0%	
Rural	400	0%	



Includes deaths of pedalcyclists and motor-vehicle occupants from collisions between pedalcycles and motor vehicles on streets, highways, private driveways, parking lots, etc.

Collision with railroad train	900	−18%	0.4
Urban	500	0%	
Rural	400	33%	

Includes deaths from collisions of motor vehicles (moving or stalled) and railroad vehicles at public or private grade crossings. In other types of accidents, classification requires motor vehicle to be in motion.

Other collisions	100	0%	**

(animals, animal-drawn vehicles, street cars)

Includes deaths from motor vehicle collisions not specified in other categories above. Most of the deaths arose out of accidents involving animals or animal-drawn vehicles. Deaths from accidents involving street cars are not yet known for 1979.

†Deaths per 100,000 population in each age group.

*Deaths per 100,000 population.
**Death rate was less than 0.05.

Age of driver

There were about 143,100,000 drivers in the nation in 1979. The approximate number in each age group is shown in the table below, along with each group's accident experience for the year. The figures in the last two columns at the right indicate the frequency of accident involvement; the higher the number, the higher the involvement in each age group.

Age of Drivers—Total Number and Number in Accidents, 1979

	All Drivers		Drivers in Accidents					
			Fatal		All		Per No. of Drivers	
Age Group	Number	%	Number	%	Number	%	Fatal*	All**
Total	143,100,000	100.0%	65,200	100.0%	29,700,000	100.0%	46	21
Under 20	14,000,000	9.8	10,700	16.4	5,300,000	17.8	76	38
20-24	17,100,000	11.9	13,500	20.7	6,000,000	20.2	79	35
25-29	17,200,000	12.0	9,100	14.0	4,200,000	14.1	53	24
30-34	16,400,000	11.5	7,800	12.0	3,400,000	11.4	48	21
35-39	13,600,000	9.5	4,500	6.9	2,100,000	7.1	33	15
40-44	11,500,000	8.0	4,400	6.7	1,800,000	6.1	38	16
45-49	11,300,000	7.9	3,500	5.4	1,600,000	5.4	31	14
50-54	11,500,000	8.0	2,700	4.1	1,300,000	4.4	23	11
55-59	9,900,000	6.9	2,500	3.8	1,300,000	4.4	25	13
60-64	7,300,000	5.1	2,200	3.4	900,000	3.0	30	12
65-69	6,300,000	4.4	1,700	2.6	1,000,000	3.4	27	16
70-74	4,200,000	3.0	1,200	1.8	300,000	1.0	29	7
75 and over	2,800,000	2.0	1,400	2.2	500,000	1.7	50	18

Source: Drivers in accidents based on reports from 20 state traffic authorities. Number of drivers by age are NSC estimates based on reports from state traffic authorities and research groups.
*Drivers in Fatal Accidents per 100,000 drivers in each age group.
**Drivers in All Accidents per 100 drivers in each age group.

Sex of driver

Of the estimated 143,100,000 drivers in 1979, about 76,600,000 are males and 66,500,000 are females. Males are involved in more accidents than are females, as shown in the table below. The difference is due at least partly to differences in the amount of driving done by the members of each sex, and to differences in time, place, and circumstance of the driving.

Sex of Driver Involved in Accidents, 1963-1979

	Drivers in Fatal Accidents				Drivers in All Accidents			
	Male		Female		Male		Female	
Year	No.	Rate†	No.	Rate†	No.	Rate††	No.	Rate††
1963	46,500	71	7,800	36	15,000,000	267	[illegible]	[illegible]
1964	48,900	79	8,400	38	16,700,000	270	[illegible]	[illegible]
1965	50,300	78	8,600	37	[illegible]	[illegible]	[illegible]	[illegible]
1966	54,000	81	9,700	37	[illegible]	276	[illegible]	[illegible]
1967	54,000	80	9,900	35	18,500,000	272	[illegible]	[illegible]
1968	[illegible]	84	10,400	35	[illegible]	275	[illegible]	[illegible]
1969	53,800	80	[illegible]	33	[illegible]	[illegible]	[illegible]	[illegible]
1970	52,800	75	10,200	34	[illegible]	265	[illegible]	[illegible]
1971	[illegible]	70	11,000	30	[illegible]	[illegible]	[illegible]	[illegible]
1972	54,000	69	11,600	29	21,000,000	281	[illegible]	[illegible]
1973	[illegible]	61	11,400	27	[illegible]	257	[illegible]	[illegible]
1974	[illegible]	55	9,800	24	[illegible]	205	[illegible]	[illegible]
1975	45,500	52	[illegible]	[illegible]	[illegible]	212	[illegible]	[illegible]
1976	49,100	51	10,800	24	[illegible]	[illegible]	[illegible]	[illegible]
1977	[illegible]	53	11,800	25	[illegible]	[illegible]	[illegible]	[illegible]
1978	[illegible]	50	[illegible]	30	21,200,000	[illegible]	[illegible]	[illegible]
1979	52,700	52	12,500	25	[illegible]	[illegible]	[illegible]	[illegible]

Source: Accidents and Drivers—National Safety Council estimates based on reports from state traffic authorities and Federal Highway Administration. Mileage—National Safety Council estimates based on survey data from National Family Opinion, Inc.
†Number of drivers in fatal accidents per 1,000,000,000 miles driven.
††Number of drivers in all accidents per 10,000,000 miles driven.

FREQUENCY OF ACCIDENTS PER AGE GROUP:

Age:	Licensed Drivers: 1981	Number of Accidents: 1979	Frequency:	Percentage:
16	2473	377	1 out of 7	15%
17	4173	881	1 out of 5	21%
18	5197	916	1 out of 6	18%
19	5612	1032	1 out of 5	18%
20	6380	976	1 out of 7	15%
21	6979	973	1 out of 7	14%
22	7402	970	1 out of 8	13%
23	7969	934	1 out of 9	12%
24	8230	916	1 out of 9	11%
25-29	43,550	4224	1 out of 10	10%
30-34	41,747	3111	1 out of 13	7%
35-39	31,295	2098	1 out of 15	7%
40-44	22,653	1393	1 out of 16	6%
45-49	17,405	1089	1 out of 15	6%
50-54	14,807	931	1 out of 16	6%
55-59	11,770	654	1 out of 17	6%
60-64	7961	378	1 out of 21	5%
65-69	4436	197	1 out of 23	4%
70- +	3156	137	1 out of 23	4%

Note: The information on this chart was extrapolated from statistics from two different years as comparable data was not available for like years.

1979 ACCIDENT DRIVER AGES = BILL BROWN

AGE	CNT
00	35
01	4
02	12
03	7
05	3
09	1
10	2
11	1
12	9
13	6
14	26
15	58
16	377
17	881
18	916
19	1,032
20	976
21	973
22	970
23	934
24	916
25	918
26	894
27	785
28	819
29	808
30	687
31	698
32	654
33	602
34	470
35	516
36	469
37	402
38	352
39	349
40	301
41	330
42	250
43	250
44	262
45	246
46	225
47	223
48	202
49	193
50	210
51	200
52	213
53	162
54	146
55	170
56	142

AGE	CNT
57	119
58	119
59	104
60	109
61	83
62	74
63	60
64	52
65	44
66	50
67	40
68	36
69	27
70	31
71	19
72	15
73	22
74	12
75	10
76	7
77	5
78	6
*	4,670
FINAL	27,001

* Unknown (Hit & Run; Parked Vehicle; etc.)

27,001 RECORDS TOTALED

LICENSED DRIVERS - 1981

	REGULAR LICENSE			REGULAR + M/C			REGULAR + M/S		
	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
AGE									
Unknown	30	23	53	3	-	3	1	-	1
14	8	3	11	-	-	-	1	-	1
15	20	6	26	-	-	-	1	1	2
16	1,471	1,002	2,473	108	5	113	115	10	125
17	2,415	1,778	4,193	199	18	217	157	23	180
18	2,845	2,352	5,197	265	21	286	330	164	494
19	2,981	2,631	5,612	291	27	318	172	80	252
20	3,377	3,003	6,380	350	35	385	165	83	248
21	3,681	3,298	6,979	327	45	372	208	135	343
22	3,863	3,539	7,402	420	41	461	123	114	237
23	4,149	3,820	7,969	447	50	497	132	108	240
24	4,358	3,872	8,230	464	54	518	215	164	379
25-29	22,262	21,288	43,550	2,270	273	2,543	827	714	1,541
30-34	22,405	19,342	41,747	1,762	171	1,933	754	605	1,359
35-39	17,096	14,199	31,295	1,027	112	1,139	543	438	981
40-44	12,829	9,824	22,653	560	58	618	321	280	601
45-49	9,995	7,410	17,405	325	22	347	264	177	441
50-54	8,708	6,099	14,807	202	15	217	200	138	338
55-59	6,931	4,839	11,770	112	8	120	167	96	263
60-64	4,774	3,187	7,961	43	5	48	105	62	167
65-69	2,715	1,721	4,436	16	-	16	40	17	57
70-+	2,055	1,101	3,156	3	-	3	34	19	53
TOTAL	138,968	114,337	253,305	9,194	960	10,154	4,875	3,428	8,303

LICENSED DRIVERS - 1981

Age	MOTORCYCLE M	MOTORCYCLE F	MOTORCYCLE TOTAL	MOTOR SCOOTER M	MOTOR SCOOTER F	MOTOR SCOOTER TOTAL	TOTAL ACTIVE LICENSES M	TOTAL ACTIVE LICENSES F	TOTAL ACTIVE LICENSES TOTAL
Unknown	-	-	-	-	-	-	34	23	57
0-13	-	-	-	-	1	1	-	1	1
14	5	1	6	64	8	72	78	12	90
15	9	-	9	154	15	169	184	22	206
16	19	2	21	79	10	89	1,792	1,029	2,821
17	33	3	36	34	4	38	2,838	1,826	4,664
18	27	1	28	8	3	11	3,475	2,541	6,016
19	12	1	13	1	1	2	3,457	2,740	6,197
20	11	3	14	1	1	2	3,904	3,125	7,029
21	26	1	27	-	1	1	4,242	3,480	7,722
22	20	1	21	1	-	1	4,427	3,695	8,122
23	15	1	16	2	-	2	4,745	3,979	8,724
24	10	1	11	-	1	1	5,047	4,092	9,139
25-29	30	3	33	6	4	10	25,395	22,282	47,677
30-34	21	2	23	8	1	9	24,950	20,121	45,071
35-39	11	2	13	4	2	6	18,681	14,753	33,434
40-44	9	2	11	2	-	2	13,721	10,164	23,885
45-49	4	-	4	-	1	1	10,588	7,610	18,198
50-54	2	-	2	2	-	2	9,114	6,252	15,366
55-59	1	-	1	-	-	-	7,211	4,943	12,154
60-64	-	-	-	-	-	-	4,922	3,254	8,176
65-69	1	-	1	-	-	-	2,772	1,738	4,510
70-+	1	-	1	-	-	-	2,093	1,120	3,213
TOTAL	267	24	291	366	53	419	153,670	118,802	272,472

STATE of ALASKA

MEMORANDUM

TO: Jay Dulany
Chief Driver Improvement
Division Motor Vehicles
Department of Public Safety

DATE: June 17, 1980

FILE NO:

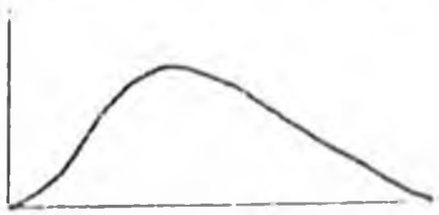
TELEPHONE NO:

SUBJECT: Driver Improvement Data

FROM: Tom Georgianna
Research Analyst
Highway Safety Planning Agency
Department of Public Safety

When you were here earlier we discussed the analysis I was doing on the driver improvement data. I don't think the first analysis I did, that is the one we discussed, was valid. I used a t test to evaluate the difference between the means of the before and after groups in the driver improvement course. The t test as we discussed showed that there was no statistically significant difference between the two groups regarding the number of traffic conditions. The problems with that particular test is that is assumes that the sample has a normal distribution with the following shape:

Unfortunately the groups being analyzed do not have a normal distribution. Their distribution resembled a poisson or geometric distribution with the following shape making the results of the test suspect.



I found a non-parametric test, one which isn't based on assumption about the parameters, called the Kruskal-Wallace test. Using the Kruskal-Wallace test I developed a statistic called an H score which is evaluated on the chi square distribution. Testing with 19 degrees of freedom and evaluating with alpha equal to .01 the test indicates that there is a statistically significant difference between the two groups.

You can take this as an indication then that the driver improvement course has some effect. To do this though you must throw out the possibility of some other factors such as the passage of time itself causing the difference.

This is not a scientific level evaluation but I think it maybe useful management level information.

2018 Recall

R01-12P-0920 COMPLETE DRIVER IMPROVEMENT STATISTICAL REPORT THRU 07/03/79

PROBLEM DRIVER STATISTICS FOR DRIVERS COMPLETING DRIVER IMPROVEMENT COURSE

	ACCRUED DURING 2 YEARS PRIOR TO COURSE			ACCRUED SINCE COURSE COMPLETION (AVERAGE MONTHS SINCE COURSE 23)		
	NUMBER OF CONVICTIONS	NUMBER OF DRIVERS	PERCENT	NUMBER OF CONVICTIONS	NUMBER OF DRIVERS	PERCENT
	0	2,568	36.7	0	4,365	62.4
	1	1,404	20.0	1	1,218	17.4
	2	981	14.0	2	545	7.8
D	3	930	13.3	3	311	4.4
R	4	560	8.0	4	182	2.6
I	5	266	3.8	5	130	1.8
V	6	119	1.7	6	77	1.1
I E	7	75	1.0	7	54	0.7
M R	8	35	0.5	8	37	0.5
P	9	23	0.3	9	21	0.3
R	10	7	0.1	10	7	0.1
O	11	9	0.1	11	10	0.1
V	12	5	0.0	12	9	0.1
E	13	2	0.0	13	7	0.1
M	14	1	0.0	14	6	0.0
E	15	2	0.0	15	5	0.0
N	16	0	0.0	16	1	0.0
T	17	0	0.0	17	2	0.0
	18	0	0.0	18	0	0.0
	19	0	0.0	19	0	0.0
	20	0	0.0	20	0	0.0
TOTAL	11,751	6,987	100.0	6,532	6,987	100.0

	ONE OR MORE OMVI CONVICT	3,124			492	
		0	115	4.2	0	1,747	64.2
A		1	1,395	51.3	1	545	20.0
L		2	657	24.1	2	213	7.8
C		3	298	10.9	3	109	4.0
O		4	127	4.6	4	42	1.5
R H		5	63	2.3	5	27	0.9
E D		6	34	1.2	6	16	0.5
H L		7	16	0.5	7	8	0.2
A		8	6	0.2	8	5	0.1
B		9	3	0.1	9	3	0.1
I		10	3	0.1	10	0	0.0
L		11	0	0.0	11	2	0.0
I		12	0	0.0	12	1	0.0
T		13	1	0.0	13	0	0.0
A		14	0	0.0	14	0	0.0
T		15	0	0.0	15	0	0.0
I		16	0	0.0	16	0	0.0
O		17	0	0.0	17	0	0.0
N		18	0	0.0	18	0	0.0
		19	0	0.0	19	0	0.0
		20	0	0.0	20	0	0.0
			2,718	100.0		2,718	100.0

DRIVERS NOT COMPLETING COURSE

ACCRUED DURING 2 YEARS PRIOR			
NUMBER OF CONVICTIONS	NUMBER OF DRIVERS	PERCENT
0	272,231	80.4
1	43,735	12.9
2	13,340	3.9
3	4,917	1.4
4	2,051	0.6
5	958	0.2
6	540	0.1
7	267	0.0
8	160	0.0
9	88	0.0
10	48	0.0
11	34	0.0
12	17	0.0
13	9	0.0
14	7	0.0
15	12	0.0
16	2	0.0
17	5	0.0
18	1	0.0
19	1	0.0
20	1	0.0
106,968	338,424	100.0

POINT SYSTEM

DIVISION OF MOTOR VEHICLES

THE DEMERIT POINT SYSTEM

On January 1, 1975, the State of Alaska implemented a demerit point system to identify, rehabilitate, and control unsafe drivers. To identify these drivers a numeric point value is assigned for each conviction of a moving traffic violation. After accumulation of a specified point total on a driver's record, the Department of Public Safety is authorized to take certain actions against the driver; action can be in the form of counseling interviews or suspension of driving privileges. Counseling can be offered only to those drivers who are below the suspension level of point accumulation. The suspension level of point accumulation is established by law to be 12 or more points as a result of offenses committed during any consecutive 12-month period or 18 or more points as a result of offenses committed during any 24-month period.

SOME TERMS OF INTEREST:

1. No points are assessed for violations regarding standing, parking equipment, size or weight; nor may points be assessed for violations by pedestrians, passengers, or bicycle riders.

2. If a driver is convicted of two or more traffic violations committed on a single occasion, points are assessed for one offense only, the offense with the highest point value.

3. The 12-month and 24-month time periods used in the calculation of points are based on the violation date, but no points may be assessed until after conviction (bail forfeitures or pleas of nolo contendere are considered convictions).

4. Drivers are advised with a Notice of Point Accumulation when their point total has reached 6 to 11 points in 12 months or 9 to 17 points in 24 months.

5. The Notice of Point Accumulation list the points assessed and the violations used in the calculation of the driver's point total.

6. The driving record listed on the Notice of Point Accumulation may be contested simply by writing the Driver Improvement Bureau at the address on the notice.

7. A driver may also be required to appear at an office of the Department for a Driver Improvement Interview when his point total has reached 6 to 11 points in 12 months or 9 to 17 points in 24 months.

8. The Driver Improvement Interview is for counseling individuals with bad driving records and may not be required of everyone reaching the above point accumulations.

9. A driver who is notified to appear for a Driver Improvement Interview must appear or his driving privilege will be suspended until he does appear, or for one year, whichever comes first.

10. A driver appearing for the interview may be required to comply with certain recommendations designed to improve his driving abilities (such as attending the Defensive Driving Course).

11. Failure to comply with the recommendations will result in a loss of driving privileges until the driver does comply, or for one year, whichever comes first.

12. A driver may reduce his point total 2 points by driving violation-free for a period of 12 months, or by successfully completing an approved driver improvement course (such as the Defensive Driving Course or the Driver's Alcohol Information School).

13. To obtain the point reduction, the driver improvement course must have been completed within 12 months of the driver's latest violation.

14. In addition to the reductions, a one point credit is given for each year of licensed, violation-free driving.

15. When a driver accumulates 12 or more points in any 12-month period or 18 or more points in any 24-month period the Department of Public Safety is <u>required</u> to suspend his driving privilege.

16. A driver reaching the suspension level will be notified that his driving privilege is to be suspended effective thirty days from the date of the notice.

17. Drivers whose notices are returned to the Department by the Post Office as unclaimed, refused, or otherwise undelivered will be suspended as stated in the notice, without further attempts to notify the driver.