STATE OF IOWA
1938

Traffic Safety Manual
and
Common Traffic Problems

Issued by
IOWA DEPARTMENT OF PUBLIC INSTRUCTION
AGNES SAMUELSON, *Superintendent*
IOWA MOTOR VEHICLE DEPARTMENT
HORACE TATE, *Acting Commissioner*

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Traffic Safety Manual

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IOWA DEPARTMENT OF PUBLIC INSTRUCTION
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FOREWORD

The next steps in our safety education program in this state are being taken on the secondary and collegiate levels. The emphasis is upon highway and traffic safety. Systematic and continuous instruction is developing at a rapid rate in our high schools. Courses and conferences in safe driving are being sponsored by some of our teacher training institutions.

It is obvious that these are the areas for the extension of the program. A marked decrease in the traffic accident record among elementary school children followed the introduction of safety programs in the grades. The elementary school period is the time to establish correct pedestrian attitudes and habits. It is during the high school age that pupils learn to drive. That is the time when they should acquire the information, attitudes, skill, and habits necessary for safe and courteous driving. The high schools should offer this intensive instruction as a part of its regular program. We must look to the teacher education institutions to train the instructors who are to give this specialized instruction in our high schools.

This bulletin has been prepared as a guide for teaching highway and traffic safety in junior and senior high schools. It consists of two sections. The first part is based upon the Iowa Motor Vehicle Code. The second part deals with common traffic problems. It has been sponsored by the education committee of the Iowa State Safety Council and is issued jointly by the department of public instruction and the state motor vehicle department. If it helps to familiarize our high school youths with the essentials of the Iowa motor vehicle code, to develope in them an appreciation of the social significance of the automobile and the will to become skillful motorists and pedestrians, it will have served its purpose well.

We acknowledge our indebtedness to the education committee of the State Safety Council for its leadership in sponsoring the project, Professor J. W. Charles and Messrs. H. K. Bennett, H. W. Carmichael and Ed Murray for valuable services in preparing the course of study, Cameron Ross, A. J. Steffey, R. A. Griffin, and Fred L. Mahannah of the department of public instruction and Phil H. Sproul, secretary of the state safety council for suggestions, and Horace Tate, Acting Commissioner, Motor Vehicle Department, for his cooperation in the planning and carrying out of this project and his working interest in the development of the traffic safety program in our schools. We express our special appreciation to Dr. Robert E. O'Brian, Secretary of State, for his cooperation in printing this material for our schools.

AGNES SAMUELSON
Superintendent of Public Instruction

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Traffic Safety Manual

SAFETY

Primitive man, by comparison with the present day, was slow in everything he did. However, he always wanted to be ahead of his rivals beyond the next range of hills or over in the next fertile valley. For a long time his travel was on foot. In time, he fashioned a rude boat and floated on the swift current of the streams, gaining a bit over the laborious walking and running. Later he tamed the animals which have become beasts of burden and travel. Some genius invented the wheel, fashioned vehicles and made travel speedier and more comfortable for both man and animal. Long periods followed in which there was no advance until artificial power was invented and applied to vehicles for travel. The urge for speed, of course, was always present, because it meant advantage to those who possessed it—in war, in business, or in control of the land and its products.

Two great centuries, 1800 to 1900 and from 1900 to date, have given man in superlative measure, what he has so long desired, speed. Steamships, railroads, automobiles, bicycles, motorcycles, motorboats, and last of all airplanes, have mastered time and distance and set man free from provincial surroundings. Accumulations of wealth and the establishment of security have made unnecessary further efforts of the younger generation to invent more and speedier devices for travel, but most of the present conveniences, invented under the urge of need, continue as means of recreation and play. There is little need for increase in speed, for the continent can be spanned in daylight; the most distant spots in the wilderness can be reached in a few hours in case of emergency. Even the wide stretches of the oceans can be surveyed in a few days. But there is great need for the control of speed, and no where so much as in the case of the automobile.

Other influences enter to emphasize the need of controlling the use of the automobile. The number of cars intensifies the problem. If there were only a few hundred cars in the United States, they could not meet very often and hence could not be involved in many accidents. Even if all of them incurred accidents it would not be a large total, but with more than twenty-five millions on the roads the chances for accidents are increased indefinitely from mere numbers. The situation is further complicated by the fact that very few drivers are ever trained to drive. There is also the menace of the drinking driver. The action to reform bad habits of the driving public is not yet in proportion to the gravity of the situation, although much is being done through building better cars, improving the highways, strengthening the examinations, more stringent legislation, and the development of educational programs. Compared with the precautions for safety taken by railroad officials, by the laws of the states, and by the requirements imposed by the brotherhood of locomotive engineers, automobile safety is not yet as well safeguarded. It is time to impose, first, a knowledge of the danger; second, a knowl-

edge of existing laws; and third, some kind of training that will result in skillful driving and correct attitudes toward the rules of the road.

In addition to the thirty-six thousand deaths on the highways of the United States in 1936, and the promise of greater numbers in the future, the mangled and mutilated bodies left to suffer, the dependents who will be a source of sorrow and expense to their relatives, there is the jeopardy to a tremendous investment in cars, roads, factories, filling stations, and all their allied activities. The statement of the problem of traffic safety in the United States is simple; its solution is difficult and intricate.

Term Problem

How can the deaths and injuries resulting from the use of the automobile be reduced?

Keep this problem before you, gather pertinent facts, and develop a proposed program as a class project. In doing so, find out what contributions are being made by the following agencies (4 E's) in solution of the problem:

1. Engineering—the building of better cars and highways
2. Enactment—of legislation
3. Enforcement—protection
4. Education—knowledge, attitudes, and habits

Divide your group into committees for research work in studying problems relating to the

1. building of better highways
   a. auspices under which highways are built
   b. ownership of highways
   c. cost of paving
   d. federal and state highway projects
   e. primary and secondary roads
   f. similar facts about streets
2. building of automobiles
   a. improvements made since first horseless carriages were built
   b. increasing number of cars
   c. other facts
3. legislation
   a. survey of legislation in
   b. other needed changes
4. education
   a. what schools are doing to safeguard pupil transportation
   b. safety materials available
   c. place of safety in educational program
   d. what high school pupils can do to promote safer driving
   e. specific things you are doing to improve your own safety habits
   f. information relative to laws of the road and other essential understandings

Questions and Problems

1. Summarize the economic importance of the automobile in our modern life. Give specific illustrations.
2. Summarize the social importance of the automobile in our modern life. Be specific.
3. Find out what the railroads have done to reduce accidents.
4. It is frequently stated that automobile accidents take more lives than war, crime, and disasters. Find figures to prove or disprove these statements.
5. Secure information as to the accident situation in your community, in the state, and in the nation. Keep them on hand for analysis in later units.
6. Discuss the use of the automobile as a means to health, work, and recreation, or as an instrument of destruction.
7. Ability to estimate distances accurately in driving a car is a very important factor in safe driving. What are some devices which the driver can use in estimating distances with some degree of accuracy?
8. From the standpoint of safety, sixty miles per hour is considered to be a high rate of speed by most people. Why is this same speed much more dangerous at night than in the daytime?
9. The motor vehicle laws of this state require that flares be placed on the highway under certain conditions. Describe a situation in which flares must be used and explain how, when and where they would be placed.
10. Brakes are a very important safety device on any car. What rules does the good driver observe in their use so as to increase their effectiveness and prolong their life?
11. What are the different kinds of lights with which cars are equipped and what is the purpose of each kind?
12. Some cars are equipped with auxiliary or fog lamps. Where are such lamps placed on the car? How do they differ from other lamps in appearance and under what conditions are they used?
13. List in order of development all of the various means of transportation that man has devised. Name the most significant stages in the history of transportation and explain the significance of each.
14. A two lane highway is generally eighteen feet wide. Rules are necessary. Are rules equally necessary on the ocean or in the air?
15. Why do people have bad manners when driving even though they obey all the conventions on other circumstances?
16. Why do people, almost involuntarily, blame the other person in case of accident?
17. Do you have as much consideration for the small out-of-date car as for the bright, new, up-to-date car? Why?
18. Define the following terms quite precisely:
    a. right of way
    b. safety zone
    c. residence district

d. reasonable speed
e. accident
f. hitchhiking
g. intoxication
h. driver's license
i. chauffeur
j. police patrol
k. reckless driving
l. safety glass

Activities

1. Give an assembly program on the history of transportation. Illustrate it with pictures and charts showing the story of travel from the camels of the nomads to the streamlines of today. Accept opportunities to give this program before community groups.
2. Show how the development of speed is eliminating time and distance. Use graphs, charts, and specific examples.
3. Start a classified scrapbook of newspaper clippings.
4. Prepare a chart wih three columns headed, Characteristics of Safe Drivers, Characteristics of Careless Drivers, and Accident Factors Beyond Control of Drivers. Prepare a discussion accompanying the chart showing how the factors listed in the third column will operate to the greater disadvantage of the careless driver.
5. Secure figures from the National Safety Council relative to the frequency of automobile accidents for each hour of the day for each day of the year. Get the same information relative to the frequency of accidents on the various days in the week. Prepare graphs for each set of figures, the first showing the percentage of accidents occurring at each hour of the day and the latter showing the percentage of accidents occurring on different days of the week. Accompany each of the graphs with explanations concerning the reasons for the high accident rates at certain hours of the day and for certain days in the week. Give your solution of the problem in each case.
6. Prepare an illustrated talk dealing with the increased hazards of fast driving under night driving conditions. For one of your illustrations show the effect of the combined forces of speed, limited visibility and stopping distance. Figures can be secured from some of the references listed in the bibliography.
7. Make a list of the different factors that a good driver must observe in order to have complete "Control of Speed". Refer to your references to get information on this question.
8. Cars are equipped with a number of different kinds of brakes. What are the various kinds and how does each of them operate?
9. Make an outline showing the various stages through which transportation has developed from its most primitive beginnings up to the present. From the standpoint of safety what problems has each new development presented? List them for each.

10. As a class project make a frieze showing the various stages of development to parallel the outline suggested above.
11. Bring a bicycle to class and study its construction as a class project. Note the features it has in common with other types of vehicles. Study the mechanics of the coaster brake. How does it differ from brakes on other vehicles?
12. What are the different kinds of motive power now in use? Compare the various types with reference to the method of developing power. Explain the various methods in detail.
13. Build a small electric motor or a small dynamo. Try running them first on a direct current from a storage battery and then an alternating current using either a toy transformer or one you made yourself.

THE DRIVER

Much has been done to perfect the machine. Every year better vehicles are produced. Does each year bring corresponding improvement in the skill and performance of the driver?

Certain information is considered indispensable. Now is the time for you to acquire this knowledge. Secure a copy of the Iowa Motor Vehicle Code and read carefully the definitions in section one before proceeding further. Next study the legal regulations pertaining to the driver as found in sections 205-253.

Questions and Problems

1. Prepare and administer objective tests based upon these sections. Repeat until satisfactory scores are made on essential facts as to issuance, expiration, renewal, cancellation, suspension, or revocations of licenses and violation of license provisions.
2. List at least five driving errors that cause deaths and injuries.
3. Name at least five points in reckless or chance-taking driving.
4. Why is speed never entirely without danger?
5. Why is driving a privilege granted by society under given conditions and not an inalienable right?
6. List at least five things that indicate your mental attitude toward driving.
7. State at least four civil and criminal responsibilities of drivers.
8. Discuss the dangers of night driving.
9. Describe the manner of backing into a parking space successfully.
10. Name all the physical disabilities that affect good driving. Check those that may be remedied.

Activities

1. Figures over the period 1922 to 1933 for automobile accident death rates have increased alarmingly. This is particularly true of the age groups 15 to 19 and 20 to 24. Prepare a brief summary

of short statements based on reference reading concerning precautions which these groups should observe in order to reduce these high rates.

2. Prepare a complete list of statements which would characterize the expert driver. Explain the relationship that these characteristics have to habit formation.
3. Prepare a chart upon which you can classify habit into the two following classifications:

   "Habits the servant of man"
   "Man the servant of habits"

   On the upper half of your chart confine your classifications to habits involved in driving an automobile. On the lower half of the chart you may list habits from other sources for purposes of further illustration.
4. Be prepared to give a detailed description of an accident you have seen which involves a wrong interpretation of "the right-of-way". Give your own reactions of the right-of-way principle concerning whether or not it should be retained or completely discarded.
5. The driver's reaction time is an important factor in his success as a driver. Reaction time varies widely with individuals. A simple reaction time test is suggested in Special Project No. 3, page 35 of "The Driver", Sportsmanlike Driving Series. Try this test as a class project getting the reaction time for each member of the class.
6. Would it be a good law which would segregate the driver of a car from other passengers, so that he may give his entire attention to driving? Prepare a complete argument for both sides of the case.
7. Discuss the importance of the three C's in driving—caution, courtesy, and consideration. Give examples of each that you have witnessed on the part of drivers.
8. The following quotation is taken from a recent report of the New York City public schools:

Safety and Character

> "Care on the part of the drivers of vehicles is to a large extent a matter of character training. Technically an accident may be attributed to speeding, driving on the wrong side of the road, trying to beat the lights or to plain recklessness, or carelessness, but all these things are in reality manifestations of the same thing—lack of consideration for other people. This lack, which is the leading cause of motor vehicle accidents where the driver is at fault, is a character defect, and it follows that if our safety education program, as it may affect present or future operators, is to succeed it must be essentially a character education program."

Discuss the effect of habits of driving upon character.

PEDESTRIAN'S RIGHTS AND DUTIES

The pedestrian should realize that he is at a disadvantage when he uses an automobile road. He is unable to compete on equal terms with the fast-moving powerful machine. Therefore, he should take special pains to be in a safe position at all times, and to give himself ample time to avoid any approaching traffic. He should not insist on the privilege of walking on the highway when this would cause confusion to two or more cars, the drivers of which might not interpret his intentions correctly. It is even reasonable to think that the pedestrian has no moral right at all on a congested roadway where automobiles are privileged to travel at high speed night and day.

The Iowa Motor Vehicle Code defines the rights and duties of pedestrians and the duty of the driver in relation to pedestrians. See sections 354-359 inclusive. Pupils should learn the provisions with reference to pedestrians.

1. obedience to traffic signals (354)
2. walking on left side (354-a)
3. right-of-way for driver and for pedestrian (355 and 356)
4. driver's duty (357)
5. use of cross walks (358)
6. solicitation of rides (359)

Questions and Problems

1. List the dangers connected with hitchhiking. Does the good will connected with it offset the dangers?
2. Find out how many of the deaths and injuries due to automobile accidents last year were pedestrians. Project the study to the nation over a given period of years.
3. If an auto is approaching at sixty miles, how much time should the pedestrian give himself to get safely out of its way?
4. Are you making definite improvement in your own pedestrian habits? Is the class? Give concrete facts to show the improvement.
5. Make it a home room or class project to list pedestrian violations observed over a period of time. Also to list the corrections necessary in each case.
6. List at least five pedestrian errors and tell how to correct them.
7. It is said that one-half pedestrian fatalities and injuries are due to their own negligence. Give examples.
8. List at least five causes of pedestrian accidents and injuries.
9. Find out the importance of physical factors in driving skill.
10. Find examples of cooperation between driver and pedestrian.
11. Make ten rules for safe walking.
12. Statutes generally require "jaywalkers" to yield the right-of-way to automobiles. Does this requirement excuse the auto driver from all responsibility for injury to the "jaywalker"?

Activities

1. Make a comparison of the conditions of old with those of today as they pertain to pedestrians in traffic. What are the most important differences between them? What important changes must take place in the attitude of present day pedestrians?
2. From your references and any other sources you can get, make up a list of the principle causes of pedestrian accidents. For each of these causes suggest principles which the pedestrian should observe for his own protection.
3. Prepare a code of ethics for the driver of a car which you think he would observe in dealing with pedestrian traffic. Show how observance of such a code would result in a reduction of pedestrian casualties.
4. What responsibility should the community assume for pedestrians in traffic? Prepare suggestions concerning things which the community might do to reduce pedestrian casualties.
5. Make a study of pedestrian casualties for your community noting the casualty rate for the different age groups. Do you find any relationship between type of accident and age group? Offer suggestions which you think might tend to reduce the number of accidents.
6. Develop a series of rules, the observance of which would insure safety to children going to and from school. Deal with the following: safest route to school, obedience to traffic lights, where to cross street, attitude toward the police, danger from cars that might stop and back, danger at alleys, reading while on the way to school, hindrances to clear view of the streets, and playing in the streets.

EXAMINATIONS

Every new applicant for a driver's license must undergo an examination to prove his fitness for driving. Such examination will be given in the county where the applicant resides within fifteen days from the time of the application. Tests of sight, reading ability, knowledge of traffic laws, and actual capacity to drive a car will be included. The motor vehicle department is given considerable liberty in these tests, the aim being complete proof that the applicant is qualified to drive safely. (Section 218) It appoints the examiners from the members of the highway patrol. (Section 219)

The examination blank for 1937 included a schedule of dates and places for examinations in all the counties of the state. No exception from the schedule is allowed except in the case of legal holidays. Fifty questions are included in the driver's general examination and a very definite study of the code is necessary to answer them successfully. A like number is included in the chauffeur's examination, but there are many subtopics which lengthen this examination considerably and make it much more difficult. Naturally, the chauffeur should be technically informed concerning the requirements for driving.

Information concerning these examinations can be secured from the mo-

tor vehicle department and every one who expects to qualify should secure such aids as are available and then study the code thoroughly before presenting himself for the examination. Standardized tests of concepts of negligence in highway accident situations have been devised at the University of Iowa. Psychological tests have been devised at Iowa State College. These would be helpful in preparing for the examinations given by the state officials.

Licenses

A license to operate a car, just as a license to conduct a business, to be married, or to teach school, is simply a means of keeping a record and of establishing responsibility in case of accident or violation of the law. Every good citizen will want to obey every detail of the law concerning a license, and unwillingness to obey will incline everyone who knows of it to suspect some illegal intentions. Without knowing what the law is, most people will obey it rather effectively simply because of the customs that prevail, but the better citizen will learn what is required, for the state is eager to supply every request for a copy of the Motor Vehicle Laws.

It is best to think that every person who operates a car must have a license granted by the state, though there are a few exceptions. (Section 205)

License plates on cars from other states are often observed in this state. The operators need not have Iowa licenses though they are required to have valid licenses in the states from which they come. Government officials, people operating power vehicles temporarily on the public roads need not have state licenses. (Section 207)

Anyone operating a car must have his license with him and display the same when any officer asks to see it. He is subject to arrest if he does not. He is not subject to conviction if he has a license and can produce it. (Section 221)

Chauffeurs are issued numbered metal badges along with their licenses and these are to be worn in plain sight on their caps or on the lapel of the coat. (Section 220)

License Plates (Section 48)

These are not the same as drivers' licenses and their possession is not a substitute for nor an equivalent of such licenses. They are the evidence that the motor vehicle or trailer has been registered with the proper officials and therefore can be identified whenever it becomes necessary. Nonresidents are exempt from the license plate requirement of this state in case they are duly registered in their home states. Manufacturers, dealers, transporters, and operators of motive implements of husbandry are not required to possess and display serially numbered license plates. (Section 49)

Application for a license plate must be made in the office of the county treasurer on a form furnished by the state. The form provides for the signature of the owner in ink, residence and mail address, a description of the machine, type of body, number of cylinders, serial number of the

vehicle, engine number, whether new or used, and if new, the date of sale to the owner. (Section 51) Exempted cars will be furnished free, special plates and records of these will be kept by the motor vehicle department. (Section 50) For five days after the purchase of a car, it may be operated with a "registration applied for" card, displayed both at the front and rear of the car. This is simply to allow time for the purchaser to secure plates from the county treasurer. (Section 56) Plate numbers must be large enough to be read at a distance of one hundred feet during daylight and the plates must be shown at the front and rear of the car. They must be attached securely to the car in a horizontal position with the bottom of the plate not less than twelve inches from the ground. They must be kept clean so that they may be easily read. (Section 69) Registrations and license plates are good for legal use until midnight, December 31, but may be renewed by payment of the proper fees. (Section 271) When a person moves, after obtaining a license, he must inform the department in writing of the old and the new address. Women who are married after obtaining licenses must inform the department of the old and the new names. Ten days are allowed in which to inform the department of these changes. (Section 72) When certificates, cards, or plates are lost or damaged, they may be replaced by the department at fifty cents each. (Section 73) The owner or operator is required to make this replacement.

When an automobile has been permanently dismantled and can no longer be used on the public roads, or when it has been sold outside the state, the previous owner must detach the license plates and turn them in to the county treasurer, who shall then cancel the registration. The reason for this is obvious as it frees the former owner from any liability connected with the car after a bona fide sale.

Questions and Problems

1. Discuss the fact that the suspension or revocation of license is a removal of the driver from the highways because of his violating the confidence placed in him that he will drive the vehicle lawfully, carefully, and safely.
2. Measure mastery of these sections through use of examination questions given by state motor vehicle department for licensing drivers and chauffeurs.
3. What is the difference between a law and a custom? Which is it more necessary to obey?
4. If a driver is stopped by a motor patrolman who asks to see the driver's license, can the driver be arrested for failure to produce his license? If the driver claims to have a license at home, can he be arrested?
5. Under what circumstances may a person under sixteen years of age be licensed to drive? (Section 225)
6. How much authority have examiners appointed by the highway patrol to examine candidates for licenses? Can they do anything besides examining the applicants for licenses? (Section 219)
7. If an applicant is denied a license, does any record of this fact need to be kept? Why? (Section 230)

8. For how many different offenses is the motor department required to revoke drivers' licenses? (Section 240)
9. What is the maximum length of time for which a license may be revoked? (Section 243)
10. Could a driver whose license is revoked legally drive under a license from another state? (Section 245)
11. If you junk an old car, what should you do with the license plates? (Section 83)

Activities

1. Make a study of sections 205-247 Iowa Motor Vehicle Laws to determine the difference between the Operator's License and the Chauffeur's License with reference to the required personal qualifications of the applicant and the provisions, restrictions and limitations in each kind of license. Prepare a written summary of your findings.
2. Prepare a detailed outline of the steps one must take in securing a driver's license.
3. Certain restrictions are placed upon those who have drivers' licenses. From a study of the Motor Vehicle Laws, see if you can determine under what conditions a license can be cancelled, suspended or revoked. List the conditions for each case.
4. Make a list of the various acts one might commit which would constitute a violation of license provisions. What penalties are provided for each violation?
5. Why do the registration fees for passenger cars and trucks vary so widely? What are the determining factors with reference to the registration fee in each case?
6. Organize a group of your fellow students for the purpose of debating the following question: Driving an automobile on the public roads is a privilege granted by society and not an inherent right.
7. Do you know any people who possess drivers' licenses though not qualified to hold them under some one of the seven prohibitions under Section 208? Make a report showing the greatest tendency toward neglect of these prohibitions.
8. Make a count at some time when many cars are available at one time and place, to determine how many license plates are too dirty to be read. Observe at the same time how many license plates are improperly placed. (Section 69, Law)

POLICE PATROL

Police are representatives of the people with the special duty of maintaining peace and order according to the laws. Formerly very few people ever came into direct contact with these officers because it was thought that only criminals and other gross violators of the laws needed the attention of these public servants. With the passing of time came the attitude that the police were a hard lot, toughened by their dealings with the worst elements in society. They were obliged to know intimately

the thieves, murderers, house breakers, drunkards, and other immoral citizens, and to deal with them successfully they had to be direct and blunt to the point of coarseness. There was danger in their vocation and in many instances there was no time for the niceties of polite society. Quite unjustly, it seems, the danger they encountered and the protection they afforded were overlooked. They seldom were looked upon as heroes, and never as the friends of the neighborhood. Often they were selected as the proper enemies of the mischief-makers of the community.

As traffic has been speeded up, this has been changed entirely. When the street cars took their place in the streets, the police were appointed to protect the school children at the street crossings, and it was not long until the most delightful friendships in the cities were those of the school children and the police. When automobiles filled the streets and the country highways it became necessary at once to regulate the conduct of all who manipulated these high speed vehicles. This duty was turned over to the police, which soon brought the entire population into direct contact with officers of the law. At first the results were unfortunate as the police tended to treat traffic violators as they had been accustomed to treat hardened criminals and the public tended to regard the police as blunt and coarse. On the principle that severe treatment discourages crime, the police began to treat the drivers of automobiles severely, hoping to correct traffic abuses. Records in police headquarters prove that this policy failed to reduce violations of the traffic code. It is true that many citizens who never in their lives had been criminals were often and still are grossly neglectful of traffic requirements and that many lives have been lost and much property destroyed as a result of this carelessness. The automobile came into use so quickly that there was no gradual adaptation of safe driving practices to the employment of high speed.

A special group of police officers has been provided to deal with this difficulty. Every member of the group has been carefully selected; every one has been trained for the special work. In Iowa, one hundred and twenty-eight men (Section 31) are constantly on duty to protect the lives of all who drive on the highways. They are courteous men; they seek to educate the public, not to punish it, and if the public will adopt an attitude of cooperation rather than antagonism these men will succeed in reducing the disastrous death rate that prevails in this state. The members of the police patrol are friends of the public and only those who disregard the law can view them in any other light. They take great risks in dealing with criminals; they serve in all kinds of weather, night and day; their one aim is to protect everybody who drives a car on the highways.

Questions and Problems

1. Summarize the powers and duties of the police patrol. See sections 36-44 inclusive.
2. Why is it considered a misdemeanor for unauthorized persons to use the patrol uniforms or impersonate the duties of patrol officers? See sections 45-47 inclusive.

3. Find out what kind of instruction the policemen give people whom they warn.
4. What change in driving occurs when people observe traffic police approaching?
5. Compare the manners of traffic police and auto drivers whom they warn.
6. Make a record of courteous behavior you may have observed in traffic officers.

Activities

1. Assemble newspaper clippings on safe driving. Segregate any of these that have been written by traffic officers.
2. Prepare a discussion of the following topic to be given before the class: "The Police as Friends of Motorists and Pedestrians."
3. Make a study of the provisions in the Iowa Motor Vehicle Laws for the establishment of a Department of Motor Vehicles. Prepare a brief outline of the organization of the department showing the various officers and their responsibilities, powers and duties.
4. Prepare a table or chart showing what provisions are made in the Iowa Motor Vehicle Laws concerning the following points pertaining to the highway patrolman: appointment, training, equipment, salary, qualifications, duties, bond and dismissal.
5. Be prepared to discuss before the class the relationship between attitudes and traffic safety. What effect will the policies of the highway patrol have upon the attitudes of highway users and how will this in turn be likely to affect the traffic casualty record?
6. What is the policy of the Iowa Highway Patrol with reference to speed on the open highway? Give a floor talk discussing the advantages and disadvantages of this policy.
7. Look up the record of the Iowa Motor Vehicle Department with reference to zoning the highways. What factors are taken into consideration when restricting the speed in a given area? What scientific facts are used in determining the restrictions that are adopted? Make a written report.

ACCIDENTS

Accidents in auto driving are almost inevitable because there are so many chances for them. Sooner or later, almost every one who drives an auto will have some kind of an accident because no one can foresee all the circumstances attending his driving. Compare the case with the chance for accident on a passenger train. In the first place, the train has a fixed track; again, every train has a fixed schedule; every train proceeds under authority of a superior officer; there are automatic warning devices along the railroad; there are automatic devices for controlling the train; all operators of trains are trained under laws of the state and under rules of their employers; the prosperity of the railroad depends on the safety of its trains.

In spite of these advantages, people prefer the auto and all its risks.

Start when you wish, stop when you wish, go wherever there is a road, go whenever you wish, go at any speed the auto can make, get the thrill of doing the driving—these are pleasures that appeal to everybody. Yet they involve risks that most people do not consider carefully. Some of the inattention to driving that was possible in the old "horse and buggy" days, drunkenness, getting out of one's own lane, neglect of traffic coming from the rear or side road, bad light, slippery roads, drowsiness, neglect of signs and signals are all possible causes of danger. Some of these might merit excuse or at least charitable consideration, but there is too much at stake in human life to relax vigilance in any case. Training and foresight should come first in the attempt to prevent accidents, but if penalties are needed to awaken the careless to their responsibilities they should be applied at once, and without partiality.

If there is any one case in which the people should know the law, it is in connection with automobile traffic for the great majority are at some time riding in or driving automobiles. And especially is it helpful to know the requirements concerning accidents. First of all, the law requires that a record be kept of accidents. (Section 231) No matter whether the accident is serious or not, it should be reported to proper authority. One might think that an accident that caused only minor damage to property and none at all to human life would be too insignificant to report at all, but it is the safest procedure to make the report. One who fails to report a minor accident and later is involved in a serious accident is at a great disadvantage before the law when the former failure to report is made known.

When a person is injured or killed in an accident, the survivors in either car concerned are under obligation to aid the injured at once and to report the case as soon as feasible. If in the country, report to the county attorney or the sheriff; in a city report to the chief of police. These reports are to be made on regular forms furnished by the state, are confidential, and should be regarded as a protection to the one making the report. The coroner of the county is required to report monthly to the traffic department all deaths resulting from motor accidents. (Sections 231, 292, 293, 294, 295, 296, and 297) If a driver of a car has a collision with another car which is unattended at the moment, it is his duty to report to the owner of such car so that the owner of the unattended car may proceed as the law allows. If the owner cannot be found, notice must be left on the damaged car. (Section 295) If property adjacent to the highway is struck and damaged, a report must be made in similar manner. (Section 296)

Liability in case of accident. Almost everybody is inclined to blame the other person in case of accident. This simply means that every one sees his own side of the case and defends it. When the case is tried in court and judgment rendered the one who loses must satisfy the judgment within sixty days or have his license revoked and be ineligible for any further license until the judgment is satisfied. (Section 306) In case a verdict has been rendered against a person whose car has killed another person or damaged property, a certain portion of the damages granted by the court must be paid before the owner of the car is eligible to drive again. The portion varies with the seriousness of the accident.

Drunken Driving

The laws on this subject are brief, and their administration is difficult because there is no way to determine to the satisfaction of everybody concerned whether the person charged with intoxication really was intoxicated. Even if the driver is known to have been drinking, he can still make the claim that he was fully competent to drive. Therefore, the prosecution generally prefers to press some other charge, such as reckless driving, speeding, or driving on the wrong side of the road because it is easier to secure a conviction under these charges.

The federal government is in the position of having made it legal for a citizen to drink intoxicants while the states have made it illegal for a citizen to drive an automobile when intoxicated. In Iowa, the penalties for violation of this law are exceptionally severe, the fine for the first offense being from three hundred to a thousand dollars and one year's imprisonment; for the second offense from five hundred to a thousand dollars and a year's imprisonment; and for the third offense three years' imprisonment in the penitentiary. (Section 312) The fine and the imprisonment may both be imposed for the same offense. In addition to these requirements, if an operator is found driving while intoxicated after having been convicted of drunken driving, he shall be sent to the county jail for not more than thirty days. (Section 213)

This brief mention of intoxication and its consequences to motor traffic does not emphasize the case sufficiently. Michigan state police statistics show that from 1932 to 1935 inclusive deaths of pedestrians who had been drinking increased from twenty-two to one hundred, and deaths of intoxicated drivers increased from eighty-one to two hundred twenty-six. These deaths are somewhat less than ten per cent of the cases reported for the drunken drivers and fully twenty-five per cent of all the cases reported for drunken pedestrians. These figures all come from cases in which there was no scientific proof of drunkenness. Dr. H. A. Heise gave blood tests to a small number, one hundred nineteen, who had been involved in motor accidents and found that sixty-two per cent of them had been drinking. The same investigation showed that the drinking driver is more apt "to try to race a locomotive, to turn a corner at high speed, to pass another car near the top of a hill, or in other ways lack the caution and careful judgment which he would otherwise show". Moreover, in the accidents in which he is involved he kills just twice as many victims per accident as the non-drinking driver does. The figures being 2.2% and 1.1%.* Dr. Heise's investigations prove conclusively that the drinking driver is a distinct menace even though he thinks he is in no wise intoxicated.

Until the laws specify some method of identifying intoxication and the degree of it, police court records on this subject will continue to be wholly unreliable. Tests of the blood and urine have shown beyond question the amount of alcohol in the bodily fluids. Many who have been faced with the necessity of submitting to such tests have entered pleas of guilt without further delay.

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*Alcohol and Narcotics Bulletin, No. 302, p. 42-3, 1936. State Department of Public Instruction, Michigan.

Long before the automobile became a menace to public safety, scientific tests were made to determine the effect of alcohol on abilities such as drivers have to exercise daily. In 1904 in Copenhagen, fourteen tests were made on fifty young men who had been served with the equivalent of three drinks of alcohol and on fifty others who had no alcohol. Forty minutes after the fifty had taken their drinks, their accuracy in time reactions was impaired 9.7%; quickness in increasing the strength of grasp was inferior by 17.4%; attention to changes in direction was inferior by 35.3%; accuracy in following a deviating line was inferior by 59.7%. Tests by Dr. Heise, of Milwaukee, showed that subjects who had taken from three to five ounces of alcohol required 37% more distance to stop when traveling at the moderate speed of thirty miles an hour than those who had taken no liquor. Sight, speech, hearing, attention, thinking, reasoning all show distinct losses after the use of alcohol.

Dean Kindig, of Temple University, has shown by laboratory experiments that the time required by the eye, brain, and muscles to convert a visual stimulus into an act such as stepping on the brake pedal when a child appears in the road ahead is one-fifth of a second. "One drink of whiskey or one pint of beer will increase the elapsed time, from the eye to the wheel or brakes up to as much as four-fifths of a second." In this increase of time, an automobile traveling at the rate of forty miles an hour moves about forty-eight feet. The danger that may result is not hard to imagine. Insurance companies in Hartford, Connecticut, report in 1935, a two per cent decrease in auto fatalities, yet they assign thirteen per cent more deaths to drunken driving than in the preceding year, which, indicates that this one menace to safety does not yield to corrective measures that remedy other dangers to safety. If a citizen must drink, he must not drive an automobile; if he must drive a car, he must not drink.

The Weather

Good weather does not make driving safe as the statistics show that the great majority of accidents occur when conditions are ideal for travel. Bad weather, on the contrary, does cause some increase of accidents over the number occurring in good weather. The facts are more evidence that skill and care are indispensable in all kinds of weather, the need for both increasing as the weather becomes more unfavorable. In 1935, eighty-eight per cent of the auto accidents occurring in Ohio took place on dry roads. The Iowa law makes no direct requirement that operators adjust their driving to the conditions of the weather, leaving supervision to the interpretation of the "careful and prudent speed" phrase. It is evident, however, that many precautions must be urged because of the hazards inherent in varying types of weather.

Bright sunshine, at first thought, would seem to provide all the advantages needed, as far as vision is concerned. But even this has its handicaps. If one is driving in the evening with the sun low and directly in front, discomfort and danger are notably increased. If possible, it is much better to do one's north or south driving late in the evening in order to avoid this hazard. If cars follow at the right distance to allow it, the light reflected from their windshields sometimes strikes one's

mirror with blinding force. Surely it is better to dispense with the use of the mirror at such times or to allow the car in the rear to pass. Glare from the pavement, and occasionally from the center lines, is a hinderance that needs careful attention. In case the sun is shining brightly while the pavement is still wet, there is a noticeable hazard from glare.

Rain furnishes the most frequent hinderance to the best driving conditions. Not only does it interfere with visibility, but it also makes the pavement, gravel, or dirt road less safe to travel. Any number of well-established habits interfere with safe driving during rain. There is not enough driving practice during rainy weather to furnish the average driver with good habits for such weather. In good weather one does not need so much distance to slow down when approaching stop signs; on dry roads there is much less danger of skidding, and furthermore when the car does begin to skid the friction on dry roads is so much greater than one stops safely in a great majority of cases. The habits in use during safe progress tempt one to do the wrong thing when a skid starts. A safe rule is, when the rear wheels slide to the left, turn the front wheels to the left, and when the rear wheels slide to the right, turn the front wheels to the right. The brakes must be manipulated with all the caution one can summon in such cases. Experts advise not to use them at all or very lightly at the most. Keep the wheels turning for there is more traction in wheels that are turning than in wheels that are sliding. If the brakes are unequally tight, the one that is tightest serves as a center around which the rest of the skidding car tends to revolve.

Not exactly an item of weather, but a direct result of it, is the danger of skidding where piles of wet leaves accumulate on the pavement. This is a serious trap for the unwary as the top of the pile has the appearance of safety, whereas the very nature of the situation preserves the moisture underneath much longer than is suspected. Wet shoulders present some of this same type of danger especially when recent repair work has left the earth loose and yielding. Not even when there is a covering of grass should one put too much confidence in the condition of shoulders. It is like thin ice—be sure you know it is safe before you venture on it.

In some sections of the country, fog is a constant hinderance to safe driving, and not all the practice one may have will make it safe to try to maintain the average speed of clear weather. The obvious danger is the fact that other cars cannot be seen at all until they are so close that there is not time enough for adjustments that emergencies would call for. If it is absolutely necessary to travel in heavy fog certainly the speed must be greatly reduced. In sections where fog is only an occasional occurrence, the danger is even greater than in those places where drivers have learned to make some adjustments. Yellow lights seem to be an improvement over the lights used for ordinary driving as the globules of mist provide much more reflection from the brighter lights. The Iowa requirements deal specifically with the necessity of lowering lights when meeting other cars in any condition of darkness. (Section 441) The entire division of the law including Sections 409-453 may be read with profit in this connection.

Snow increases driving hazards in several ways:

1. If one is traveling while snow is falling visibility may be notably decreased. The wind may play pranks with one's ability to see all the factors involved in driving at such times.
2. The windshield wiper cannot be depended on during the time snow is falling. Soft snow may cover the glass entirely, in which case it is imperative that the driver get his car entirely off the highway until the trouble is remedied. If the weather is extremely cold, of course, there is danger that all windows will be clouded over and then coated with ice. Defrosting devices are so much in the experimental stage that there is no common practice concerning their use. A second plate of glass with a dead air space just in front of the driver seems to be quite satisfactory. If a small motor is used with a fan to blow warm air on the windshield, the blades should be made of rubber to reduce the chance of accident.
3. The roadway becomes perilous. If the snow is soft and wet, the chances for skidding resemble those that are present during rain. If the snow is such that it packs readily under the weight of the car, the wheels do not slide at once. Considerable traction is present but one cannot tell just the moment when packed snow begins to be more like ice. When in doubt, reduce the speed.
4. In deep snow, the risk of "getting stuck" is increased and with this comes more of exasperation and delay than of danger to life and property. On the main highways, it is the best policy to wait for the snowplow to do its work. Elsewhere, stay off the road, if possible. Some old-fashioned walking is excellent exercise.
5. Every winter, in spite of supervision and the best of intentions, some children are killed while coasting. Reserving certain streets in the cities for coasting is an excellent plan providing the supervision covers all approaches from side streets and the entire length of the coasting lane. If some come with skis to use the street, set aside for coasting, the problem is complicated. No cases have been reported but it may well be anticipated as another hazard.

Sleet and ice. These differ only in their origin and so do not need separate consideration. Tests have been made which showed that almost seven times as much distance is required for stopping on glare ice as on dry surface; on rough ice almost four times as much distance is required. Chains help, especially if used on all four wheels. Brakes hinder rather than help if they are applied too suddenly or too severely. The best advise is to apply the brakes lightly and release them the moment there is any suspicion of sliding. The wheels must be kept turning. As soon as they are locked, which is the great danger, one might as well have the car on skates. When the car is at a standstill on ice, reports say that one may start more successfully in high gear. Be very careful in engaging the clutch.

In the cities, much more than in the open country, the danger from

ruts in the road is notable. Traffic is so constant that the snowplow is often prevented from clearing the way before the snow is packed into ice and ruts established. Siow down!

Heat and cold. Hot weather seems to furnish less mechanical trouble than cold weather. Lubrication is even accelerated. The water in the radiator needs to be watched somewhat more carefully. Dust and mirages are hindrances at times. Most of the trouble, however, is in the discomfort the driver and passengers in the car experience. Children may become fretful to the extent that they interfere with the driver's efficiency. Poor tires are in greater danger of blowouts than in cold weather as expansion of the air in the tubes increases the pressure. Cold affects the car adversely in more ways than heat does. Great difficulty in starting is a common experience. Battery trouble increases, all parts of the car that are lubricated act sluggishly until thoroughly warmed up. Radiator trouble multiplies. In cars that are not adequately heated, perhaps the most serious trouble is the effect upon the driver. If he dresses heavily to keep warm his movements are interfered with; if he does not keep warm, his self-control may be so impaired that he cannot drive well. In the case of the car and its mechanical troubles, be sure to consult the mechanic at the garage; in the case of the driver, avoid driving except when physically fit.

Questions and Problems

1. Why is the human factor the greatest cause of accidents?
2. Is it the right attitude to say: "It won't happen to me?" Discuss.
3. List the various factors involved in the control of speed which you think would be good indicators of whether or not the driver has mastered the art of driving.
4. If another car has driven through a red light while the green light is in your favor, do you have a legal right to proceed into the intersection?
5. The road ahead of you is hidden by a thick cloud of smoke from a fire in the field at the right. Other cars are following closely. What should you do?
6. What is the meaning of the phrase "The last clear chance to avoid an accident"? See Sound Driving Practices.
7. If you can see that the roads are clear in all directions as you approach a stop sign, is there any need of coming to a complete stop? Give your reasons.
8. If a car is sliding into an intersection when the red light is against it, do you have a legal right to drive into that intersection from the right or left?
9. What is the danger zone? Is it all on the highway? Does the speed of the car modify this zone?
10. If a driver in front of you and approaching an intersection in a rural district turns into the left lane, are you safe in passing to the right?
11. Recent reports state that there are more fatal accidents at night

than in the daytime. Find evidence to prove or refute this statement.

12. Tell how to make our environment and ourselves more accident-proof.
13. What is the penalty for the first conviction for drunken driving? For the second and third convictions?
14. What is the penalty for driving a car after having one's license revoked for driving while intoxicated?
15. What is the best proof that a person was (or was not) intoxicated while driving?
16. How soon after an accident should an examination be held to determine whether the driver was intoxicated?
17. Discuss the quotation: "There is nothing a person who has been drinking can do to compensate for the lowering of his driving skill."
18. Explain why driving plus drinking equals disaster.
19. Why does alcohol cause more accidents than the records show?
20. Discuss the effect that alcohol consumption has upon the driver's attitude toward traffic.
21. Police report that the moderate drinker is frequently more dangerous on the highway than is the heavy drinker. Why would this be true?
22. What steps will the good driver always take to overcome each of the hazards that confront the driver in very cold weather?
23. What are the various limitations of headlights in night driving that the master driver will always observe?

Activities

1. Frequently a driver's car will be a good indication of whether or not he has mastered the art of driving. Describe a car you have seen which you think belongs to a driver who has not mastered the art of driving.
2. Good driving is sometimes referred to as an art. Analyze the characteristics of a good driver and list those which could be named as skills contributing to the art of driving.
3. Make an accident map of your town checking the location of all accidents. Then look for causes in the locations.
4. Investigate the causes of accidents. Find the five that appear most often.
5. Figures released by the National Safety Council reveal that there were 39,500 deaths caused by motor vehicles in 1937. These deaths caused an economic loss of $1,700,000,000. What is the economic loss per individual? How much of a saving would a reduction of 10%, 20% or 30% in total fatalities make?
6. The National Safety Council report for 1937 indicates that traffic deaths among children under 15 have decreased approximately 4.6% and for children under 5 about 8%, while adult deaths have increased approximately 7.3%. What factors do you think have contributed to the decreases in the children's groups and the in-

crease in the adult group? Suggest a plan that you think will help to reduce adult fatalities.

7. Write to the Iowa Motor Vehicle Department for yearly and monthly accident statistics and analyze them.
8. Make graphs and charts showing the main facts about accidents.
9. Keep a scrapbook of classified clippings as to accidents.
10. Select a committee to interview local, county, and state officials, police, judges, and traffic officers for information as to accident factors and their prevention. Invite them to explain their duties and to discuss the various applications of the law.
11. Discuss effects of physical fitness, fatigue, drowsiness, alcohol, hearing, vision, carbon monoxide, and age upon driving and accidents.
12. Carry on a survey of traffic accidents in your vicinity.
13. Give a floor talk on the where, when, how, and why of accidents on the highways.
14. Make an extensive analysis of accident statistics. The following topics will be suggestive:
    a. comparison of accidents for people at different ages
    b. comparison of fatal accidents suffered at different ages with those caused by drowning, falls, firearms, and railroad accidents
    c. trend in severity and frequency of accidents in industry since 1926
    d. ratio of injuries to deaths in auto accidents
    e. comparison of urban and rural in most frequent types of motor accidents
    f. record of large cities in safe driving
    g. record of accidents of buses, trucks, taxicabs, as compared with passenger cars
    h. effect of speed upon seventy per cent of accidents
    i. distance required for stopping when traveling at 20, 30, 40, 50, 60, and 70 miles an hour
    j. effect of direction of travel upon chance for accidents
    k. effect of time of day and day of week upon chance for accidents
    l. reason why United States has more auto deaths than other nations
    m. comparison of deaths of Americans in World War with auto deaths in United States for equal period of time
    n. proportion of cars on the road involved in fatal accidents
    o. location of accidents as to street, highway, intersections, curves, railroad crossings
15. Summarize what you have learned about days and hours, weather and road and car conditions when accidents occur.
16. Prepare a ten minute talk on advantages and disadvantages of the season and the weather in driving. Take this up in turn for each of the seasons. Then let the discussion apply to different parts of the United States.
17. Look in your references for information concerning the effects

of alcohol on drivers from the standpoint of per cent of driving errors, eye and muscular coordination, and reaction time as revealed by braking distance. Prepare an oral floor talk to give to the class dealing with this subject.

18. Prepare a report on a laboratory study of the effects of alcohol on the human system. In your report emphasize those points which would be of greatest consequence in the case of a driver of an automobile.
19. The National Safety Council reports that four out of five accidents occur while driving straight ahead and the same percentage occurs on dry roads and in clear weather. It announces seven reasons for fatal accidents reported by twenty-six states as follows:
    a. exceeding speed limit or going too fast for conditions
    b. driving on wrong side of road
    c. disregarded stop signs or signals
    d. did not have right-of-way
    e. cutting in
    f. passing on curve or hill
    g. failing to signal

    The council reported that the higher the speed the worse the accident. At twenty miles an hour one accident in sixty-one was fatal, and the ratio increases until at more than fifty miles an hour one accident in every eleven is fatal.

    Twenty per cent of the nation's traffic at night causes three-fifths of all deaths, the council reported.

    Prepare a floor talk to give before the class or some public meeting explaining your proposed program for reducing accidents due to these causes.

TESTING STATIONS

Certain powers have been conferred on local authorities, such as the right to regulate parking spaces, local traffic, processions or assemblages on the highways, one way highways, speed of vehicles in parks, through highways, vehicles offered to the public for hire, and most important of all to erect and operate testing stations. (Sections 267 and 269)

Testing Stations. Section 269 of the 1937 Motor Vehicle Laws gives all cities and towns the power to establish and operate testing stations and to charge for their service. These stations are to be under the supervision of the local traffic safety council (Section 273), provided such council has been established. If no such council has been established the local lawmaking body continues to control through the provisions of article 269. Auto owners may be required to present their cars for inspection at the discretion of the safety council and may be refused the right to use the streets and alleys of the town or city if they do not comply. (Article 271) The charge for the inspection is fifty cents or less, and the inspection may be required not oftener than twice a year. In addition to being debarred from the use of the streets and alleys, the car owner or operator may be fined up to twenty-five dollars or imprisoned not to exceed seven days in default of payment of the fine.

The type of tests and the standards for testing equipment are determined by the state motor vehicle department (Section 276), and any city wishing to provide such service must first secure approval from the department. Evidence of the testing is also prescribed by the department in the form of a sticker which must be shown on the car as prescribed by the state department. (Section 272) When a car has been tested in one station it is exempt from testing in any other station in the state for the period for which the sticker was issued. (Section 272)

The original authority for the establishment and maintenance of testing stations states that the expense shall be met from the fees that are charged. (Section 269) Additional authority is given in Section 277, which allows cities and towns to supplement the income of the stations from the general fund or from the issuance of bonds. Such bonds, however, must be payable solely from the income of the testing stations. If there is any surplus from the fees imposed for testing this, it is to be set aside as a special fund for traffic regulation and enforcement. Though not specifically stated, it is implied that this surplus fund is to be administered by local authorities. (Section 270)

From the preceding account it is evident that the inauguration of a testing program must come from the cities and towns and not from the state. However, the plan will have all the backing of state authority when it is put into operation. The law does not appear to reach automobiles owned and operated in the country, though it is clear that the owner of any automobile that uses the streets and alleys of a city or town maintaining a testing station may be required to submit his machine for the tests. The experience of cities that have already adopted this plan suggests that the original expense of establishing a testing station may be from eighteen to twenty thousand dollars and that this cost may readily be paid from the income within three years. The law does not seem to provide for a state-wide consciousness of the need for regular testing.

Questions and Problems

1. How can the testing station serve to insure the proper functioning of each of the various safety devices on a car?
2. Explain the possible results of the failure to operate of any one of the safety mechanisms of a car which a testing station checks.
3. What provisions do the Iowa Motor Vehicle Laws make for establishing, maintaining and financing a testing station? What authority is vested in the organization with reference to requiring drivers to have their cars tested? What penalties can they inflict?
4. What are the various powers which the Iowa Motor Vehicle Laws confer upon local authorities for establishing testing stations?
5. Where no local traffic safety council has been established, upon whom does the responsibility for local testing stations fall?
6. How often can local testing station authorities require inspection of a car?

7. Who is responsible for determining the type of tests used and standards for testing equipment to be used in stations?

Activities

1. Most of those mechanisms about a car which are tested in the testing station are classed as safety mechanisms. List all such devices about a car that you can and show how each of them operates as a safety device.
2. What provisions do the Iowa Motor Vehicle Laws make for the regular inspection of cars at a testing station? How do you account for the fact that many cars in the state still operate without regular inspection at a testing station? Draw up a proposal to correct this situation.
3. Prepare a list of the various safety devices with which cars are equipped that testing stations always check upon. Prepare a detailed written report on the nature of the various checks used, explaining the principles upon which the machines operate.
4. Who is responsible for establishing the minimum standards which cars must attain in passing the testing station tests? How are these standards determined? Where must the owner go to have any deficiencies corrected? Prepare an oral floor talk dealing with this question.
5. Discuss the pros and cons of a state law requiring all automobiles in the state to be regularly inspected for mechanical efficiency at testing stations owned and operated by the state.
6. Visit a testing station and find out what it does and how it operates. Be prepared to make a detailed report to the class on your observations.

DRIVING IN TRAFFIC

Requirements for skill, attention, alertness, and quick response to changing conditions are greatly increased when the driver leaves the open road in the country and enters the crowded traffic of the city. Even in the country, at times, one will encounter very congested traffic. In all such conditions the safest practice possible is to follow along with the traffic, avoiding haste, worry, fear, and all tendency to get ahead of the procession, or "get the jump" on the lights. Danger is present both in front and in the rear if one attempts in and out driving. In addition experimental evidence shows conclusively that the gain in time secured by such driving over long stretches of road is insignificant. Stay in your own lane and follow prudently.

When passing other cars, a signal with the horn must be given, and must be heeded by the car signaled. The car overtaken must yield the road, must not increase its speed, and must not drive upon the shoulder of the road in the attempt to give room. (Sections 330-335) Passing is prohibited within a distance of seven hundred feet on the approach to a hill, within one hundred feet on the approach to narrow bridges and intersections.

School Bus Requirements

A separate bulletin prepared by the Department of Public Instruction is available for instruction in this portion of the Motor Vehicle Law. It is expected that all schools giving instruction in automobile safety will secure and use this.

Questions and Problems

1. Observe a number of blocks in your home town. Count the number of cars parked facing in the wrong direction.
2. Observe at a busy corner. Compare the number who start too soon at the change of the light with the number who start too slowly.
3. Observe for a week as you drive with traffic. How often do you encounter cars that go so slowly as to obstruct traffic?
4. Observe the effect of rain on the speed drivers maintain. As rain begins do the cars go more or less rapidly? Keep a count.
5. Observe at a busy corner. Count the cars with windshield or rear window too dirty to allow clear vision.
6. If you are obliged to stop on the pavement to change a tire, what precautions should you take to insure safety?
7. Observe drivers who back into parking spaces that allow little more than room enough for one car. How many succeed in parking properly at the first attempt?
8. Write up a description of the correct manner of parking properly by backing into an open parking space.
9. Are road signs ever a source of danger? Enumerate the ways in which they might be. What is the proper way to avoid such dangers?
10. Enumerate five precautions for safety on long trips. There are many mentioned in "Man and the Motor Car".
11. On a ten mile trip how much time is saved by traveling sixty miles an hour in comparison to forty miles an hour?
12. When moving in congested traffic why is it important that the driver adjust his speed to that of the general traffic? What disasterous results are apt to occur if he attempts to exceed the general speed or if he drives too slowly?
13. How does the driver determine his proper lane when driving in an ordinary six lane street in city traffic?
14. How can the driver determine the correct speed to use in city driving where the progressive signal system is in use?
15. When a car is being passed on the highway, what restrictions must the driver of the car being passed observe? What provisions are made in the Motor Vehicle Laws for placing responsibility in cases of this kind?
16. An intersection has no stop light. Two vehicles reach it at the same time. Which one should yield the right-of-way?
17. Under what conditions is it permissible to pass a vehicle on the right?
    c. Conditions under which an automobile has the right-of-way over another which is approaching

18. When you slow down because of traffic in front, how and why do you warn the car following you?
19. What are the disadvantages of a rapid approach and sudden stop where stop signs are located?
20. What is the best thing to do in case the city fire alarm sounds while you are driving in fairly congested traffic in the neighborhood of the fire?

Activities

1. Observe at the stop signs at the busiest hour of the day. Count the number of autos that do not stop. Keep such a record for ten days. Write up your record and send it to the local newspaper. Keep a copy.
2. Observe at a busy corner for an hour. Count the number of cars that turn without giving any hand signals. Note especially the omission of signals when there are other cars following closely.
3. Observe the manner in which cars approach arterial highways where they must stop. Count the number who approach rapidly and stop quickly. Compare with the number that make the stop with a gradual approach. Count the cases in which tires slip on the ground before stopping.
4. Observe at an intersection where the view of the cross street is badly interfered with, for instance by buildings, shrubbery, trees, billboards or other obstructions. Make a report on the manner in which a hundred cars cross the intersection.
5. Investigate as many cars as you can over a period of a week and determine the number of cars in which the door locks are so insecure as to make it unsafe for passengers during high speed travel.
6. Keep a record over an extended period of the types of damage to cars in wrecks. How often are the front wheels damaged? The rear wheels? The gas tank? The glass? The steering wheel? The top? The doors?
7. What are the various hand signals that the driver must use to signal his intentions to other drivers? List the signals and after each indicate what intentions it indicates on the driver's part.
8. A common cause of highway accidents is head-on collisions in open country traffic. Analyze a situation of this type to determine what three principal factors enter into such accidents. What suggestions would you make to correct situations of this kind?
9. Formulate a set of ten rules which you think should be enacted into national laws for the control of driving.
10. Draw up a set of rules indicating proper procedure when turning at an intersection. Illustrate with drawings.
11. Make a large chart with three columns showing the following:
    a. Conditions under which the pedestrian has the right-of-way over an approaching automobile
    b. Conditions under which the automobile has right-of-way over an approaching pedestrian

SPEED

It might be argued that nature itself provides the urge for speed. Animals at play seem to enjoy it, and in their offensive and defensive behavior employ it to the maximum. Fish, birds, dogs, snakes, deer, rabbits, and wolves are all noted in some degree for their speed of movement. Human beings show a tendency almost from infancy to become competitive in running and build many of their sports on the enjoyment of speed. When commercial advantage is added to this natural tendency, no one need be surprised that American youths enjoy to the utmost the speed that is possible in the modern automobile. Of course, danger comes much sooner than the realization of it, and measures for safety must be devised. In almost all states the requirements for the control of speed are stated in the traffic laws.

In Iowa the requirements are partly general and partly specific. On the open highway no maximum limit is set but the driver must be "careful and prudent"; speed must be "reasonable and proper"; these are the terms one must meet in court in case litigation arises over the question of speed. (Sections 316 and 319) In a business or school district, the limit is twenty miles; in any residence district the limit is twenty-five miles; for any vehicle drawing another vehicle the limit is thirty-five miles. Passenger buses must not exceed forty-five miles, while freight vehicles equipped with solid rubber tires must not exceed forty miles, with further restriction according to the load carried. (Sections 317 and 318)

If the conditions of any section of a highway warrant it, or if bridges or other elevated structures appear to require more stringent regulations, signs limiting speed may be erected and their statements will have the force of law with penalties attached. Drivers of emergency vehicles naturally have special privileges, but must give ample warning with bell, whistle, or siren, and must be responsible for any negligence while driving.

Less than four pages in the handbook of the motor vehicle laws is devoted to the subject of speed. No doubt the proper requirements can be stated in this space but it is no indication of the danger inherent in all high speed and in some of the excessively low speeds where traffic is congested. Accident Facts, published in 1936, says, in one sense, every motor vehicle accident occurs because a motor vehicle, some other vehicle, or a pedestrian, is traveling "too fast for conditions". It also says, "the higher the speed, the worse the accident". From zero to twenty miles per hour, one accident in sixty-one is fatal; from twenty to twenty-nine miles per hour, one accident in forty-two is fatal; from thirty to thirty-nine miles per hour, one accident in thirty-five is fatal; from forty to forty-nine miles per hour, one accident in twenty-five is fatal, and over fifty miles per hour one accident in eleven is fatal. In practically all the conditions that provide danger in driving, increase of speed makes the danger worse.

The attitudes that prevail in the conduct of the driver determine generally "how fast is too fast". Extreme care may make high speed driving safe. In fifty million miles of driving on the proving grounds of automobile producers only one death occurred and that one was due to

a blowout. Yet the manufacturers do not advise their patrons to drive at high speed, for they know that extremely few people have either the skill or attitudes of their experimental drivers. Too often high speed is accompanied by hilarity, recklessness, and drunkenness. Such disregard for the safety of the numerous people who pay the bills and grieve over the calamities cannot be excused. In the report of the National Safety Council speed is responsible almost twice as often as any other cause for fatal accidents.

Questions and Problems

1. Study safe versus dangerous speed.
2. Discuss forty-five miles an hour as top speed for safety.
3. Speed is never entirely without danger. Discuss.
4. What is the danger zone for a moving car? How does the speed of the car affect the extent of the zone?
5. Why is less power required to keep a car moving at an even speed on level ground than to start or stop it? Why is this factor important with reference to the control of speed?
6. How do restrictions on speed in Iowa differ for passenger autos, buses, trucks, and cars drawing trailers? See the law.
7. Estimate the distance traveled per second at thirty miles an hour; forty; fifty; sixty; and seventy.
8. How much clear road ahead is needed for an auto traveling fifty miles an hour to pass another traveling forty miles an hour?
9. How does gas consumption at thirty miles an hour compare with gas consumption at sixty miles an hour?
10. How does wear on tires at thirty miles an hour compare with the wear at sixty miles an hour?

Activities

1. The tires of a car have a certain amount of grip on the road. Estimate the size of the area which helps in starting a car; in stopping it.
2. Look up the figures on stopping distances of motor vehicles with brakes in average condition. Also get figures on the ratio between speed and accident fatalities. Explain the corresponding relationship that exists between these two sets of figures. Information on these points can be secured from the reference, "Accident Facts" listed in the bibliography.
3. Cite some examples showing where speeds of 25 miles per hour are safer than 10 miles per hour. How is this question related to the definition of sound speed as given in "Sound Driving Practices", Sportsmanlike Driving Series, listed in bibliography?
4. How can a driver control his speed so as to avoid the misuse of brakes? How can he use his motor as a brake so as to save them? What braking precautions should be observed in descending long steep hills? Summarize your findings for a report.
5. Compare the speed laws as outlined in the Iowa Motor Vehicle Laws with those outlined for the state of California in the "Man-

ual on Traffic Safety for California Schools". What provisions are made in the Iowa law that would correspond in any way with the prima facie laws in California?

6. Search for figures in your references which will give information on the effect of speed on collisions. Make a list of illustrations showing the relative effect of different speeds when colliding with an immovable object.

AGENCIES INTERESTED IN HIGHWAY SAFETY

To increase traffic efficiency, and reduce accidents there must be a definite program, public authority and support, as well as complete cooperation of many agencies. The program will deal with the 4 E's mentioned in the first chapter—enactment, education, engineering, and enforcement. These involve also motor vehicle administration, trained personnel, and research work of state departments and civic and other groups.

The State Safety Council is an organization intended to facilitate the cooperation of all state-wide traffic safety activities.

Questions and Problems

1. Find out what the State Safety Council does.
2. Learn the duties of the motor vehicle department.
3. What groups have safety programs? What are these programs like?
4. Investigate the school safety patrols and what their purpose and program are.

Activities

1. Study the highway safety program from the standpoint of legislation enacted, enforcement regulations, engineering achievements, educational programs, and other aspects.
2. Investigate the activities of the American Automobile Association to determine the extent of their activities in safety education.
3. What efforts are the various insurance companies making to carry on an educational program in safety education? Write some of these companies for literature dealing with this question. Summarize your findings.
4. Make an investigation of your local school concerning the educational program for safety. How does it compare from the standpoint of effective results with the programs of other organizations? Does this throw any light on the fact that fatalities among elementary school children in traffic accidents are decreasing? Prepare a report on this .topic.

DEATHS

Motor vehicle deaths in the United States increased in number every year from 1913 to 1935 with the exception of the years 1932 and 1933. For the same dates, the death rate for all accidents decreased steadily,

beginning with 85.5 deaths per 100,000 population in 1913 and changing to 78.4 in 1935. The figures for motor vehicle deaths are 4.4 per 100,000 population in 1913 and 29 in 1935. The report for 1934 shows the greatest number of motor vehicle deaths in the month of December. It also shows that pedestrians were involved in 44% of all the catastrophies, the next most serious type being deaths from the collision of one auto with another, totaling 26% of all cases. The hazard is greatest from five to seven o'clock in the afternoon when 8% of all cases occur. Saturday, Sunday, and Monday are the worst days of the week. By far the greatest number of motor accidents occur on the open road with the car going straight ahead in broad daylight. Taxicabs have the best record for safe driving, buses next, trucks next, and passenger cars the worst. The better the type of driving license required by a state, the better is the record for safe driving and vice versa.

People may argue that deaths are fewer in proportion to the number of cars on the highway compared to the number a decade or two ago; they may claim that deaths are fewer per thousand gallons of gasoline consumed; any other argument may be used with the same unimpressive result. Only when the number of deaths begins to decrease will the public believe that there is effective control of driving. Careful estimates have shown what the prospects are under present conditions for the average citizen to be involved in a fatal accident. In a family of three children, one child faces the real probability of being killed before living out a normal life span. One of every two people faces the chance of being injured in the next fifty years; one of every four in the next twenty-five years. If you have as many as twenty near relatives and friends, the chances are that one will be killed in the next five years.

Deaths resulting from automobile traffic are no longer to be considered unusual or even accidental. They are dependable every day news and can be listed in the same manner as the weather report or the stock market quotations. One is tempted to ask what the price on an automobile passenger's life is for a given date. Certainly the hazards can be estimated for large populations. In brief, auto casualties are now a matter of state and national concern and if anything is to be done in the way of control, it is time the beginning were made. Not only are lives lost, but property is damaged, hospital bills mount up, wages are lost until the total is almost equal to the entire annual cost of education in the United States. Possibly a diversion of some of the money spent on extra-curricular activities to the task of making life somewhat more safe on the highways would be wholly justifiable.

Questions and Problems

1. Why are auto casualties a matter of state and national concern?
2. Get figures showing costs in damaged property, hospital bills, and lost wages.
3. From present reports estimate the deaths that will occur in Iowa during the current year from auto accidents. File it for comparison when the annual report is made.
4. One authority states that 99% of all deaths caused by automobiles occurred when "some person was at the car controls".

Does this imply that auto drivers were responsible for the 99% of the deaths?

5. What fault in driving causes the greatest number of deaths in Iowa?

Activities

1. Study the death maps of Iowa and find out whether any counties have persistently bad records while others have persistently good records. Compare these records with the population and the number of cars in these counties.
2. Make diagrams and charts showing additional facts about deaths not included in previous units.
3. The fatal accident records in Evanston, Illinois; Providence, Rhode Island; and Milwaukee, Wisconsin have shown a remarkable downward trend during the past ten years. Write to the police department in each of these cities for information concerning their traffic regulations. What regulations or policies do they have that other cities might adopt which would tend to improve their records?
4. How do you account for the fact that accident death rates of grade school children have shown a steady decrease while those for adults have been steadily increasing? Investigate the cause for this difference and suggest a program which society as a whole might adopt that would tend to reduce the adult record.
5. From your reference reading, find out what days of the week have the worst record for automobile deaths. How do you account for these figures? Summarize in a written report.
6. What do the figures show with reference to the number of deaths in proportion to the number of cars being driven? Is the ratio of deaths to cars increasing or decreasing? What must the records show to convince the public that effective control of driving is taking place? Prepare an oral report on this subject.
7. Get information from your references concerning the following points:
   a. Time of day when most accidents occur
   b. Days in week when most accidents occur
   c. Month of year when most accidents occur
   d. Driving conditions under which most accidents occur
   e. Types of motor vehicles involved in greatest number of accidents

Prepare a list of suggestions for each of the figures listed above which you think will tend to improve conditions.

EVIDENCES OF MASTERY

1. Report your program for the solution of the highway safety problem.
2. List values you have derived from this course.
3. What kind of a driver and a pedestrian will you be? What evidence have you that you are moving toward that goal?

4. Secure sample driver examination questions from the state motor vehicle department. Take the tests and find out whether or not you can pass.
5. What evidences have you noticed among members of your class indicating that they are more safety conscious after having studied this course? Make a list of those factors which you are observing with more care than formerly.
6. Are there indications that you are more conscious of the hazards involved in driving a car in traffic than previous to your study of highway safety?
7. Are you better able to analyze traffic accidents about which you read with reference to the cause of the trouble and the relative responsibility of the parties involved?
8. Can you cite indications of a greater appreciation on your part of the relative responsibility of pedestrian and driver in ordinary traffic conditions?
9. Do you have a better appreciation of the mechanical limitations of an automobile as well as the physical limitations of the driver in handling a car?
10. Do you feel that you have a thorough appreciation of the implications involved when one can be classed as a driver who has mastered the art of driving?
11. Prepare an outline of a program for highway safety indicating the steps you think should be taken to reduce the number of deaths and accidents on the highway. Be sure to include in your outline all agencies which should have a part in such a program.
12. Prepare a statement showing the contributions you made to the various research problems suggested for committee work in the section dealing with safety. If you served on more than one committee, prepare a separate statement for each of the committees upon which you served.
13. As a result of your studies present your comprehensive proposed program for the improvement of traffic safety in the United States through the 4 E's of emergency, enactment, enforcement, and education.

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Common Traffic Problems

Prepared by

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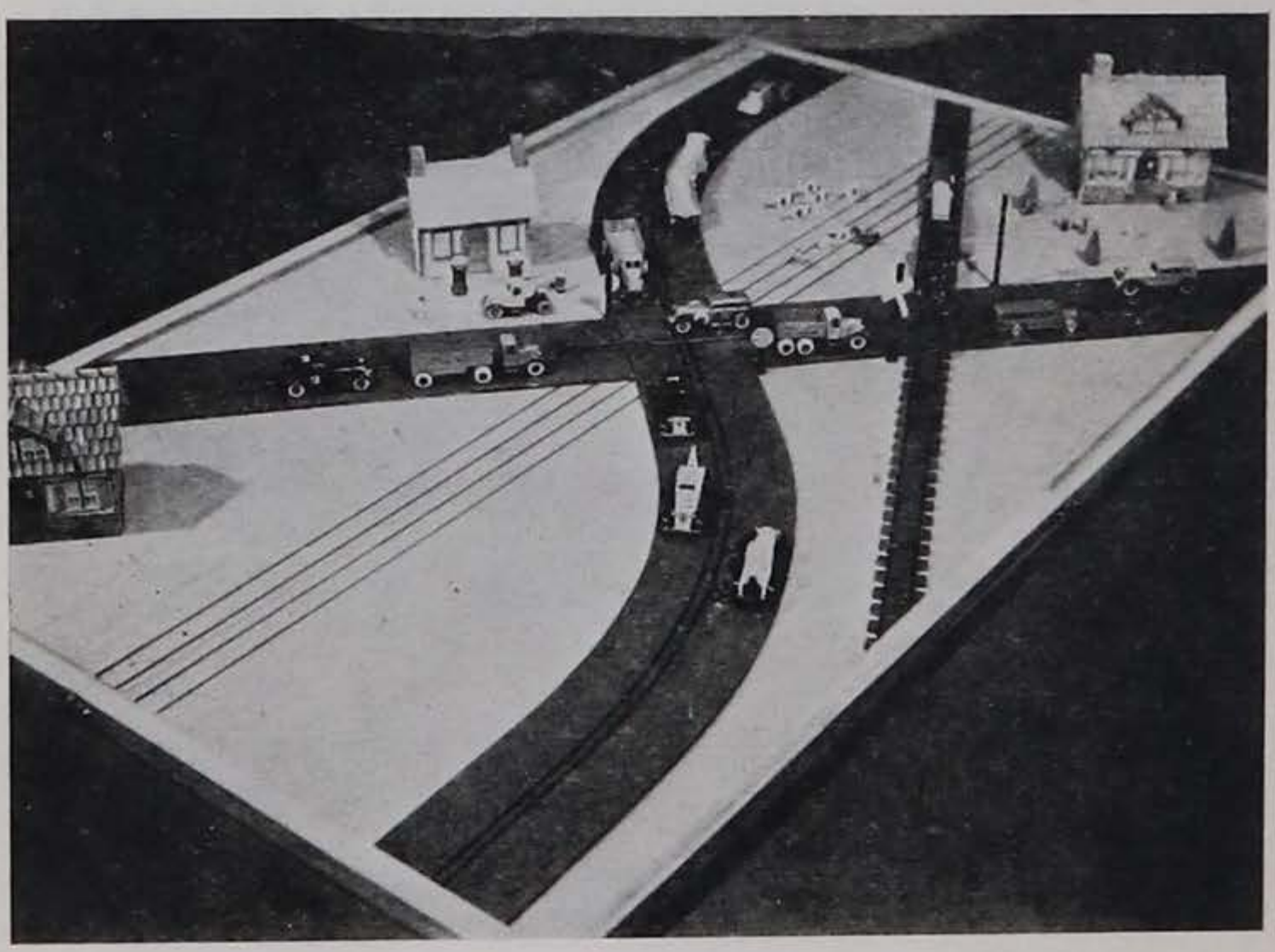
Iowa Motor Vehicle Department

TRAFFIC DEMONSTRATION BOARD

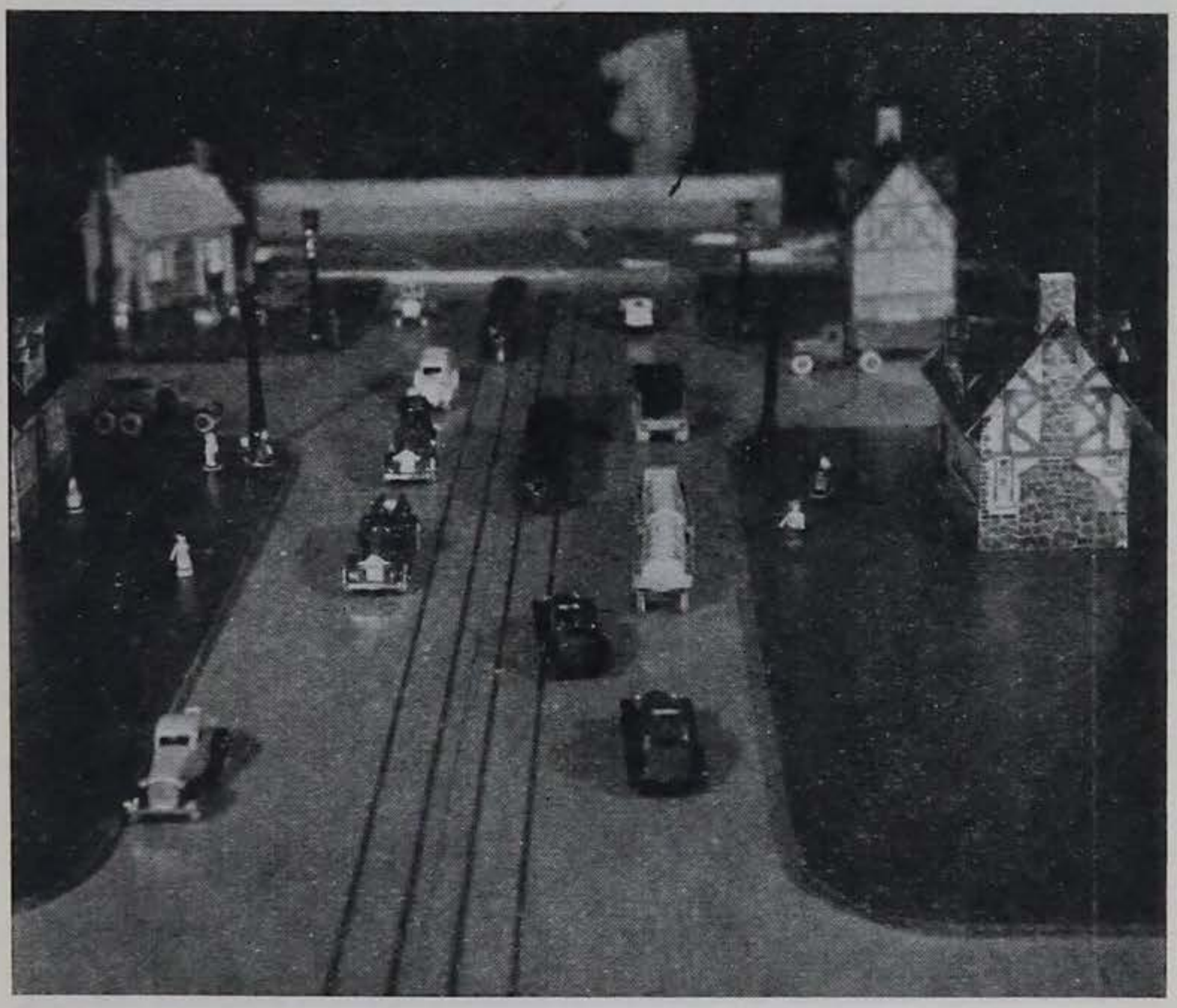
In order that schools may have available a visual means to demonstrate the traffic problems listed in this bulletin a demonstration board has been devised by H. W. Carmichael, State Supervisor of Trade and Industrial Education, which has been used successfully during the past three years in some of the schools where courses in highway safety are a part of the educational program.

This board is designed to accommodate three different driving situations and the following illustrations show the business, residence and suburban district arrangements which can be set up on this board according to the plans on pages 46, 47 and 48 when traffic problems peculiar to each of the above mentioned situations are being presented by the teacher for class discussion.

Business District



Suburban District

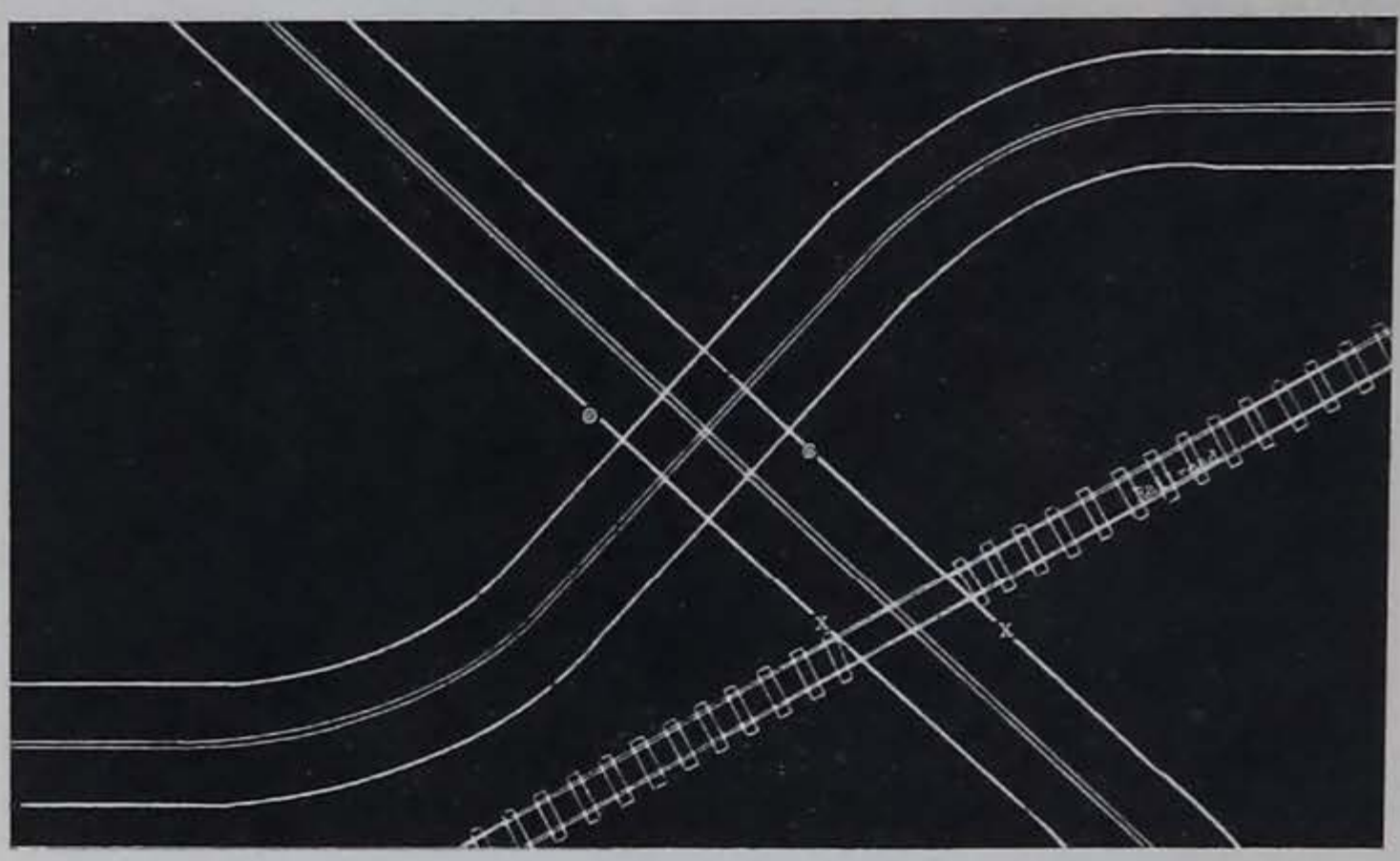


Residence District

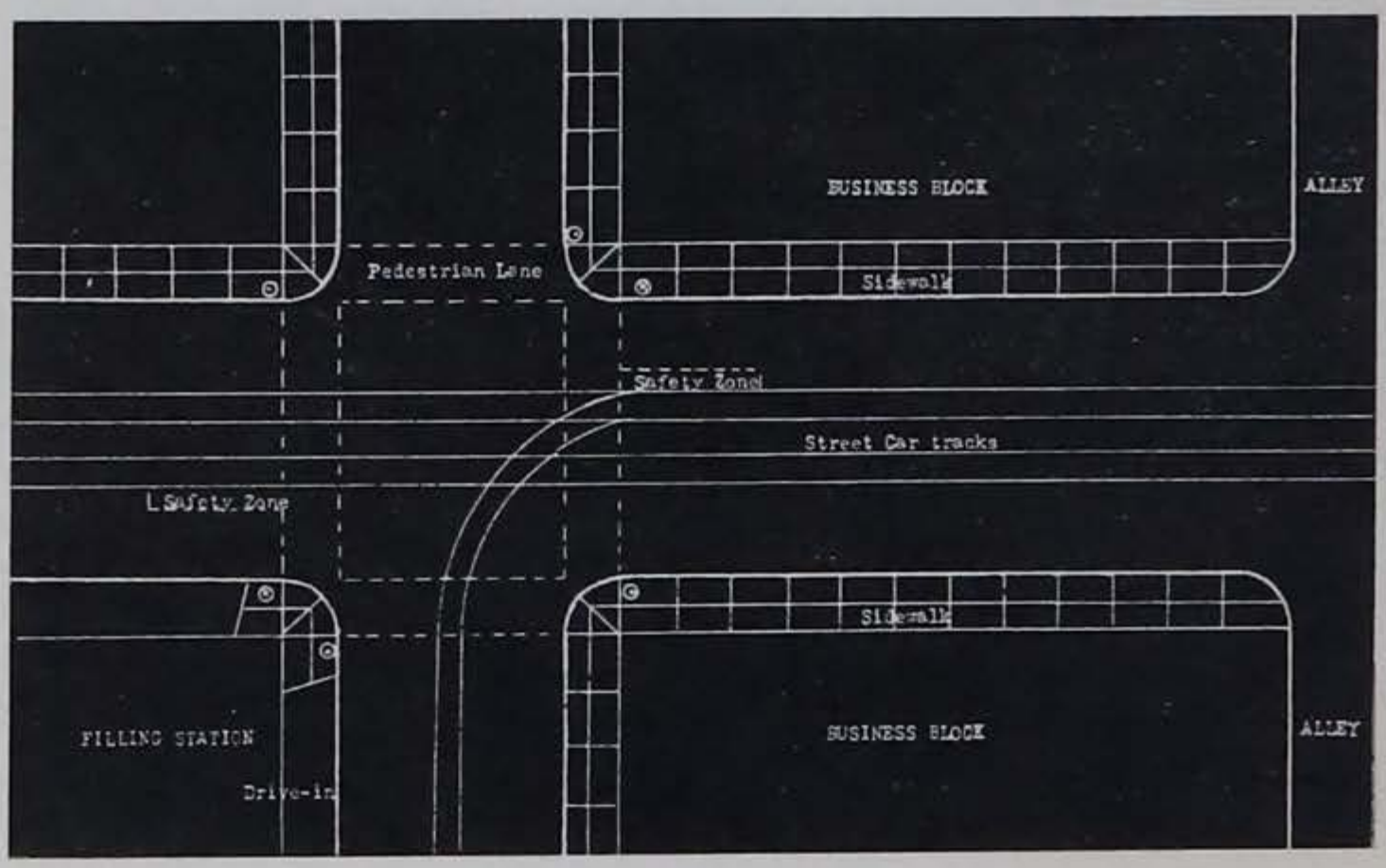
The demonstration board will withstand hard usage as it is made of wood and varnished. Railroad and street car tracks and all traffic lines should be penciled on the board before varnish is applied in order to prevent the board from warping and preserve these traffic marks. The board illustrated is made of five-ply birch panel having a 1″ rim around the outside edges which is grooved and glued to the board. The railroad tracks, highways, and sidewalks are made from one-fourth inch pressed wood. The board, buildings, houses, toy cars and signs should be planned on a one-fourth inch scale in order to have a well proportioned exhibit.

This board can be made in any industrial arts woodworking shop and interest will be added to the school safety program if it is manufactured in the school shop. The art department may be called upon to co-operate in the making and decorating of the traffic signs, buildings and houses. The three plans illustrated can be transferred to sheets of wall board or drawing paper 36″ by 60″ for use in school safety programs where shop facilities are not available within the school for the manufacture of a wooden demonstration board.

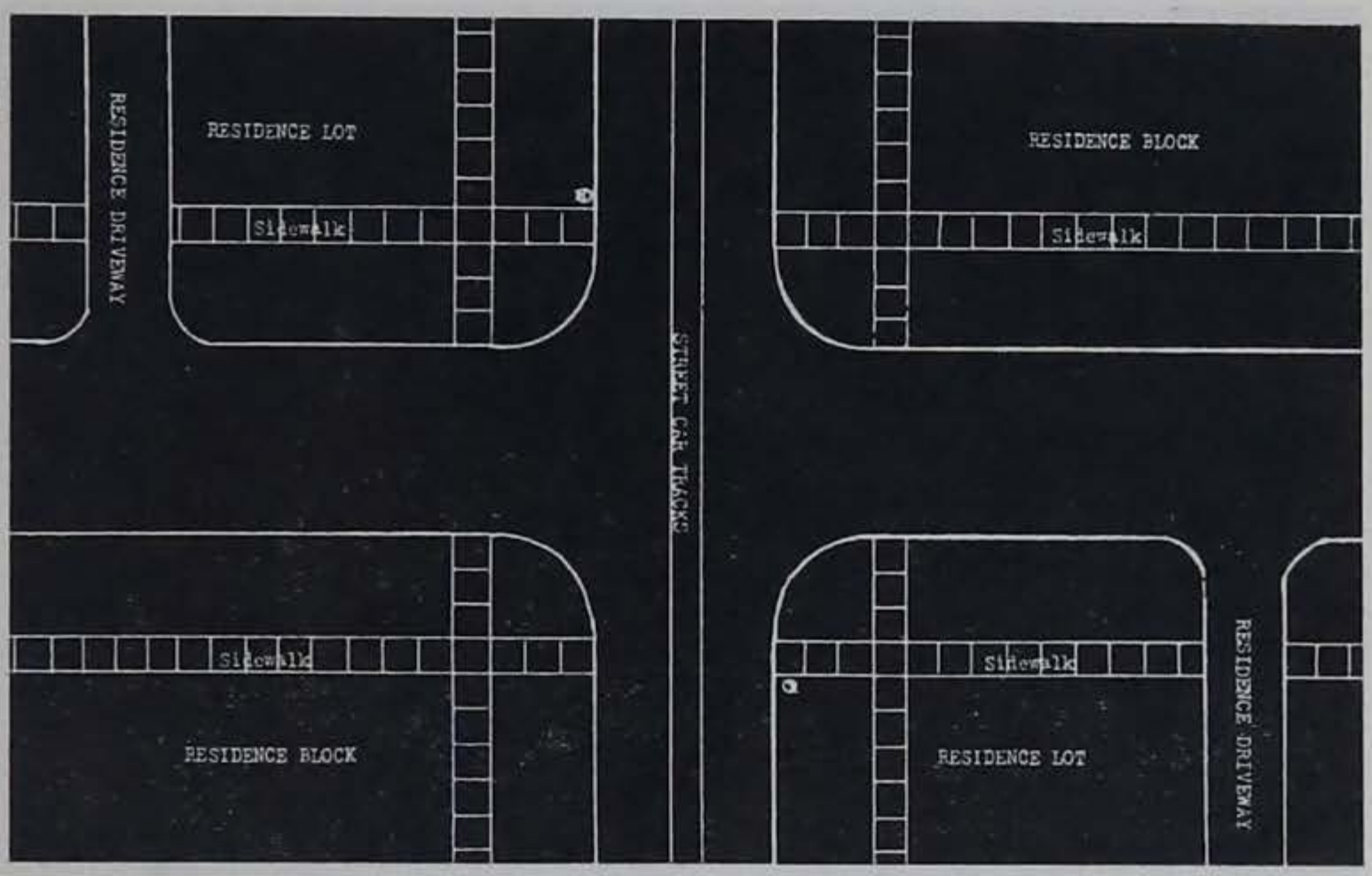
The following plans and directions are furnished which will enable schools to make their own demonstration board for use in setting up and working out the various highway traffic problems. All toys listed can be purchased at the ten-cent store. It is best, however, to make selections at Christmas time when a much larger variety is on display.



Plan for Suburban District



Plan for Business District



Plan for Residence District

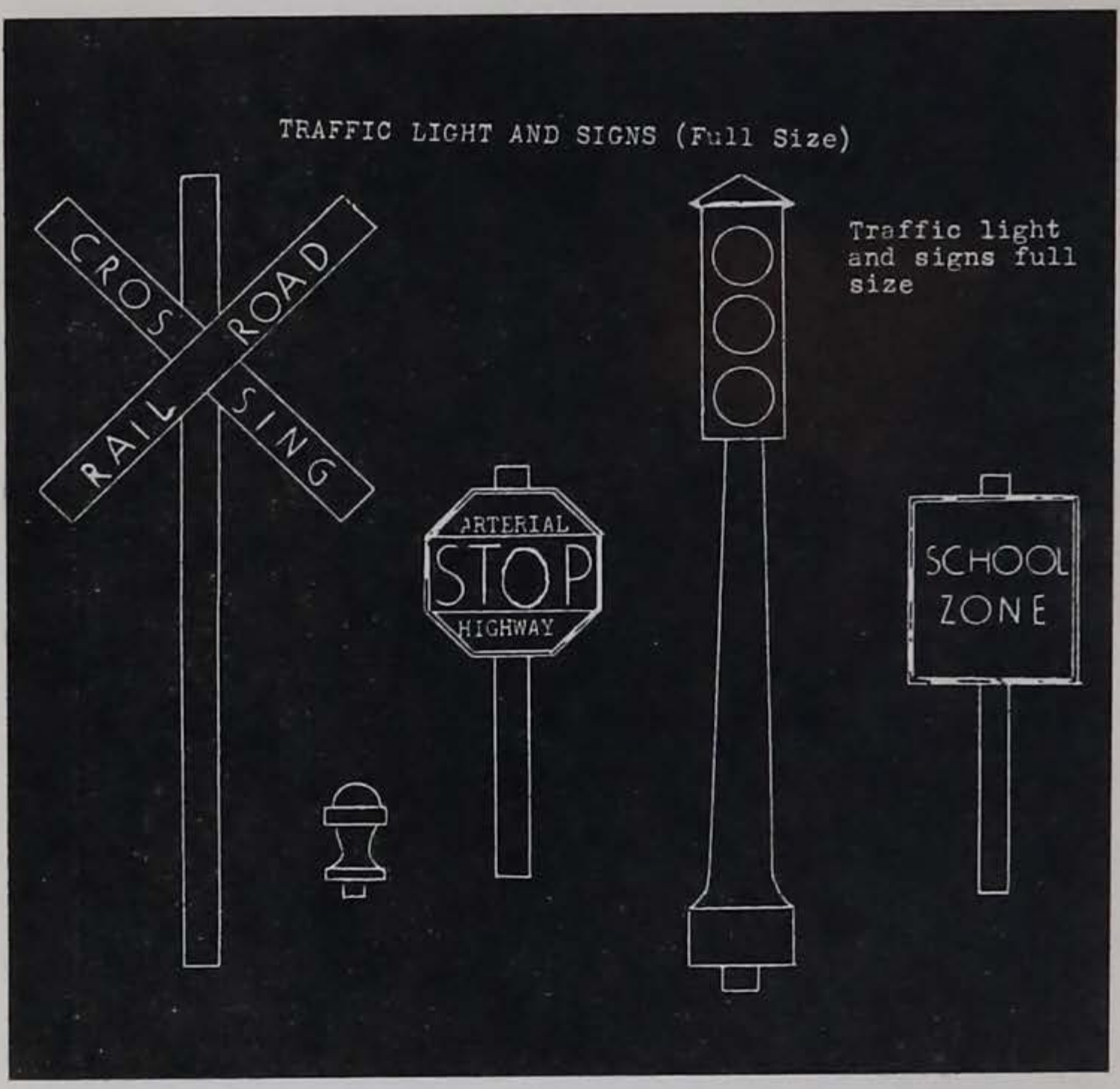
Bill of Materials for Demonstration Board

1 Pc. 1/2″ Birch panel 36″ x 60″ 5 ply
1 Pc. 1″ x 1″ x 16′ Birch (Rim)
1 Pc. 1/4″ x 5″ x 56″ Pressed wood (Straight Highway)
2 Pcs. 1/4″ x 5″ x 34″ Pressed wood (Curved Highway)
2 Pcs. 1/4″ x 14″ x 26″ Pressed wood (Residence Block)
2 Pcs. 1/4″ x 14″ x 19″ Pressed wood (Residence Block)
2 Pcs. 1/4″ x 4″ x 14″ Pressed wood (Residence Block)
2 Pcs. 1/4″ x 12″ x 32″ Pressed wood (Business Block)
2 Pcs. 1/4″ x 12″ x 14″ Pressed wood (Business Block)

List of Toy Equipment

6 Houses 3 1/2″ wide, 6″ high, 6″ long
1 Train 1 3/8″ wide, 1 3/4″ high, 12″ long
2 Street cars 1 1/2″ wide, 1 1/2″ high, 8″ long
2 Fire trucks 1 3/4″ wide, 2″ high, 5″ long
1 School bus 1 3/4″ wide, 2″ high, 6″ long
1 Ambulance 1 3/4″ wide, 2″ high, 5″ long
6 Passenger cars 1 1/2″ wide, 1 1/4″ high, 4″ long
4 Trucks 1 3/4″ wide, 1 3/4″ high, 5 1/2″ long
2 Fire hydrants 3/8″ diameter, 3/4″ long
4 Traffic light posts)
6 Stop signs) See illustration on page 48
2 Railroad signs)

Note. Two boys on bicycles and several pedestrians can be used to advantage if such toy images of proper proportion can be obtained.



Plans for Traffic Lights and Signs

LIST OF DRIVING PROBLEMS

The following list of suggestions are furnished to assist the teacher in making up traffic problems which can be presented to the class for solution.

Three suburban traffic problems are made up to illustrate how the list of suggestions should be used by the teacher.

1. Driver of car No. 1 enters arterial highway from the north with the intention of traveling east. What driving precautions are necessary and what hand signals should be given?
2. Two trucks are operating too close together slowing up traffic. What section of the Iowa motor vehicle law is being violated? Which driver is responsible?
3. Driver of car No. 1 passes truck and collides with oil truck coming in the opposite direction. Truck driver is injured. What is the driver of Car No. 1's responsibility in this case according to the Iowa motor vehicle law? If driver of car No. 1 is arrested for reckless driving what is the penalty for the offense when the driver is convicted? What types of insurance should driver of car No. 1 carry in order to cover such damages?

4. Suggestions for making up other problems
   a. parking on highways
   b. passing on hill or curves
   c. driving in rain or snow storm
   d. driving at night
   e. driving on slippery pavement
   f. passing school bus
   g. hitchhikers and pedestrians
   h. tractors—farm animals
   i. school zones and side roads
   j. paving repairs
   k. approaching railway crossings
   l. hand signals

Problems (Business District)

1. Traffic signals and signs
2. Pedestrian right-of-way—"jaywalkers"
3. Speeding
4. Driving courtesies in congested traffic
5. Fire or police department right-of-way
6. Parking regulations
7. Loading zone for street car passengers
8. Entering or leaving driveways or alleys
9. Driving in wrong traffic lane for right or left-hand turn
10. Double parking with motor left running
11. Hand signals

Problems (Residence Section)

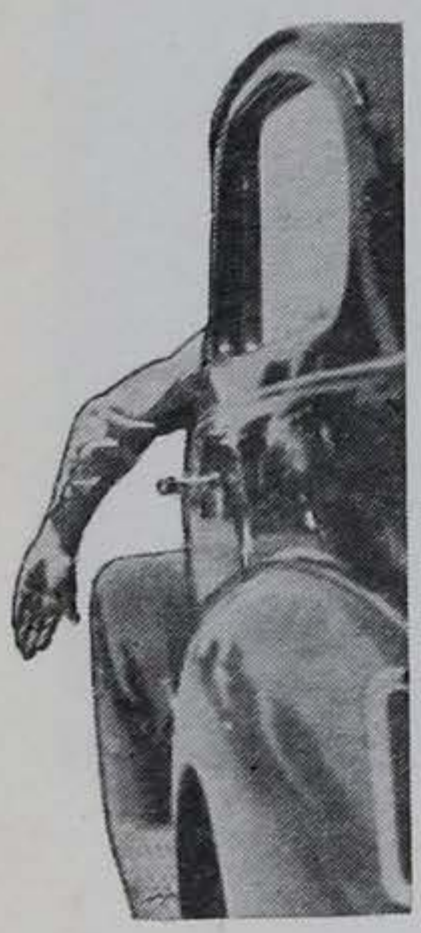
1. Right-of-way at intersections
2. Passing at intersections
3. School, boulevard or other stop streets
4. Proper parking day or night
5. Entering or leaving driveways
6. Passing street car while loading or unloading passengers
7. Speeding
8. Children crossing or playing in streets
9. Pedestrians and bicycle riders
10. Driving in center of street
11. Hand signals

TRAFFIC PROBLEMS

SIGNALS TO BE GIVEN BEFORE STOPPING AND TURNING

UNIFORM HAND SIGNALS

Plate 1—The Use of Hand Signals



Slow or Stop

Left Turn

Right Turn

The up-raised hand was a "welcome" signal used by the Indians.

The railroad trainmen have developed hand signals as a means of communication to transmit messages from one to another. To operate a motor vehicle on the highway and not use hand signals is as dangerous as a blind engineer piloting a locomotive.

The Code of Iowa states as follows:

Section 343. "No person shall turn a vehicle from a direct course upon a highway unless and until such movement can be made with reasonable safety and then only after giving a clearly audible signal by sounding the horn if any pedestrian may be affected by such movement or after giving an appropriate signal in the manner hereinafter provided in the event any other vehicle may be affected by such movement."

Section 344. "A signal of intention to turn right or left shall be given continuously during not less than the last one hundred feet traveled by the vehicle before turning."

Section 345. "No person shall stop or suddenly decrease the speed of a vehicle without first giving an appropriate signal in the manner provided herein to the driver of any vehicle immediately to the rear when there is opportunity to give such signal."

Section 346. "The signals herein required may be given either by means of the hand and arm or other proper signal or by a signal lamp or signal device of a type approved by the department, but when a vehicle is so constructed or loaded that a hand and arm signal or other signal would not be visible both to the front and rear of such vehicle then said signals must be given by such a signal lamp or device of a type approved by the department."

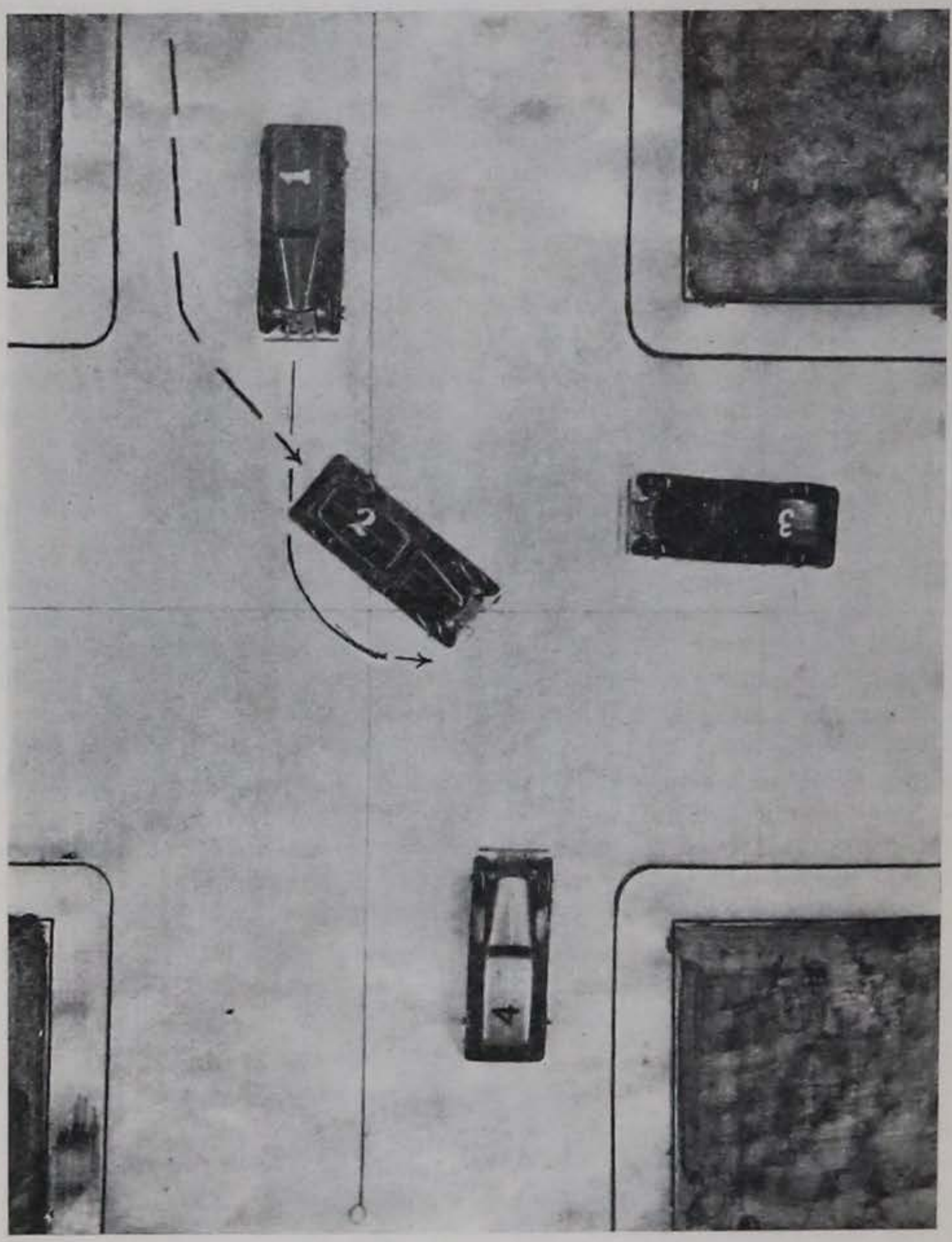
Section 347. "All signals herein required which may be given by hand and arm shall when so given be given from the left side of the vehicle and the following manner and interpretation thereof is suggested.

1. Left turn.—Hand and arm extended horizontally.
2. Right turn.—Hand and arm extended upward.
3. Stop or decrease of speed.—Hand and arm extended downward."

The law of the road and safety measures demand that this communication become a part of the duty of every driver. These sketches show the hand signals universally used. When they are adopted by all drivers, we sincerely believe there will be a marked decrease in the number of accidents on the highways. Accidents are the result of common mistakes made by the average driver.

Help Iowa reduce accidents on the highway by adopting the use of hand signals as a regular part of your code of safe driving. Many people boast about not having an accident in twenty years of driving. If you are one of these people, ask yourself this question, "How many accidents have I caused others by not using hand signals?"

Plate 2—Left-Hand Turn



A serious traffic violation is illustrated by Plate 2. Car #2 is making a left-hand turn from the right-hand lane of traffic, cutting to the left of the center of the intersection and proceeding directly to the right lane of traffic on the intersecting street.

The correct manner to make a left turn at a street intersection is shown by the course of Car #1. Starting in the left traffic lane, Car #1 proceeds in a straight direction to the center of the intersection, then turns into the left lane of traffic on the intersecting street.

1. What state motor vehicle laws are being violated by the driver of Car #2, making left-hand turn in this illustration?
2. What law and safety measures should be observed in making a left-hand turn in any intersection?
3. What hand signal should be given by driver of Car #1?
4. Does Car #1 have the right-of-way over Car #3?
5. What law regulates Car #1 in making the left-hand turn?

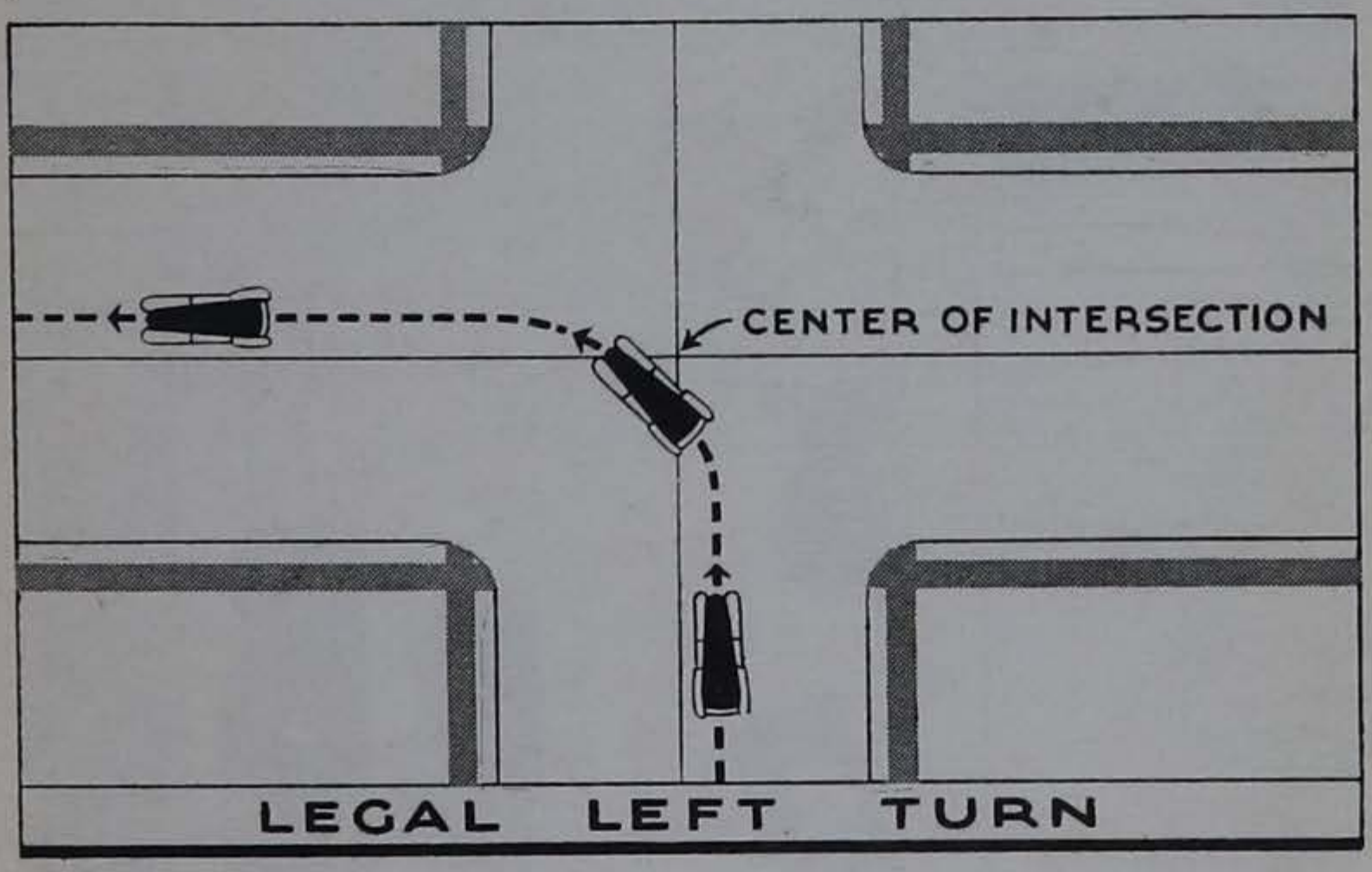
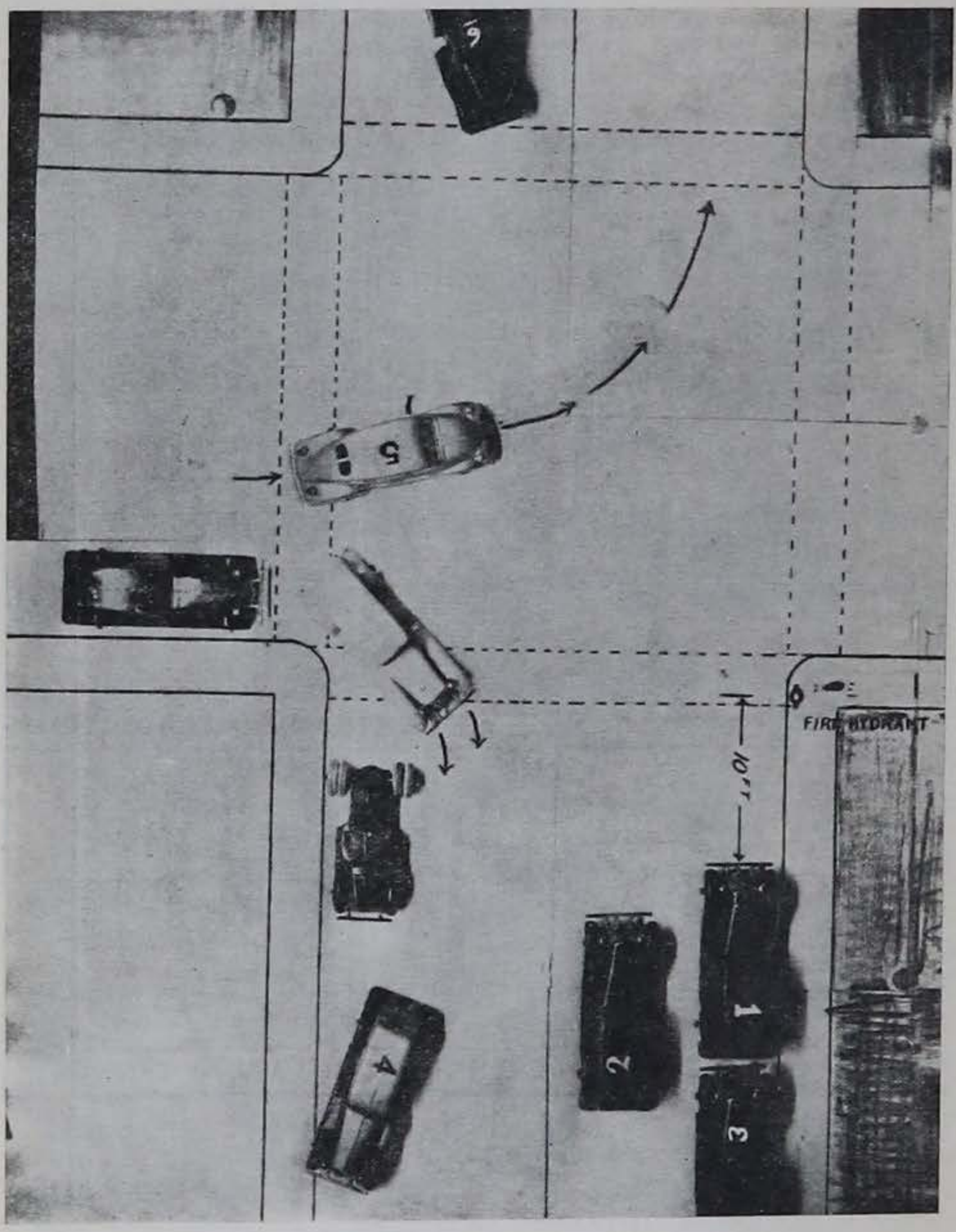


Plate 3—Parking



EVERY DAY IS SAFETY DAY. THINK ABOUT DRIVING WHEN DRIVING!

Double parking is an unsafe practice and is prohibited under Sections 383, 384, 385, and 386, of the motor vehicle laws. The driver who double parks needlessly exposes his car to possible damage and threatens personal injury to other motorists. Plate 3 illustrates Car #4 parked at an angle to the curb, and Car #2 double parked. It can be seen at a glance that traffic will be congested at this point, because of insufficient clearance. If this practice were permitted, accidents would invariably result.

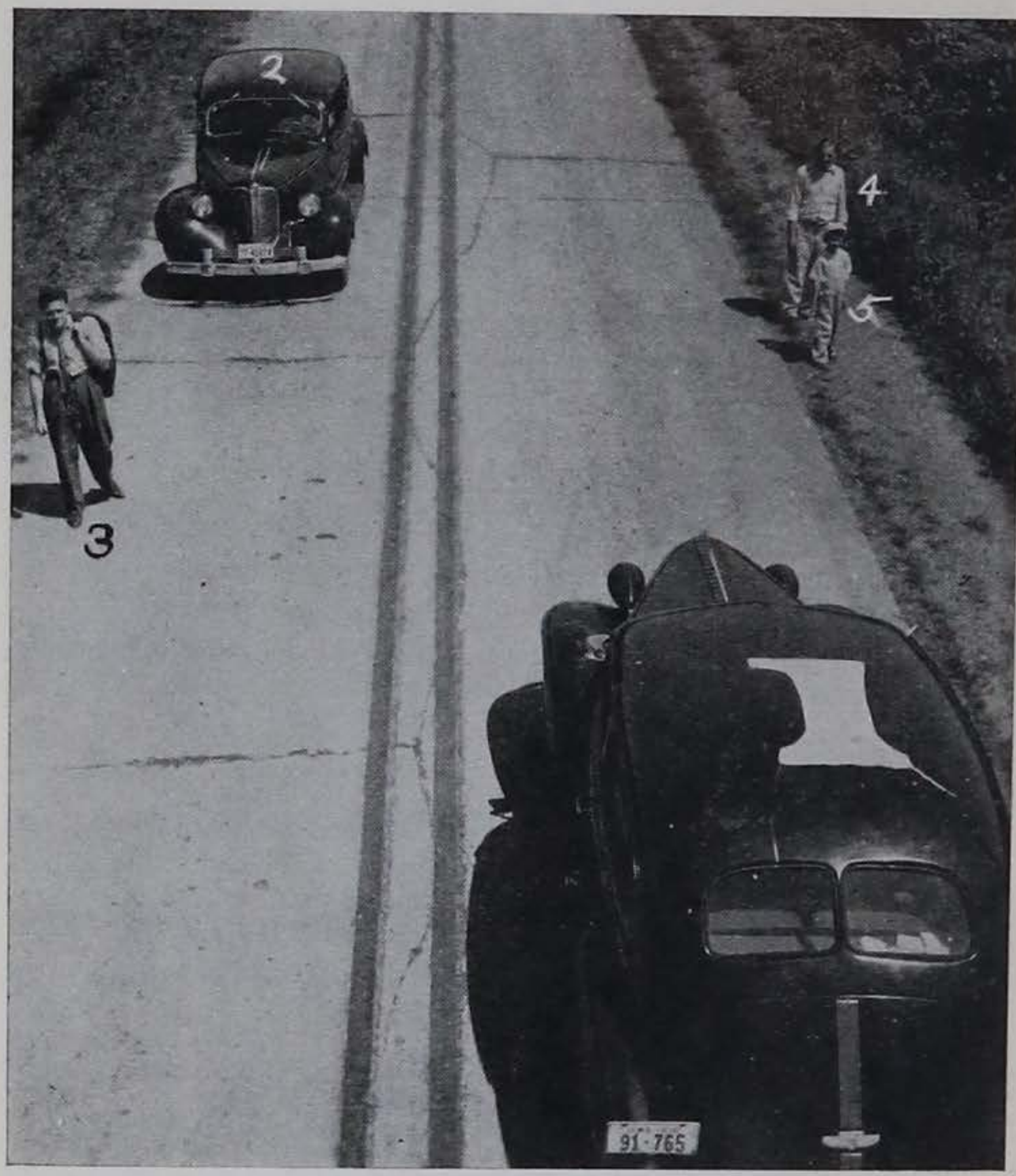
Parking within 5 feet of a fire plug is prohibited for the protection of the public at large as well as the motorist. In case of fire, firemen must have ample space for the laying and connecting of hose lines. A few minutes delay caused by a car parked in front of a fire hydrant might cause thousands of dollars damage, personal injury, and possible loss of life.

Parking in front of a public building is prohibited for practically the same reason. In case of accident, sickness, fire, riot, or collapse of the building, fire trucks, police cars, and ambulances need this space.

A common cause of accidents at intersections is an improperly parked car. Parking at a corner obstructs the view of the oncoming driver. (See Car #7)

1. Are Cars #2, 4, 6, and 7 properly parked in this illustration?
2. What state motor vehicle law is being violated by Cars #4 and #6?
3. What state motor vehicle law is being violated by Car #7?
4. Is Car #1 violating a state motor vehicle law by parking ten feet from fire hydrant in residence district?
5. What is the legal minimum parking distance from a fire hydrant?
6. Is driver of Car #5 giving proper hand signal?
7. If driver of Car #2 has left motor running while making a delivery, what section of the motor vehicle law is violated?

Plate 4—Pedestrians



Accidents involving pedestrians can be reduced if the driver of the motor vehicle and the pedestrian will use a little judgment and caution. Plate 4 shows the correct and incorrect method of walking on a public highway. Figure #3 is plainly at the mercy of Car #2. If the driver of Car #2 is not alert or is blinded by the lights of Car #1, the pedestrian represented by Figure #3 will undoubtedly be recorded as "another unavoidable accident". However, Figures #4 and #5, walking on the left side of the paving facing oncoming traffic can see the approaching Car #1, enabling them to step out of the lane of traffic.

School children should never walk on the highway with their backs to the traffic. Always facing oncoming car, and to be doubly safe, walk on the shoulder of the roadway, not on the concrete, as Figures #4 and #5.

1. Which pedestrian in the illustration is using the proper safety method of traveling on the highway?
2. Does the state of Iowa require pedestrians to use right or left-hand side of the road?
3. Does the state motor vehicle law require the car passing the pedestrian to give way?
4. What safety advantages would pedestrian #4 and #5 in this illustration have over pedestrian #3 when traveling on the highway after dark?
5. What precautions and safety measures should be observed by the car drivers in this situation?
6. What section of the motor vehicle law covers the situation illustrated?

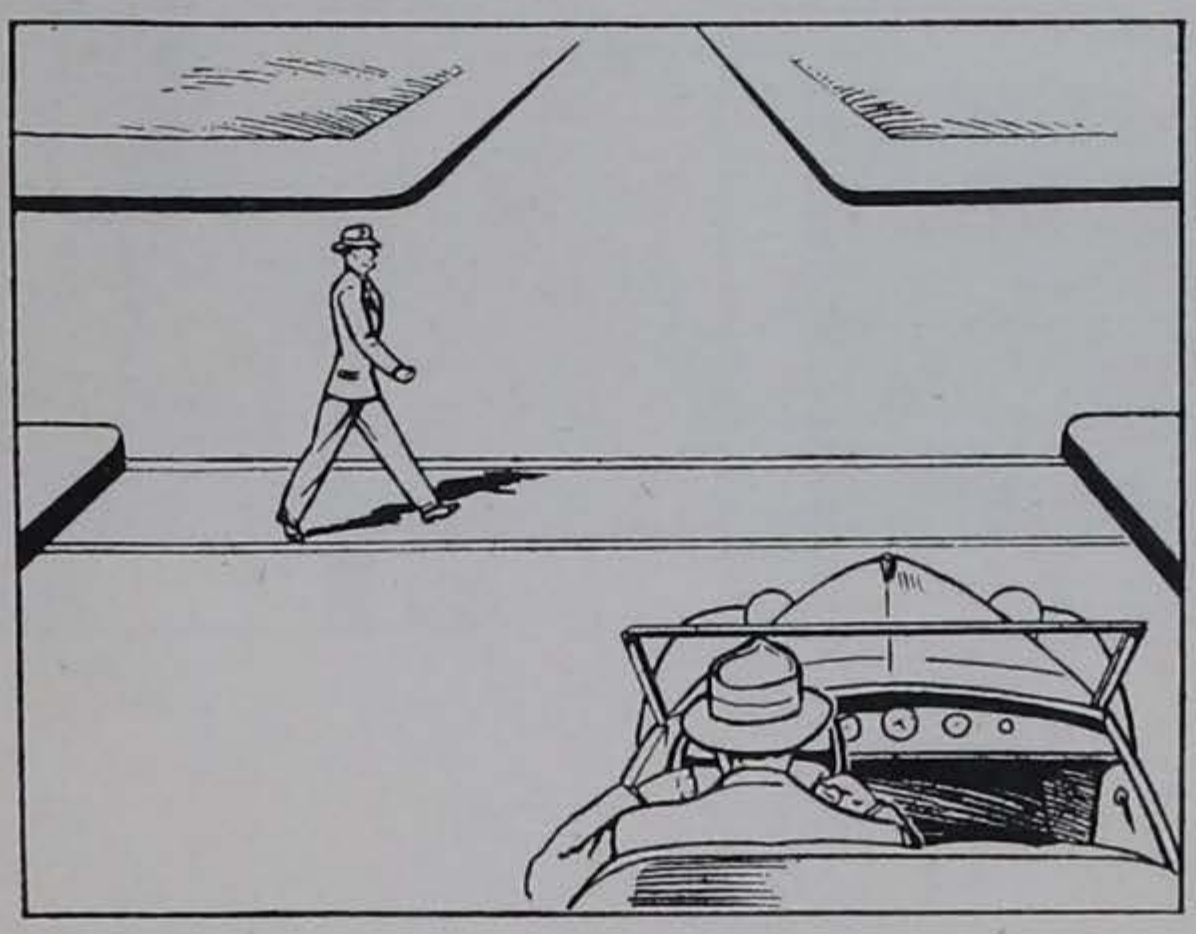
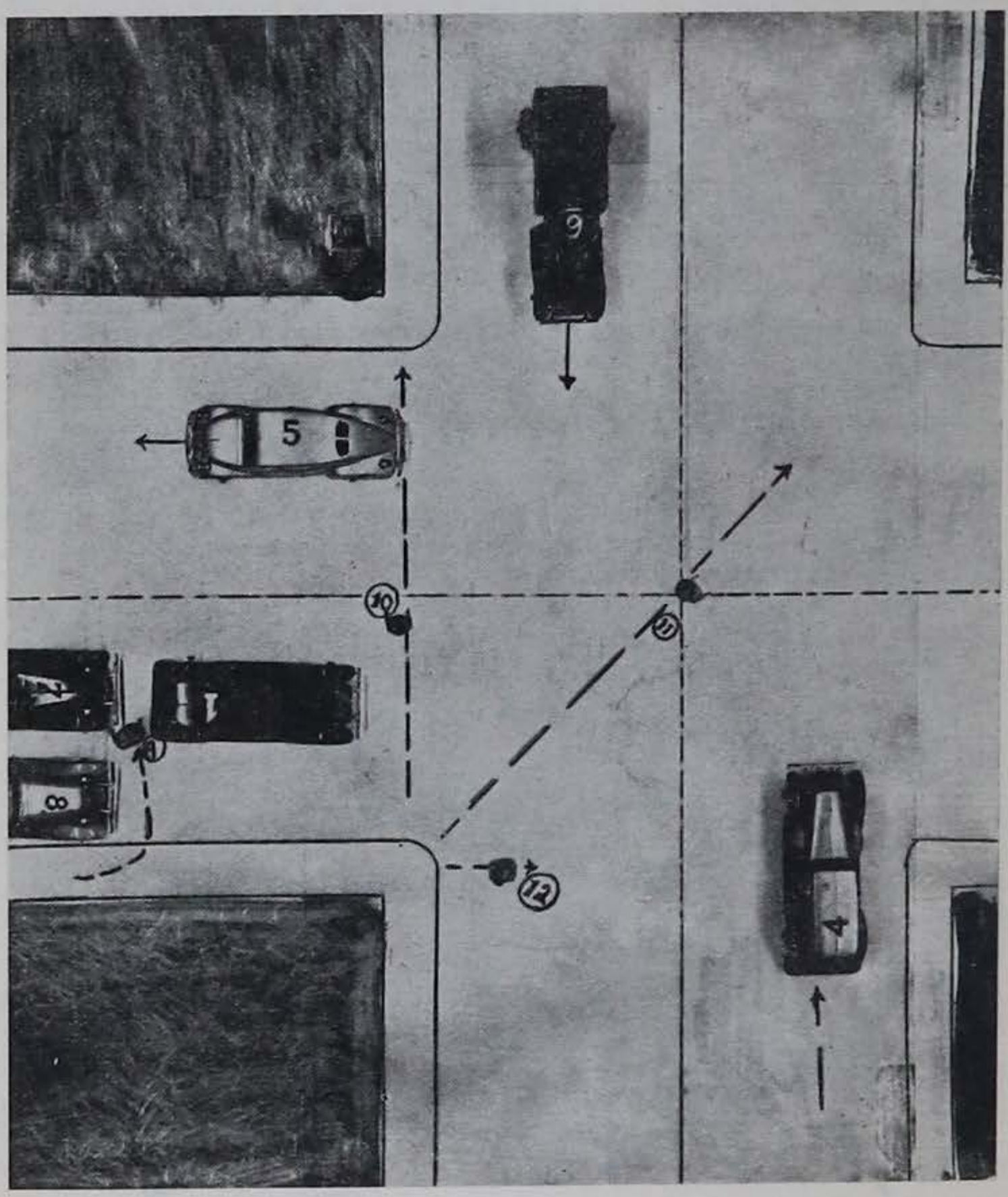
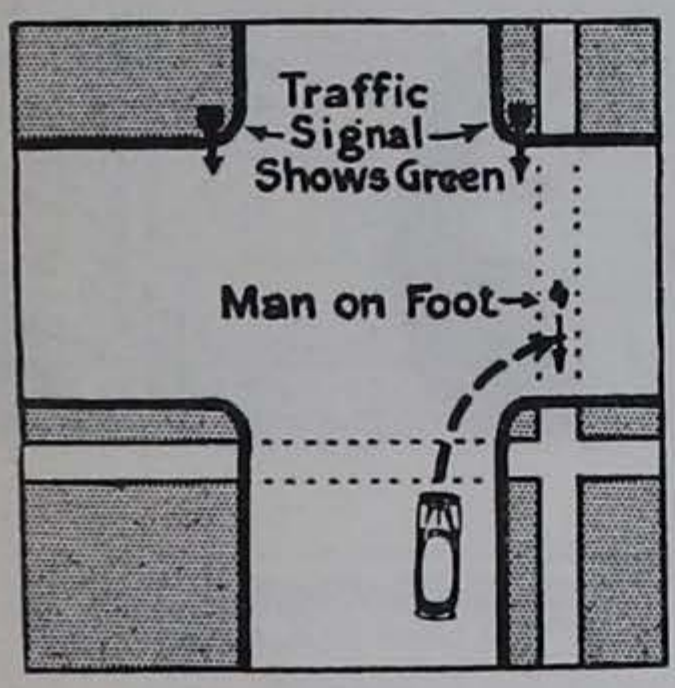


Plate 5—Pedestrians—(Intersections)



"Jaywalking", the common term for cutting corners, is another source of pedestrian fatalities. Referring to Plate 5 we see Figures #10 and #12 representing the only safe method of crossing the street. Cross at an established street intersection and observe the traffic signals. Do not commit the foolhardy act of dodging out from behind a parked car into the lane of traffic as Figure #9 is doing and then blame the driver of Car #7 if you are injured. At street intersections the pedestrian is given the right-of-way providing he is obeying traffic signals. If the intersection is not protected with signals, the motor vehicle has the right-of-way, and the pedestrian should not attempt to cross until the way is clear.

1. Which pedestrian is using the proper method of crossing the intersection?
2. What hand signal should be given by driver of Car #1?
3. What would this signal indicate to pedestrian #10 and the driver of Car #7?
4. If traffic lights are set to stop Cars #1 and #7 what offense is being committed by pedestrian #11 and #12?
5. If Car #4 is entering intersection on yellow traffic light, what is the proper method of procedure to be followed by driver?
6. What safety precautions should be observed by pedestrians #9, #11, and #12, if Cars #4 and #6 are proceeding with the green lights?



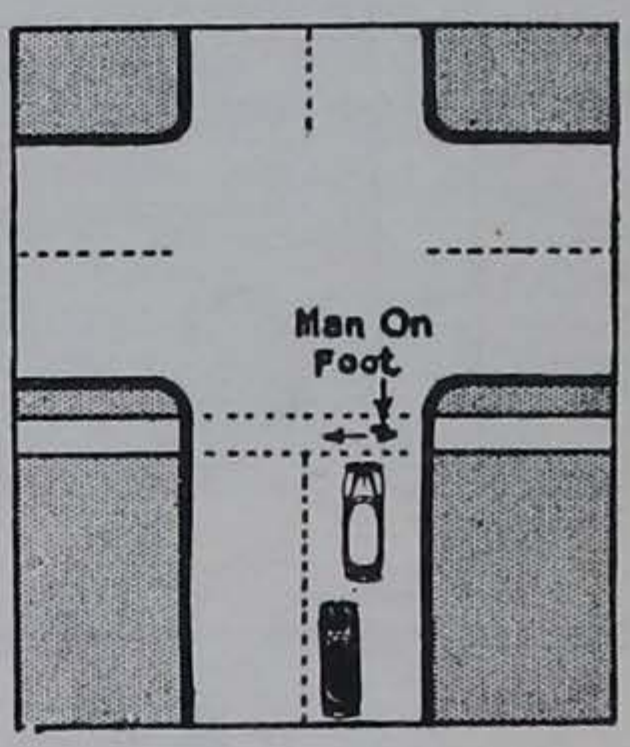
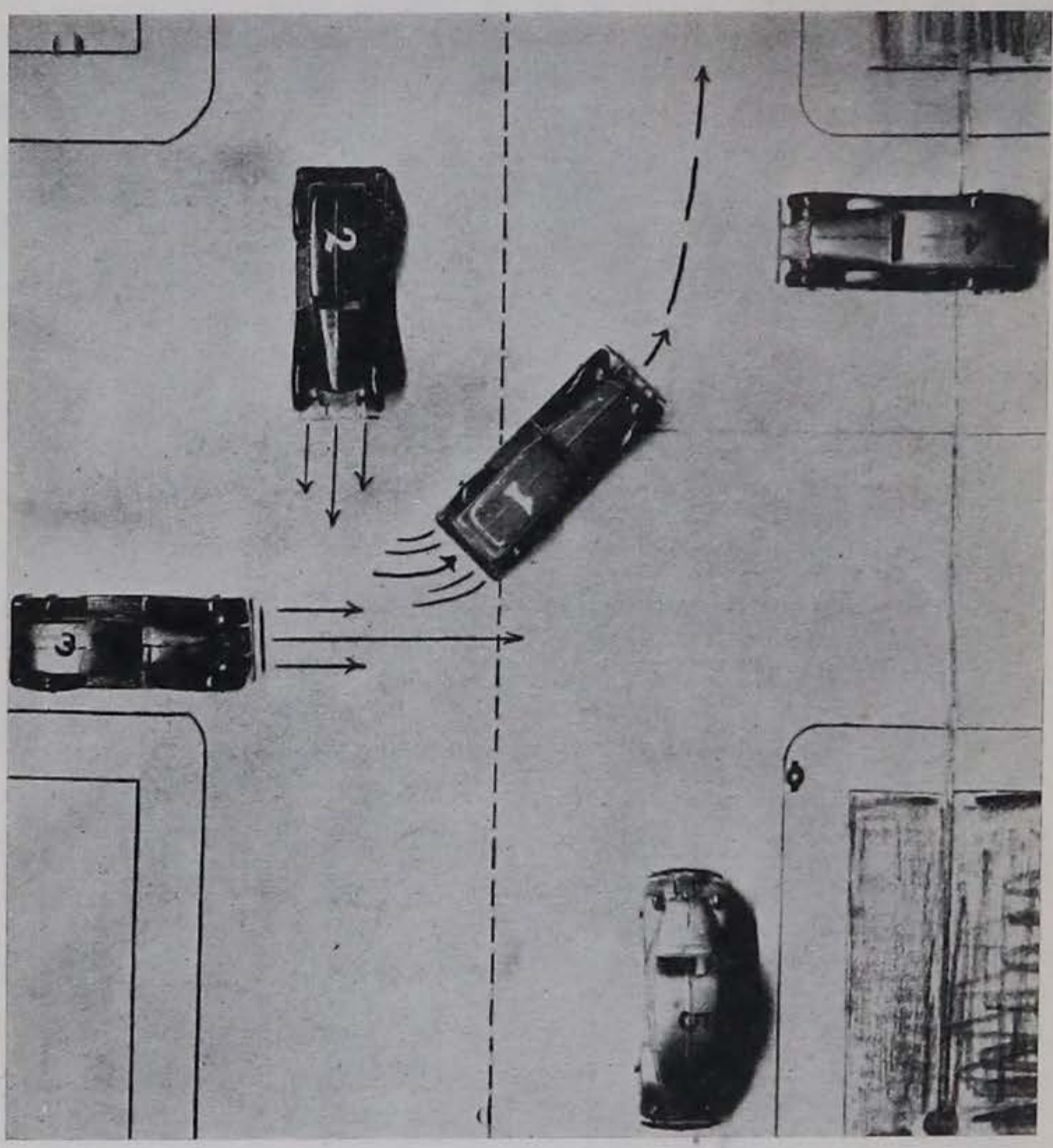


Plate 6—Right-of-way



The subject of "who had the right-of-way" is always a matter of dispute after a crash has occurred at an intersection. Section 348 of the Iowa Motor Vehicle Laws reads as follows:

"Approaching or entering intersections. The driver of a vehicle approaching an intersection shall yield the right-of-way to a vehicle which has entered the intersection from a different highway.

"When two vehicles enter an intersection from different highways at the same time the driver of the vehicle on the left shall yield the right-of-way to the vehicle on the right."

The law cited governs all motor vehicle traffic except emergency cars on official business. Under the heading of emergency cars are listed fire trucks, police cars, and ambulances.

1. In this illustration, Car #1, making a left-hand turn, is following correct procedure. Which other cars have the right-of-way?
2. What section of the motor vehicle law regulates traffic in this illustration?
3. Is vehicle #4 properly parked for pedestrians to pass?
4. What hand signals should drivers of Cars #1, 2, and 3 give?
5. What vehicles have the right-of-way at this intersection?
6. Does the law require speed to be reduced at all intersections?
7. Does Car #2 have the right-of-way over Car #3?

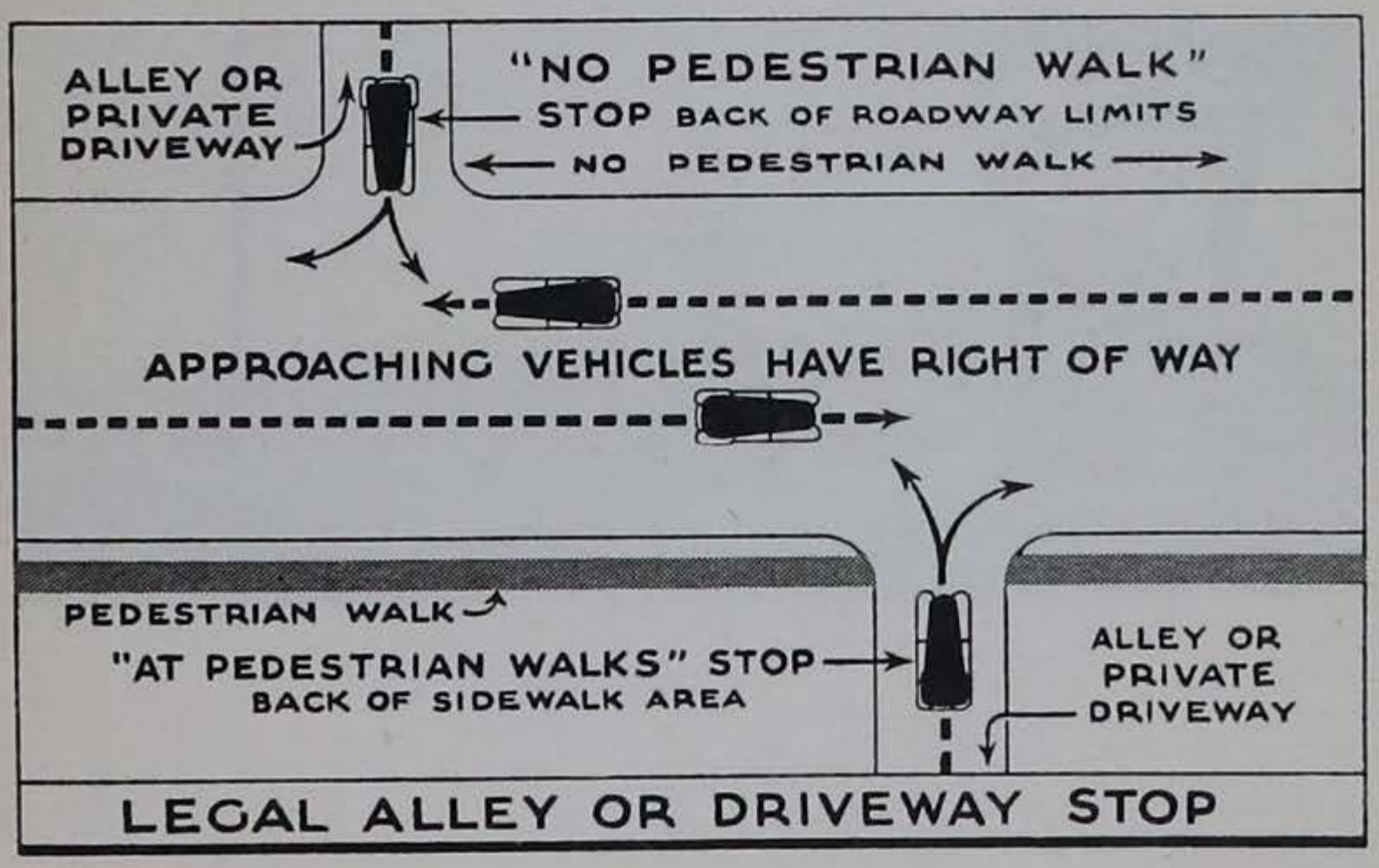
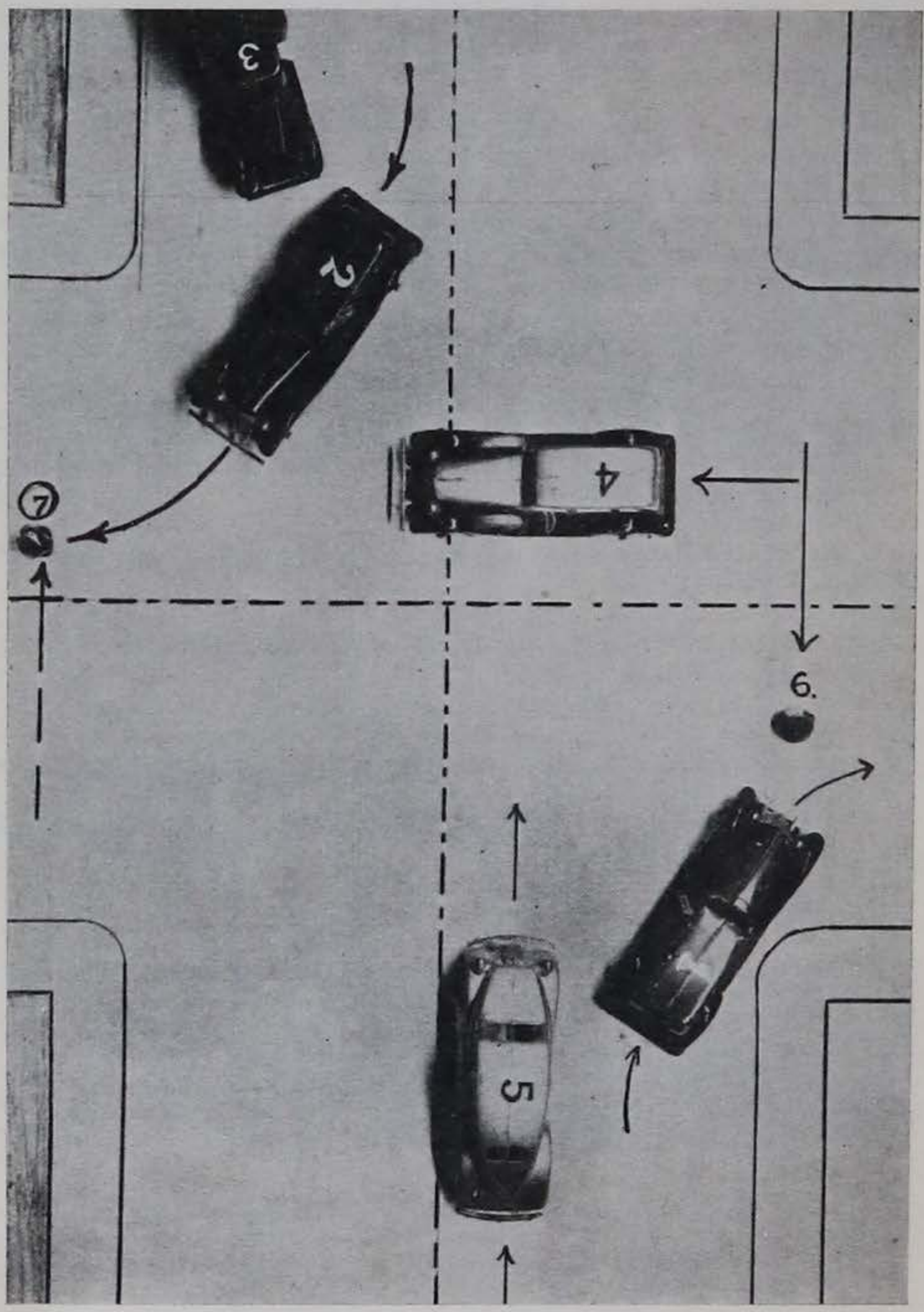


Plate 9—Turning to the Right



The correct and wrong ways of making a right-hand turn at a street intersection are illustrated in Plate 9. Car #1 is signalling the driver of Car #5 of his intention to turn right. In making this turn Car #1 travels closely to the curb, observing the right-of-way of the pedestrian, Figure 6. The driver of Car #2, however, is not only jeopardizing his life, but is risking serious or fatal injury to the occupants of Car #4, the driver of Truck #3, and the pedestrian, Figure 7, as well. As shown here, Car #2 has entered the intersection on the inside traffic lane, which should only be used in making a left-hand turn. Cutting in front of Truck #3 to make a right-hand turn, Car #2 forces Truck #3 to jam his brakes which causes him to skid. The driver of Car #2 might escape injury, but Truck #3 will undoubtedly pile up on the corner.

1. Which vehicle in this illustration indicates the proper method of making a right-hand turn?
2. Why is driver of Car #2 liable to cause traffic accidents?
3. In making a right-hand turn, what is the responsibility of the drivers of Cars #1 and #2 with relation to pedestrians?
4. Is Car #4 in proper position to make a left-hand turn?
5. If Car #2 makes a right-hand turn without causing an accident, what charges could be filed against him under the provisions of the motor vehicle law?
6. If Car #4 collides with Car #2, what precaution should driver of Car #5 follow?

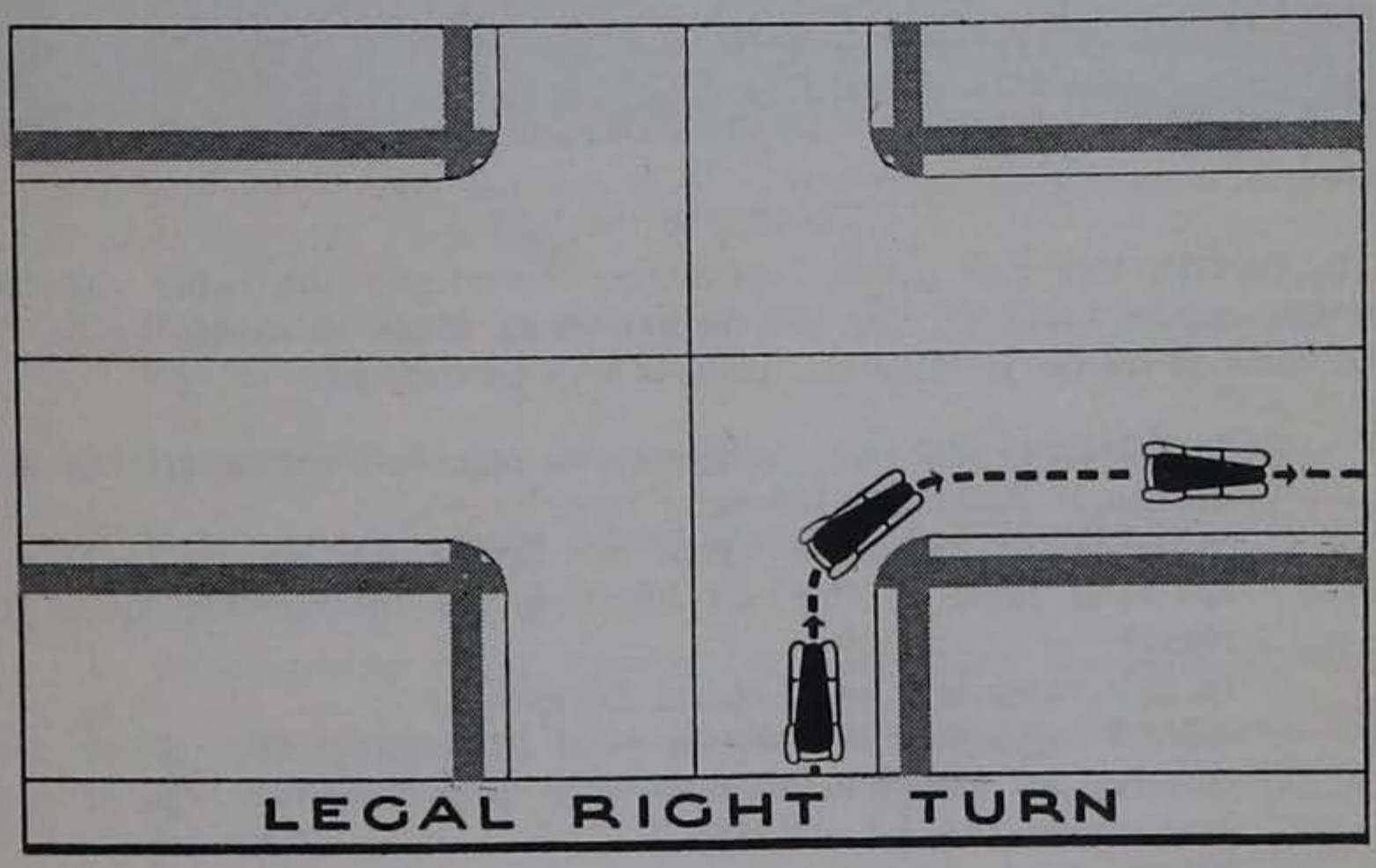
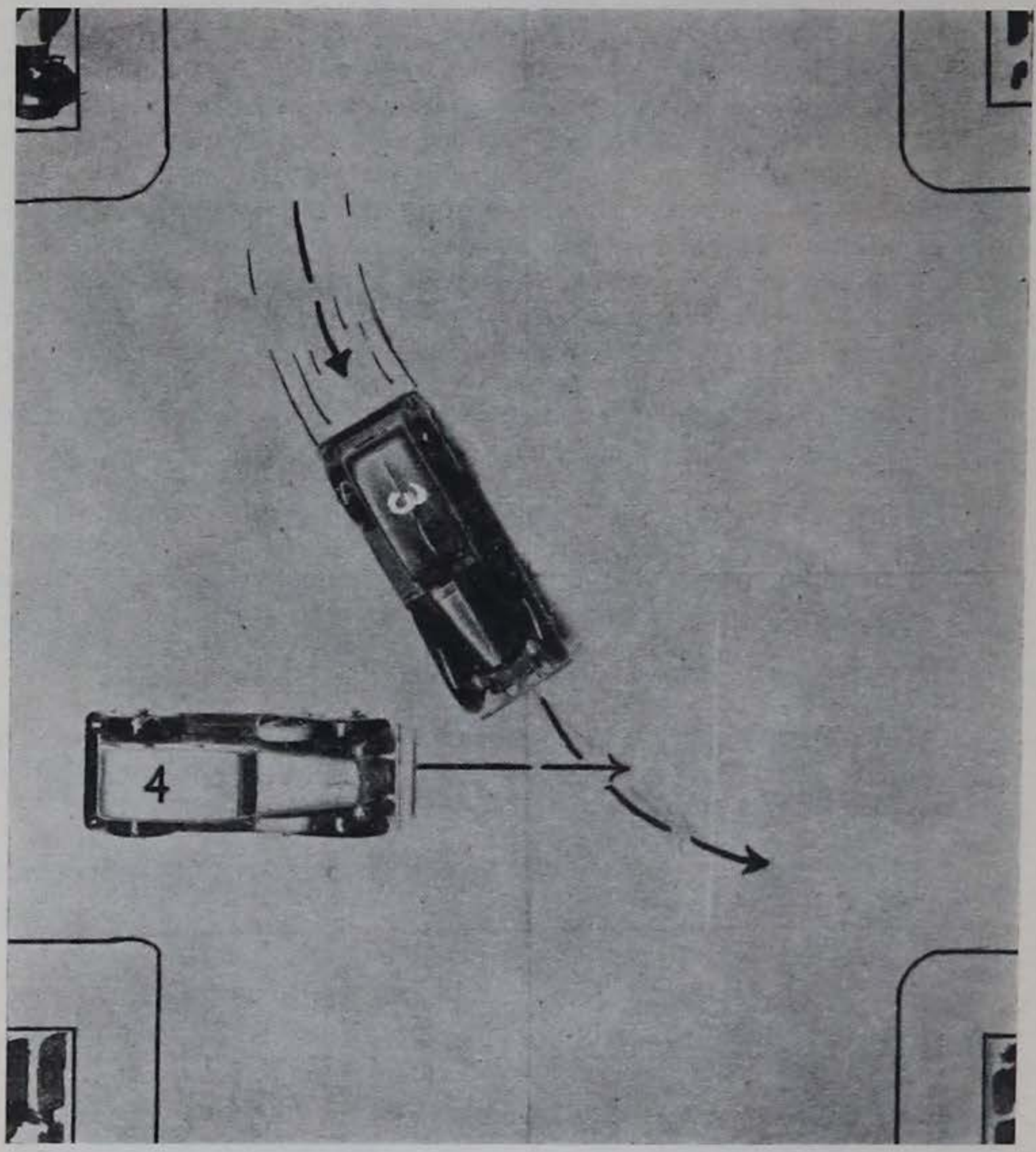


Plate 10—Turning to the Left

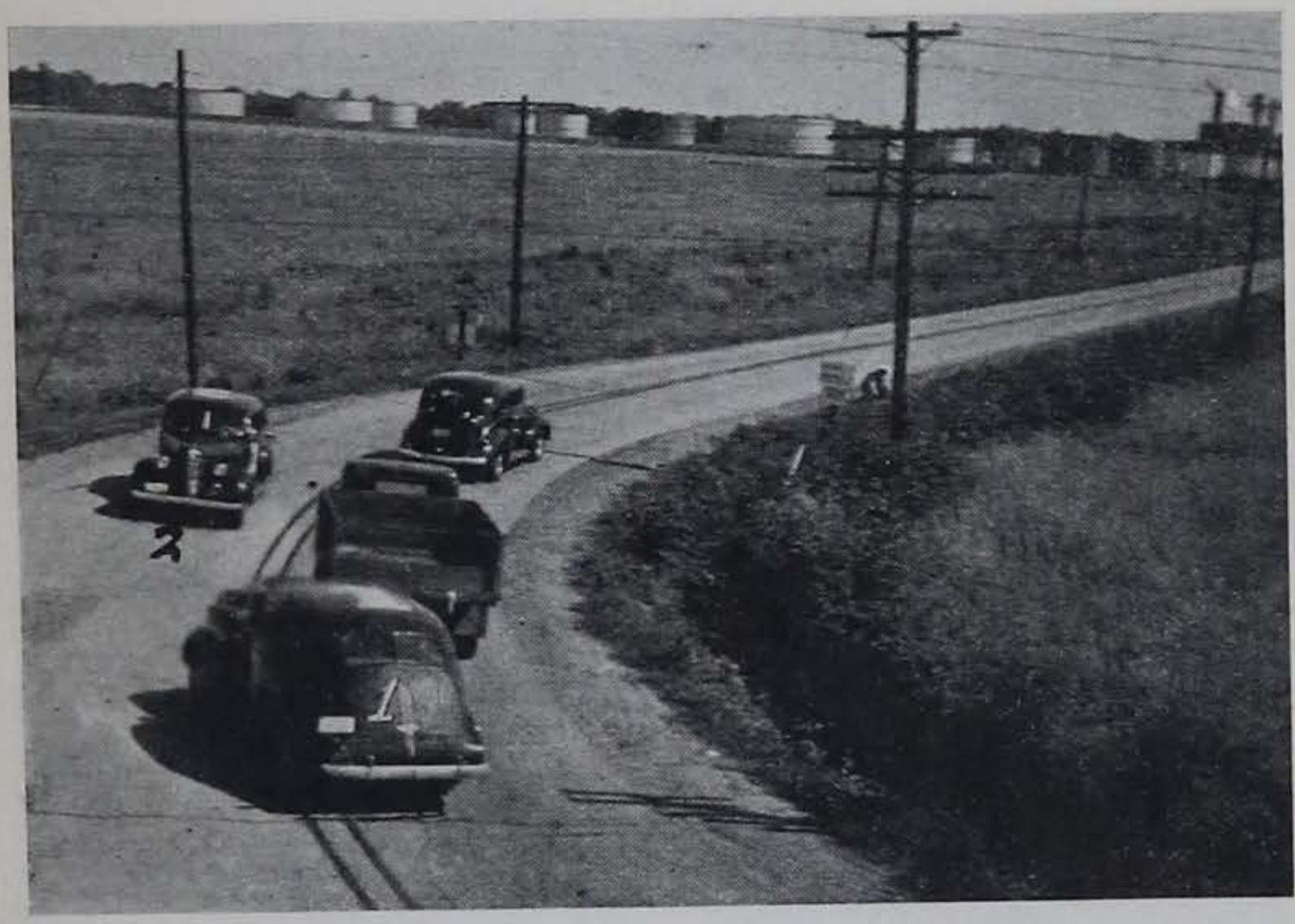


Turning to the Left

In turning left Car #3 is committing practically the same violation as Car #2 in Plate 9. Car #3 illustrated in Plate 10 should be in the left lane of traffic yielding the right-of-way to Car #4.

1. Is driver in Car #3 following the right or wrong driving procedure in making a left-hand turn?
2. What is the responsibility of car driver #3, who is making a left-hand turn, to Car #4 entering the intersection from the right?
3. In this case, is a hand signal necessary?
4. Should the driver of Car #3 yield the right-of-way to Car #4?
5. If Cars #3 and #4 would have a collision, what type of accident would this be called?
6. Which driver would be responsible for this accident?

Plate 11—Passing on a Curve

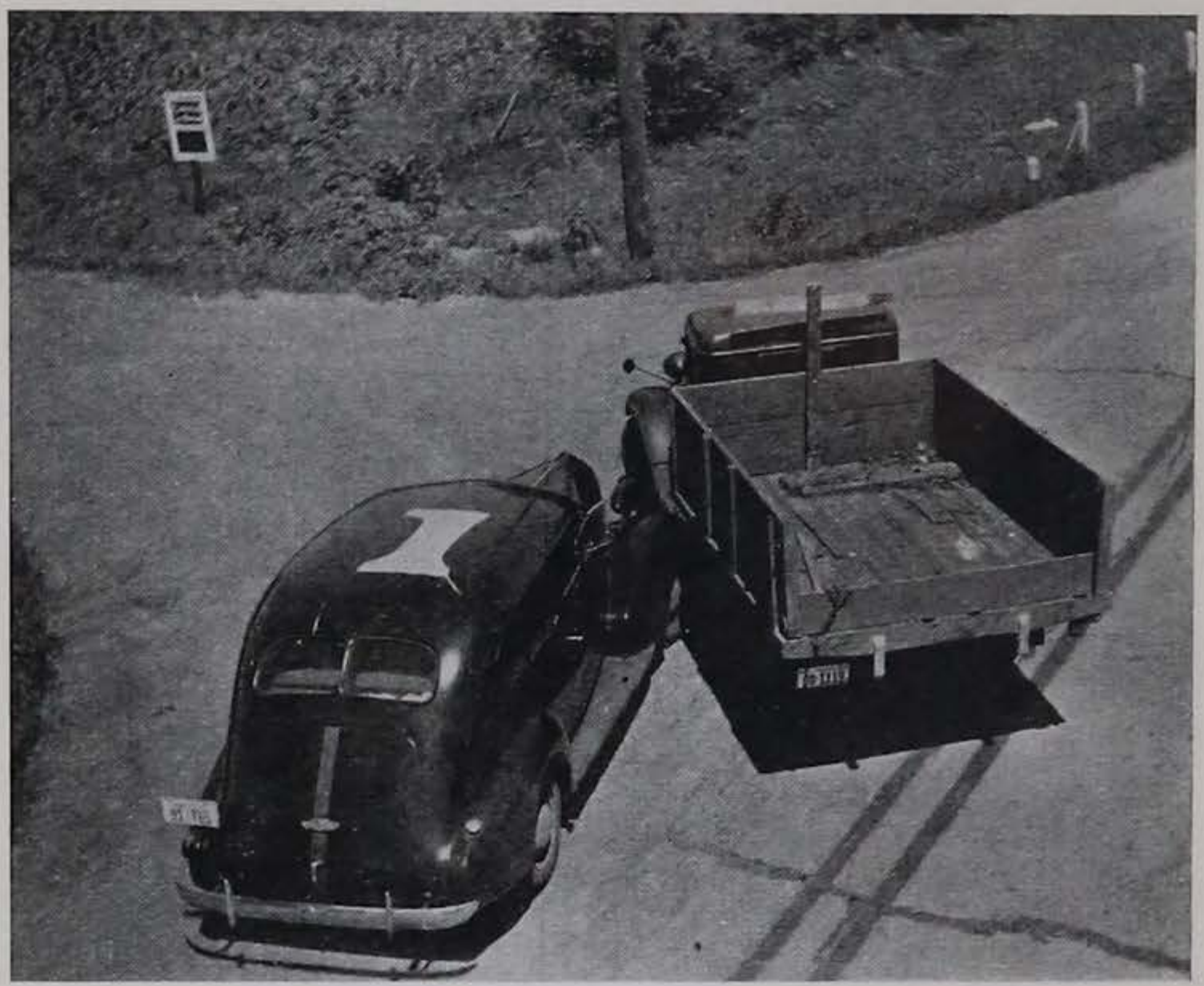


Passing on a Curve

Passing on a curve or hill is positively forbidden by law, and all possible effort should be made to eliminate this dangerous and reckless practice. The State Highway Commission has erected signs of the type and wording shown in Plate 16 "No Passing—700 Feet" on all hills and curves encountered on the primary road system. Obey these regulatory signs. Referring to Plate 11 we see a graphic illustration of improper passing. Car #1, following the truck too closely, attempts to pass on a curve. Because of restricted vision or carelessness he does not observe the approach of Car #2. If cars approaching in opposite directions do not have sufficient roadway to turn out or stop a collision cannot be avoided because there is not sufficient distance in which the drivers can stop their cars.

1. If the illustrated operation of Car #1 results in an accident, who is responsible?
2. What would be the charges filed if no one were injured?
3. How could accidents resulting from this kind of driving be prevented?
4. What section of the state motor vehicle law has been violated?
5. If Cars #1 and #2 have a collision resulting in injury to one of the passengers, what procedure should be followed by the drivers?
6. How are such accidents reported?

Plate 12—Signals When Passing

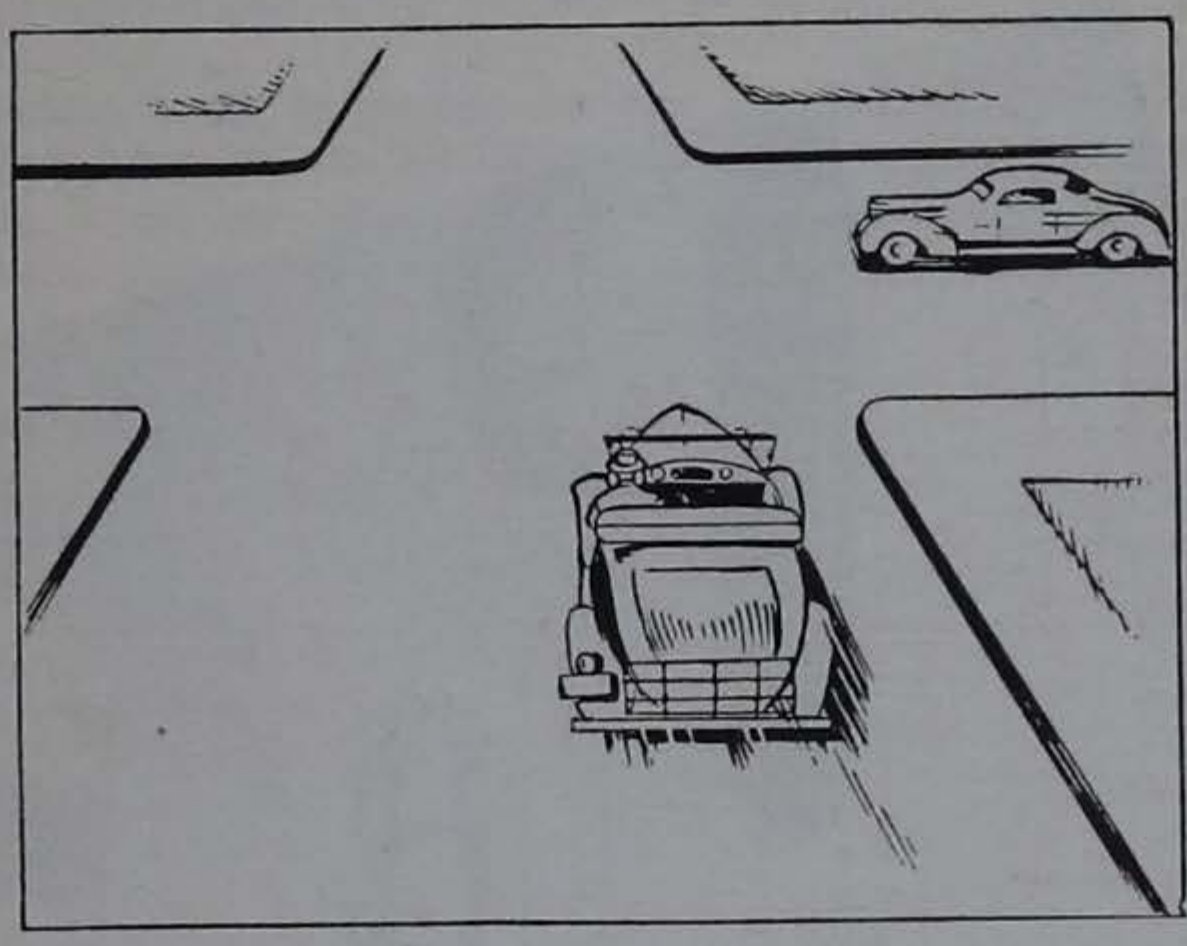


Signals When Passing

If signals are necessary in city traffic they are doubly necessary on the open highway where the speed is much greater. Plate 12 illustrates Car #1 attempting to pass Truck without giving a warning signal. Truck cuts in front of Car #1 without signaling for a left-hand turn into the side road. Car #1 swerves in an attempt to avoid a crash but hits Truck broadside. This type of careless driving illustrated is responsible for 12 per cent of all accidents and 8 per cent of all injuries, in spite of the fact that there are but three simple rules to follow in order to protect yourself and other motorists against such accidents when making a turn.

THINK
SIGNAL BEFORE MAKING A TURN
STAY IN THE PROPER TRAFFIC LANE

1. What motor vehicle laws have been violated by driver of vehicle #1?
2. By the driver of the truck?
3. What was driver of truck attempting to do?
4. What safety measures should be observed by drivers in passing?
5. Name several violations of which driver of truck is guilty.

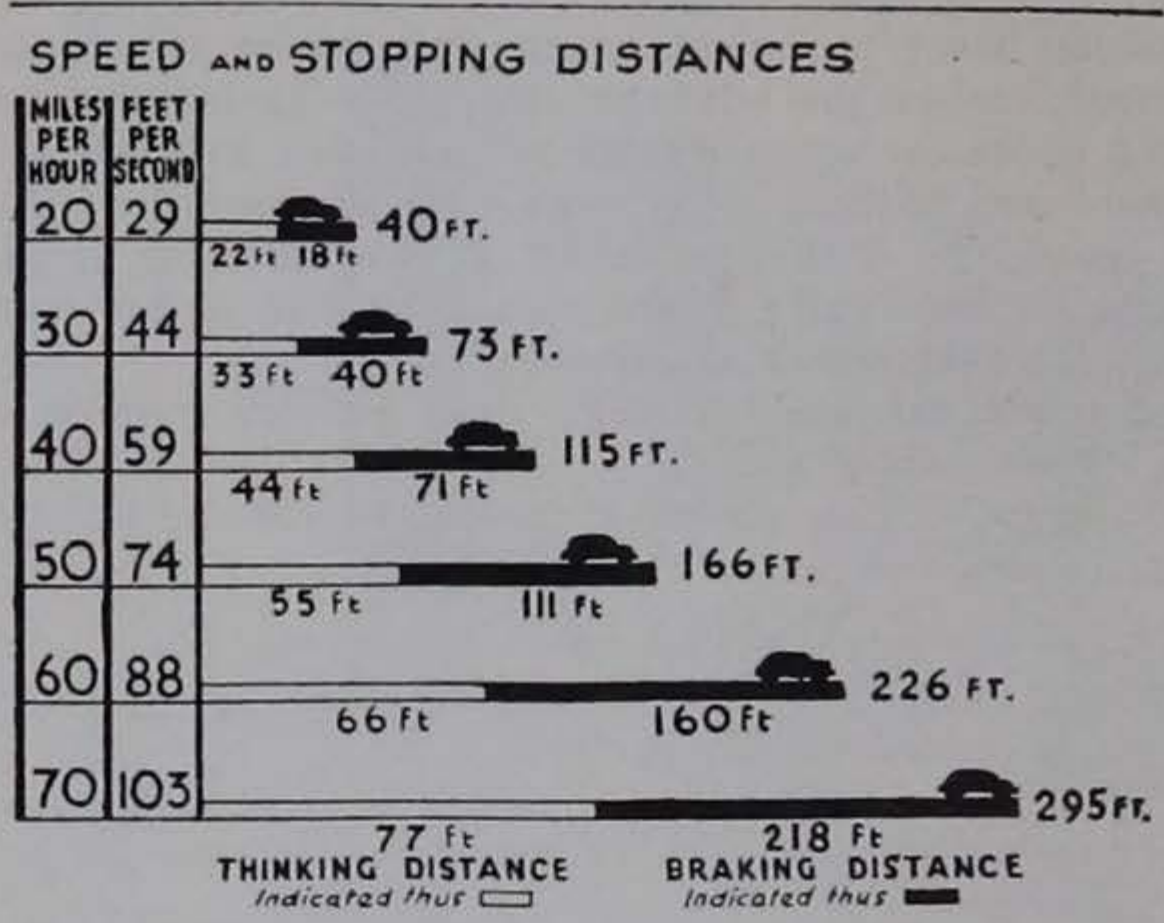


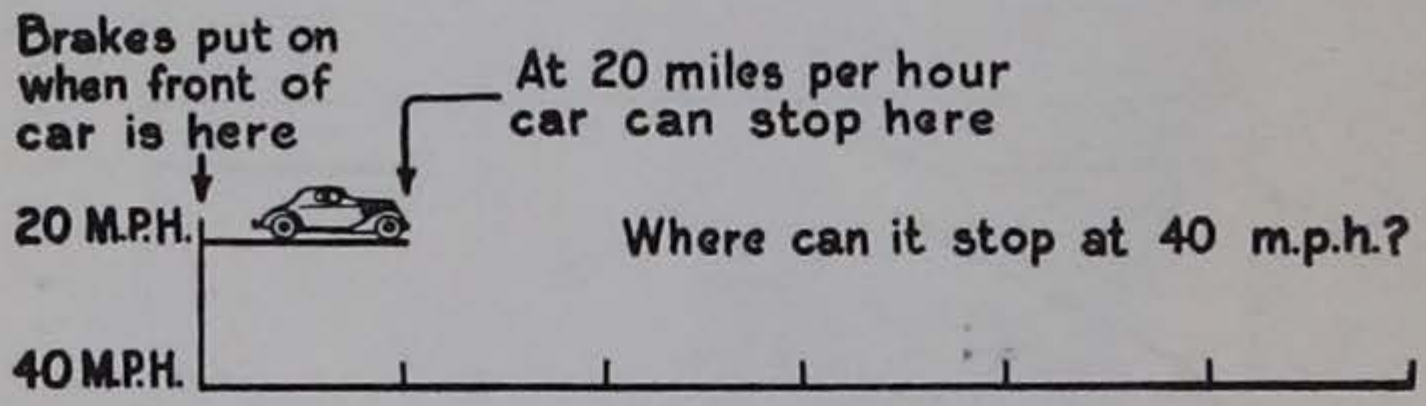
RIGHT OF WAY AT INTERSECTIONS

The Iowa Motor Vehicle accident records show that one-third of all accidents occur at intersections or cross-roads. In the above diagram, if both vehicles enter the intersection at the same time, vehicle No. 2 has the right of way over vehicle No. 1 because it is the vehicle to the right. If vehicle No. 1 enters the intersection before vehicle No. 2, vehicle No. 1 has the right of way. Driving within the law will reduce these accidents to a minimum.

When approaching an intersection reduce your speed so that you can stop in assured clear distance ahead, courteously yielding the right of way to other vehicles that have entered the intersection before you, increasing your speed as your vision and right of way increases. Proper approach speed and driving within the law will reduce these accidents to a minimum.

Plate 14—Speed and Stopping Distances





The Iowa motor vehicle laws require that motor vehicles be operated at a safe speed, not greater than nor less than is reasonably proper considering traffic conditions. This means the speed must be such that the car can be stopped in the assured clear distance ahead. See Sections 316, 327, 454, and 455 of the Iowa Code.

The following four factors must be taken into consideration in allowing for a safe stopping distance:

1. The reaction time of the driver
2. The speed of the vehicle
3. The condition of the roadway
4. The condition of the vehicle

The reaction time of the driver consists of the time it takes to remove his foot from the accelerator and apply his brakes in order to stop his car before colliding with any obstruction in the highway.

In the illustration on Plate 14 a car traveling 20 miles per hour is moving at the rate of 29 feet per second. This speed will require a total distance of 40 feet for bringing the vehicle to a complete stop with perfect four wheel brakes. It is noted that 22 feet of this required stopping distance are used by the average driver in thinking before the brake is actually applied. The faster the car travels, the greater is the distance required to stop the car.

If the pavement is wet or slippery, or the brakes of the car are not in good adjustment, a much greater distance will be required to stop. The best rule is to PLAY SAFE, SLOW DOWN IN PLENTY OF TIME AND THUS AVOID ACCIDENTS.

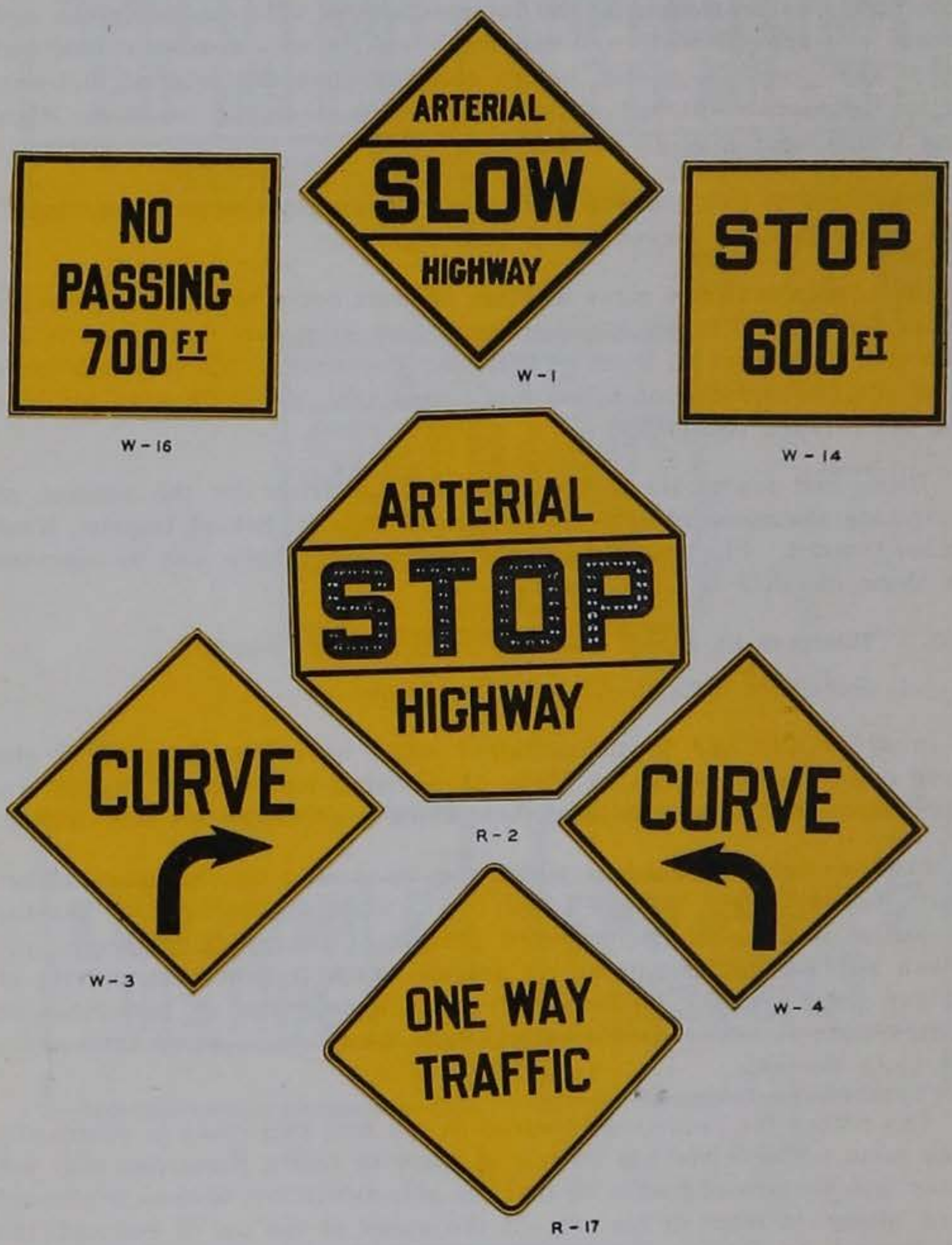
The thinking distance as shown in this table is based on an average time reaction of approximately three-fourths of a second. These stopping distances were determined by a great number of tests on a dry pavement of less than one per cent grade, with cars having four wheel brakes in perfect condition.

CHECK UP ON YOURSELF. KNOW YOUR STOPPING DISTANCE. DRIVE WITH CARE.

Make brake tests of your vehicle at various speeds listed on this chart on earth, gravel, and paved roads.

1. How is the foot brake applied?
2. What is the legal stopping distance of a vehicle weighing less than 5,000 pounds?
3. What is the legal stopping distance for a vehicle weighing over 5,000 pounds?
4. What does the Iowa Code specify for brake requirements for trailers used for human habitation?
5. When should the hand brake be used?
6. Under the Iowa Code, what is adequate hand brake?

Plate 16—Road and Warning Signs



Recognizing and obeying warning and regulatory signs placed on our highways aids materially in reducing motor vehicle accidents. A study of Plate 16 shows standard signs which have been adopted by the United States Bureau of Public Roads and are in use throughout the United States.

Electric traffic signals in towns and cities are sufficiently common and need no explanation in this bulletin. In spite of the fact that many intersections are guarded by such signals most of the accidents happen at intersections in towns and cities.

The yellow light may be considered as a warning sign to clear the intersection, the red and green lights are regulatory signs that must not be violated. If the yellow light is showing on the traffic signal, do not attempt to drive through the intersection.

Hand signals, used consistently by careful drivers, avert many accidents. Plate #1 shows the correct manner of signalling for right turn, left turn, and stop. Too much emphasis cannot be placed upon the use of hand signals. A good driver should signal as automatically as he shifts gears.

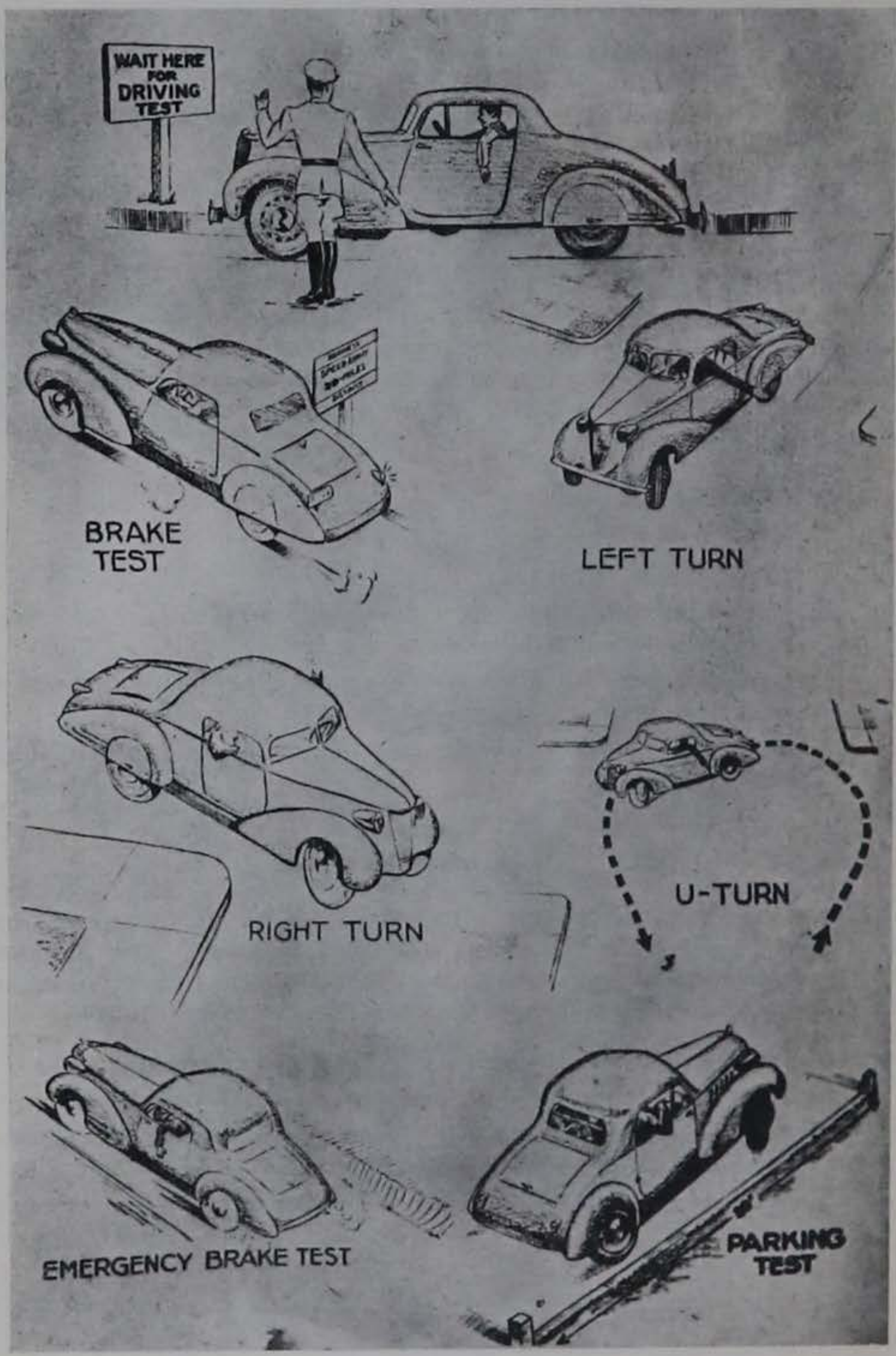
1. What is a highway?
2. What is a roadway?
3. What is a primary highway?
4. Are all primary highways federal highways?
5. What is a secondary highway?
6. Does the traffic on a primary highway have the right-of-way at an intersection with a secondary road?
7. Describe the markers used on federal, state, and secondary highways.

Warning Signs

The signs illustrated in Plate 16 are to inform the driver of road conditions immediately ahead, and are self-explanatory. The Highway Department has placed all signs at a sufficient distance from the hazard to give the motorist ample time to bring the car under control.

1. What is the background color of all highway warning signs?
2. What does arrow on sign illustrated in Plate 16 indicate?
3. At what distance from point of hazard are warning signs placed according to the Iowa laws?
4. What is required height from the center of signs to surface of highway?

Plate 17—Obtaining a Driver's License



There are 105 examining points in the 99 counties throughout the state. Dates of examinations are posted and upon these dates applicants may take the test. Four phases constitute the driver examination —Vehicle Inspection, Driving Test, Law Test, Vision Test.

In making the vehicle inspection the examiner checks the steering gear, license plates, general condition, brakes, license certificate, and in the case of trucks, weight classification. During the driving test both the foot and hand brakes are actually tested to determine the braking distance at a standard speed of twenty miles per hour. If the vehicle fails to pass the inspection, the applicant is told to have the defect repaired before the examination will be given. Otherwise, the examination continues with the driving test.

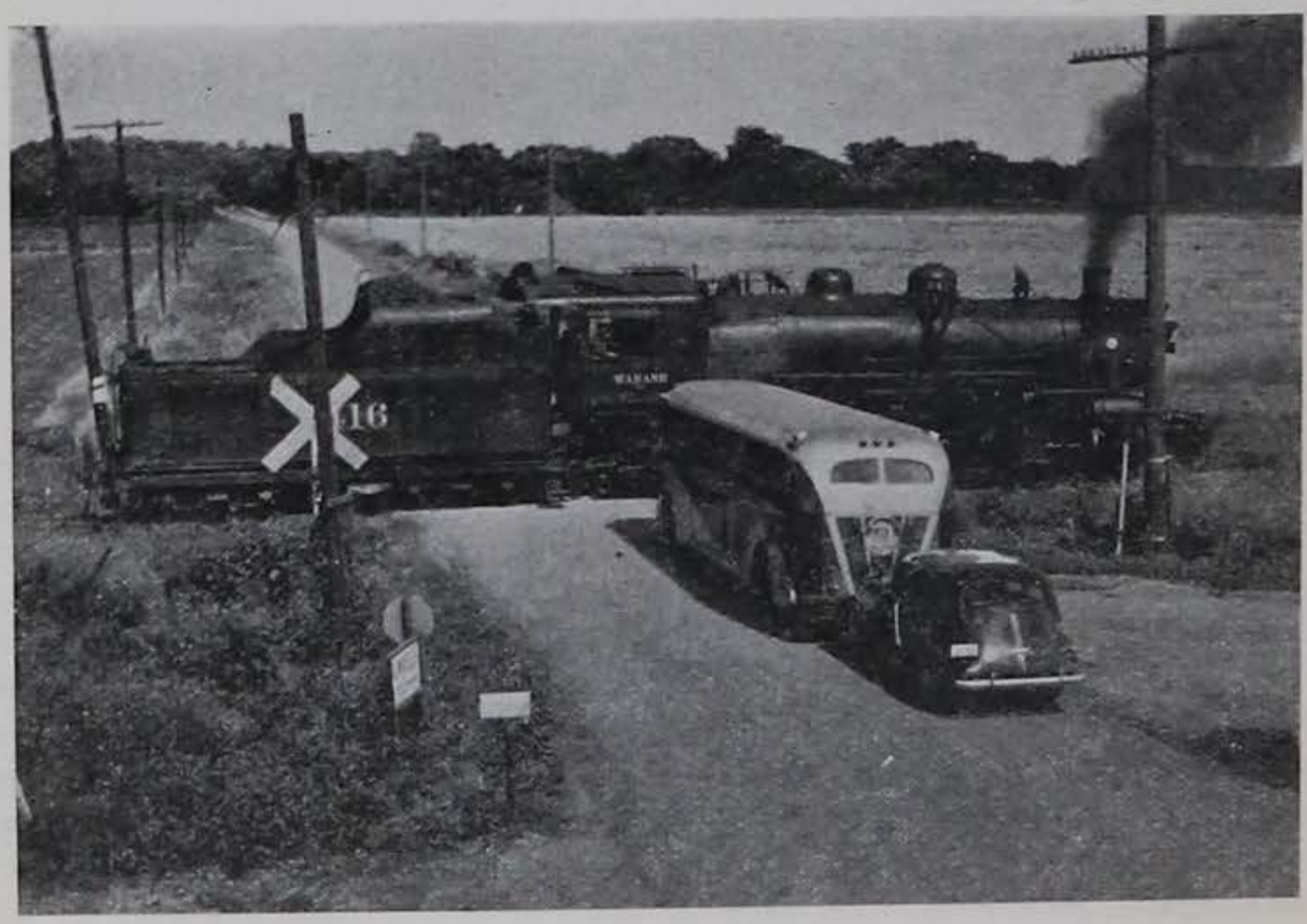
The applicant and the examiner are the only occupants of the car when driving tests, illustrated in plate 17 are being given. This test covers a course of approximately twenty blocks and confronts the driver with such conditions as stopping, passing, turning, parking, driving on an arterial highway, etc. The applicant's ability to drive is judged as follows:

Driving Position
Starting
Right Turns
Left Turns
Observation
Intersection
Signals
Hand and Traffic
Rural Driving
City Driving
Traffic Driving
Passing
Courtesy
Speed
Parking
Backing

A perfect score is 100 points. Seventy-five points is an acceptable passing grade. Any violation of the law of the road is an automatic failure. No applicant, except a nonresident, will be permitted to take the examination unless accompanied by a licensed operator who is required to drive the vehicle to the examining point. No person will be permitted to take the driving test in a vehicle other than his own unless he is accompanied by the owner or has written permission from the owner to operate the motor vehicle. It is recommended that the applicant when he appears for a driver's license test do so in a vehicle that he is accustomed to operating.

Plate 18—Railroad Crossings

Plate 19—Railroad Crossings



The railroad grade crossing—the place where trains and automobiles cross at the same level—is another threat to safe motoring. Road builders are trying to eliminate grade crossings, but this is a giant task, because at the present time there are more than a quarter million such spots throughout the country. Crossings are plainly marked with warning signs—indicated by two boards crossed in an X or by a circular marker bearing a heavy black cross and the letters R R or by mechanical signals. Some crossings are guarded night and day by watchmen who stop traffic as the train approaches or by a system of mechanical gates or signals.

Having encountered a train at a crossing, and having waited for it to pass, good drivers always observe railroad right-of-way in order to make sure that there is not more than one track to cross and also to make certain that another train is not coming in the opposite direction.

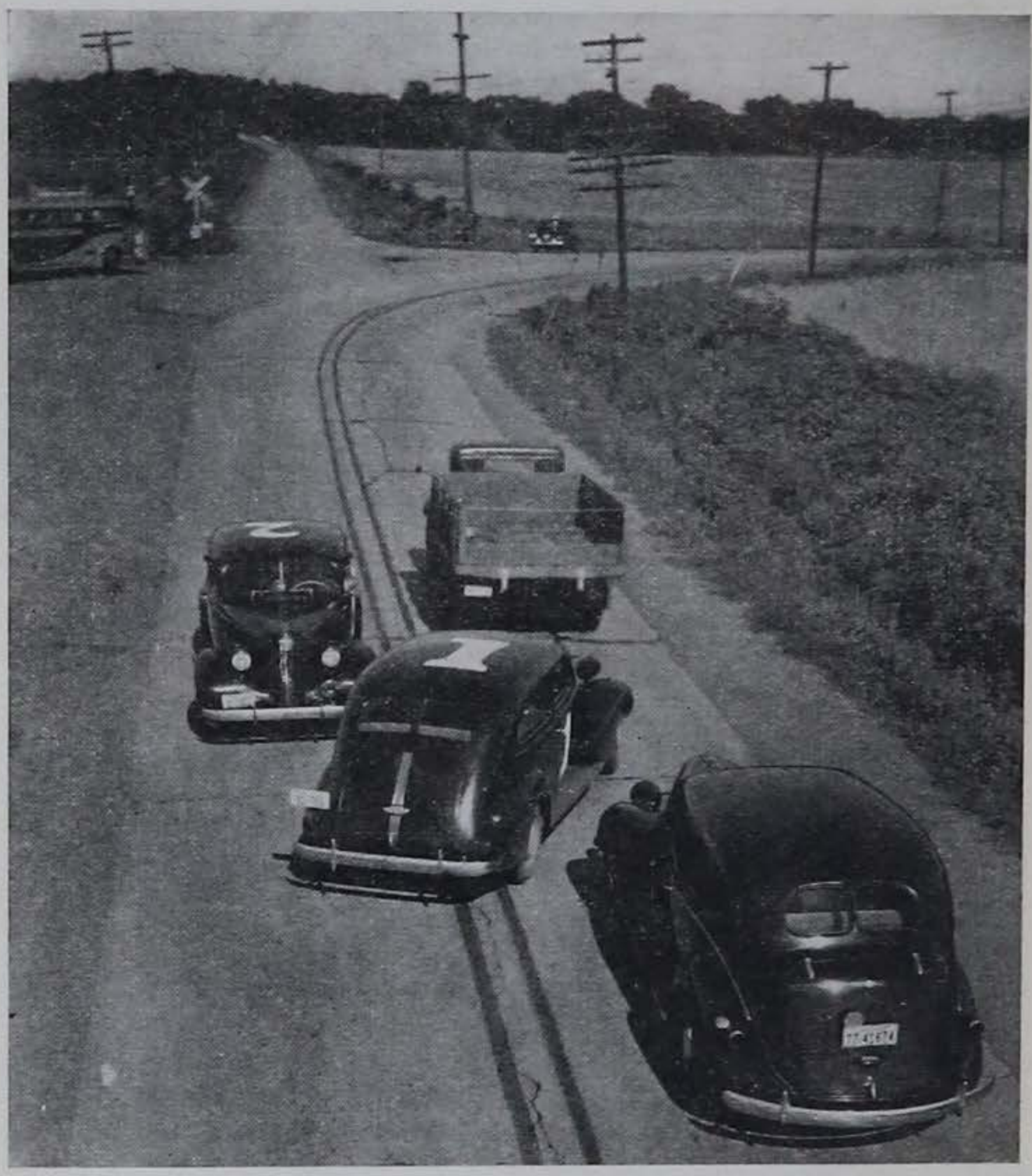
1. What percentage of the total number of accidents for 1937 were railroad crossing accidents?
2. If the railroad engine shown in Plate 18 was traveling at 60 m. p. h. and the vehicle approaching the railroad crossing was traveling at 70 m. p. h., what is the stopping distance of this vehicle in order to avoid a crash with the railroad engine?
3. At what distance from the railroad right-of-way is the railroad highway sign placed?
4. What is the purpose of an overpass or viaduct on the highway?
5. Why does an overpass reduce accidents?
6. Why is it sometimes advisable to construct underpasses?
7. What is the maximum height of a motor vehicle under the Iowa law?

Plate 19 illustrates one of the more dangerous types of railroad crossings which are gradually being eliminated by modern highway construction. When approaching a railroad crossing of this type it is well to be extremely cautious, if the view is obstructed, in order to be sure that the train is not approaching.

When approaching a railroad crossing of this type on a gravel road speed should always be reduced in order to eliminate the danger of skidding onto the railroad track, due to sudden application of the foot brakes.

If you happen to be following a bus, truck, or another passenger car, always keep your distance when approaching a railroad crossing in order to avoid crashing into the vehicle ahead, if the driver of this vehicle makes a sudden stop.

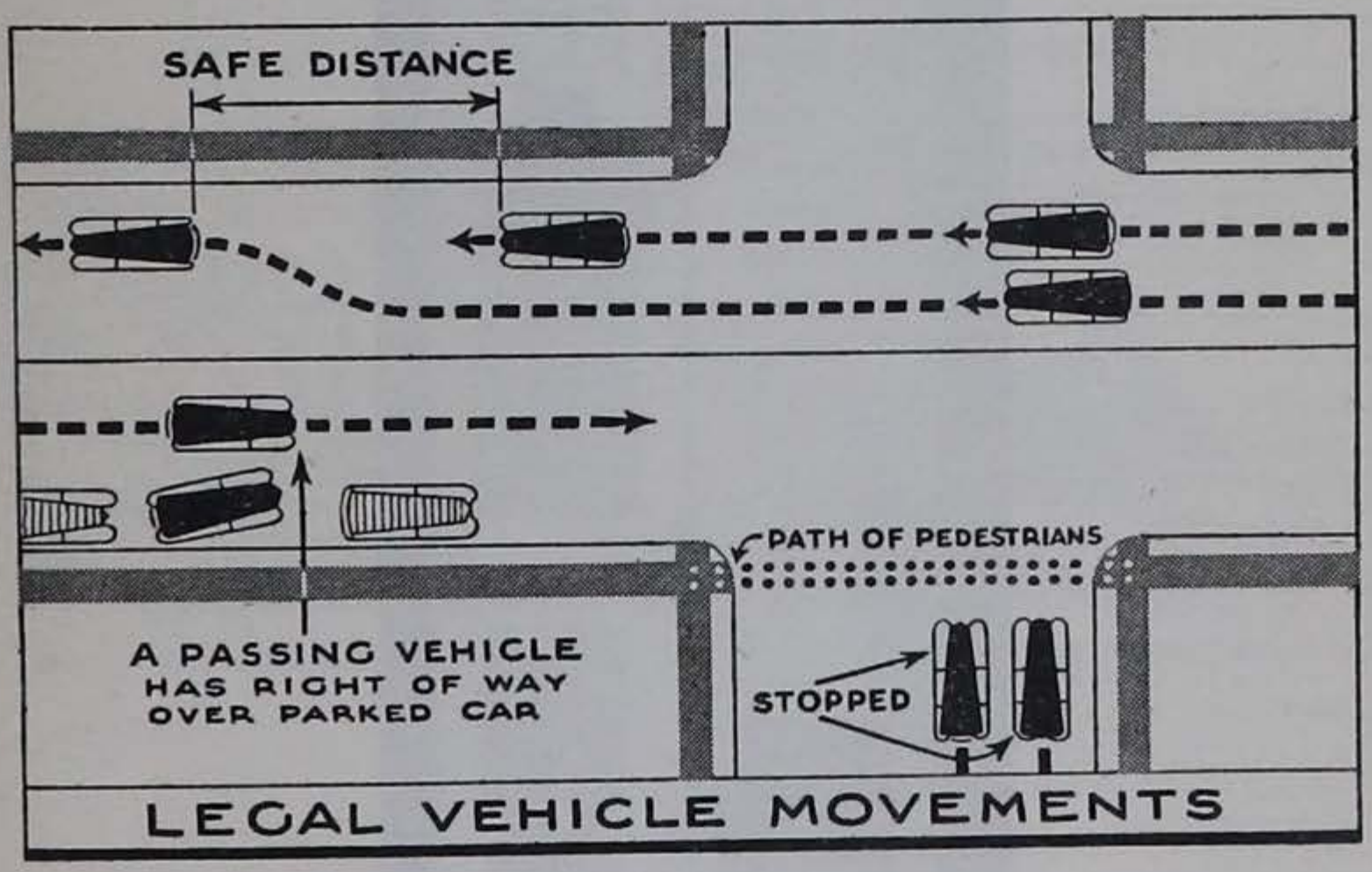
Plate 20—Distance Between Vehicles



Following too closely and attempting to pass another vehicle has caused many accidents because the driver's range of vision is limited. Following the car ahead too closely is always a dangerous driving practice because you must always turn your car into the opposite traffic lane in order to observe whether or not you have a clear road ahead. This always includes a chance of collision with the car traveling in the opposite direction.

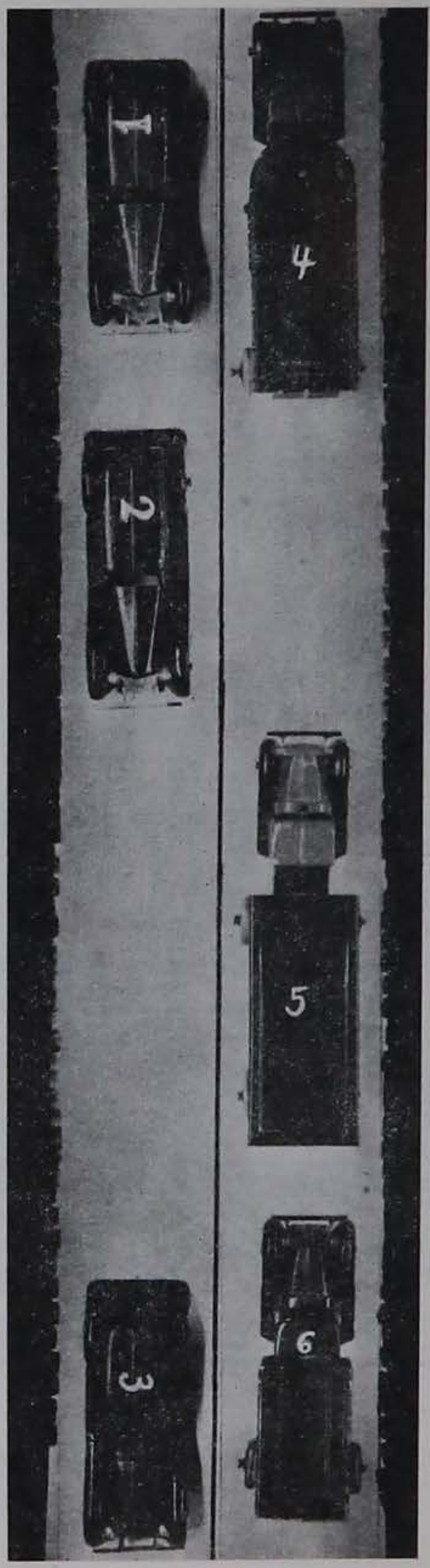
In Plate 20, vehicle #1 is traveling at 60 m. p. h. attempting to return to the right lane of traffic, to avoid collision with vehicle #2 after passing another vehicle.

1. If the distance between the vehicle passed and the truck is 30 feet and the truck is traveling at a speed of 35 m. p. h., is an accident unavoidable?
2. What would have been the proper driving procedure for vehicle #1?
3. Why is it important that all car drivers be good judges of distance?
4. What is the width of the paved surface of federal and state highways?
5. What states other than Iowa use two black lines in the center of paved highways?



LEGAL VEHICLE MOVEMENTS

Plate 21—Trucks on the Highways



The Iowa motor vehicle law states that 40 miles per hour is the maximum speed on a public highway for any freight carrying vehicle equipped with pneumatic tires. See Section 339 of the Iowa Code.

When two or more motor trucks or a motor vehicle drawing another vehicle is traveling upon the roadway outside of business or residence districts of a city or town, they shall be spaced at a clear distance of 300 feet, except when passing each other.

The conditions when you must not pass another vehicle may be summed up as follows: (1) Curves, (2) Hills, (3) Street Cars, (4) School Busses.

Bear in mind that 50 miles per hour represents 74 feet per second. One second saved means but 74 feet on your journey through life—or it can mean a fatal accident.

1. What law is violated by trucks #5 and #6, if the distance between the two vehicles is 200 feet?
2. What is the speed limit for trucks?
3. If vehicle #3 came to a sudden stop, would vehicle #1 crash into vehicle #2 if they were traveling 60 miles per hour and the distance between #2 and #3 is 300 feet and the distance between #1 and #2 is 200 feet?

WHAT TO DO IN CASE OF AN ACCIDENT

Only Hit and Run Drivers Fail to Comply With These Requirements

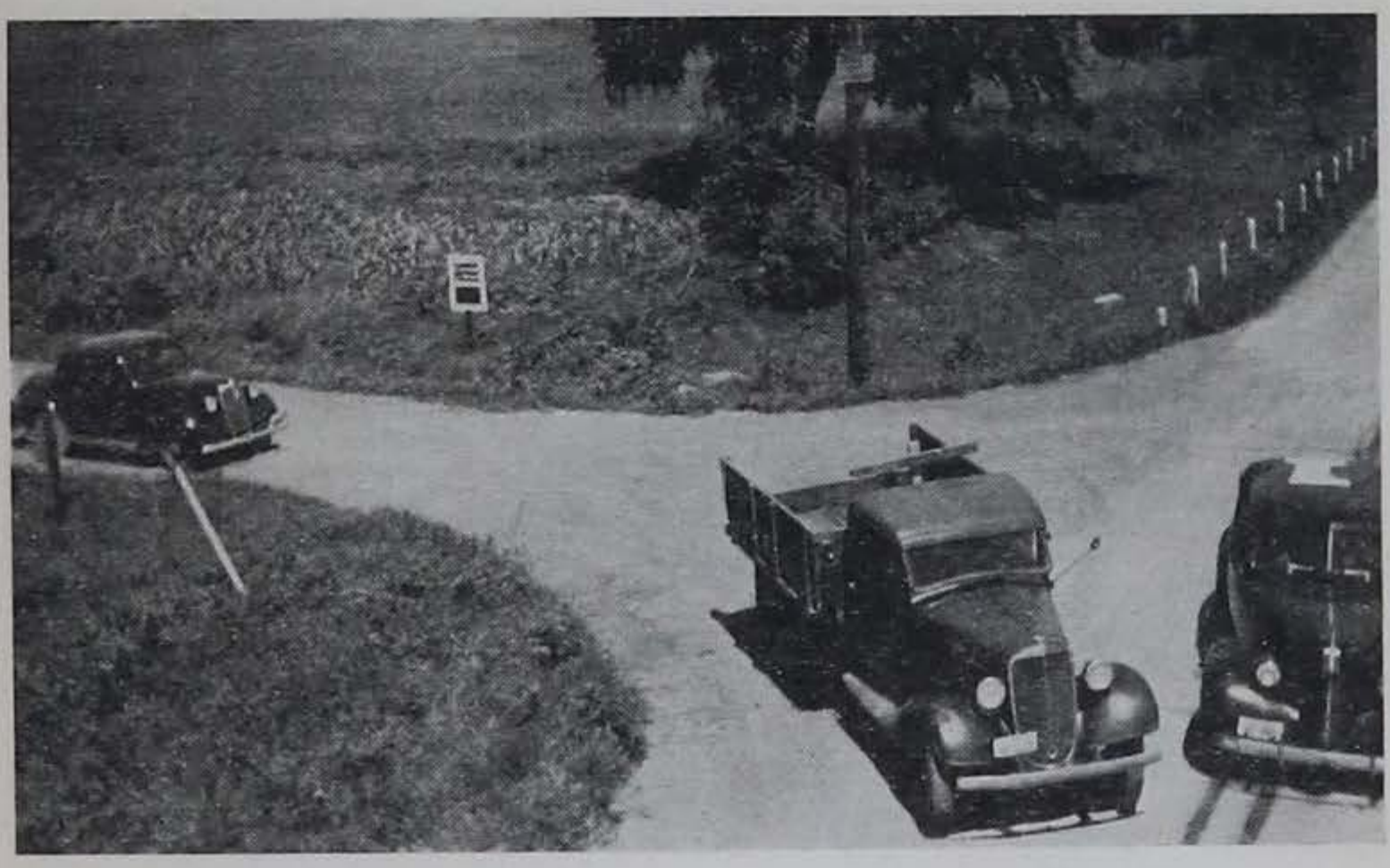
Plate 22—Careless Driving

Careless Driving

The driver of vehicle #1 is guilty of careless driving because he has entered the left-hand traffic lane of a curve in order to drive off the paving onto a side road, without giving the signal or slowing down in order that vehicle #2 might pass before the driver of vehicle #1 makes the turn. If vehicles #1 and #2 are traveling at the same rate of speed their paths would intersect and another accident would be recorded.

1. Would this be termed "passing on the curve"?
2. How could an accident of this kind be avoided?
3. What would be the common sense practice for the driver of vehicle #1 to avoid a collision?
4. If the driver of vehicle #2 signals his intention for a left-hand turn, does he have the right-of-way?
5. Would less speed and more caution prevent this type of accident?
6. Should the driver of vehicle #1 consider the intention of driver of vehicle #2?

Plate 23—Careless Driving

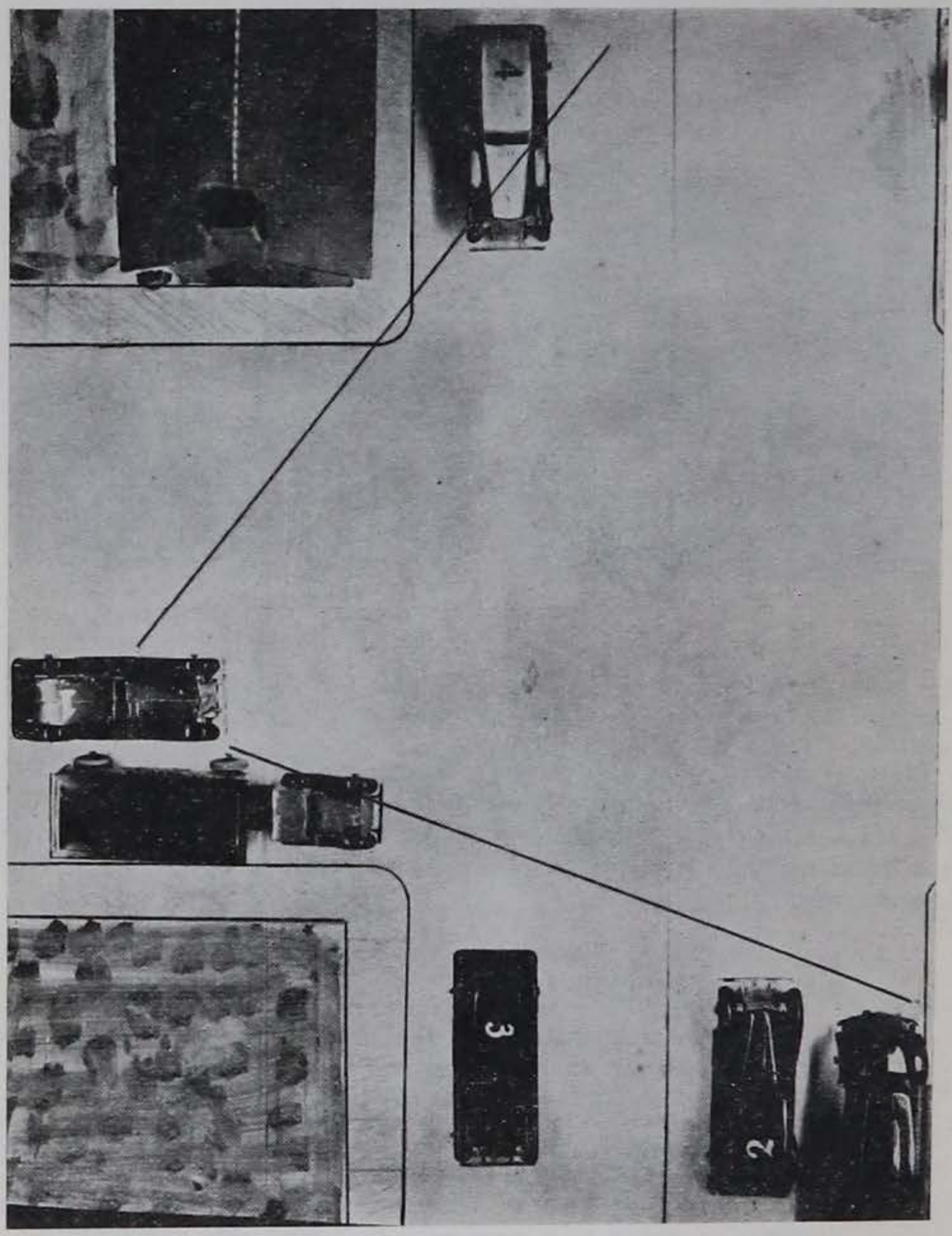


Careless Driving

Plate 23 is similar to the careless driving we find in Plate 22. This plate illustrates a truck entering this main highway from a side road. The truck is taking advantage of Car #1 in entering the through highway from the side road. This is a common type of careless and reckless driving.

1. The driver of the truck has violated what law if he failed to stop at the stop sign?
2. Would he be responsible for the accident if the driver of vehicle #1 does not take caution and avoid hitting the truck?
3. What motor vehicle law has driver of the truck violated if he fails to wait until the highway is cleared before entering it?
4. If the truck collides with vehicle #1 and the property damage amounts to $30.00 is it necessary to report this accident?
5. If this happened outside of the city or town where does the law require this report to be made?
6. If this accident occurred within the incorporated limits of a city of the first class, where does the law require this report to be made?

Plate 24—Intersection



When approaching and crossing an intersection, it is good driving practice to reduce the speed in order that the car might be stopped instantly. Plate 24 illustrates Car #1 approaching an intersection where view is obstructed by buildings. The driver cannot see approaching traffic until he reaches a point 60 feet from the intersection. If he is driving twenty miles per hour, he must have a minimum distance of forty feet to bring his car to a stop.

1. If the applicant has less than 50% vision, is he eligible to receive a driver's license?

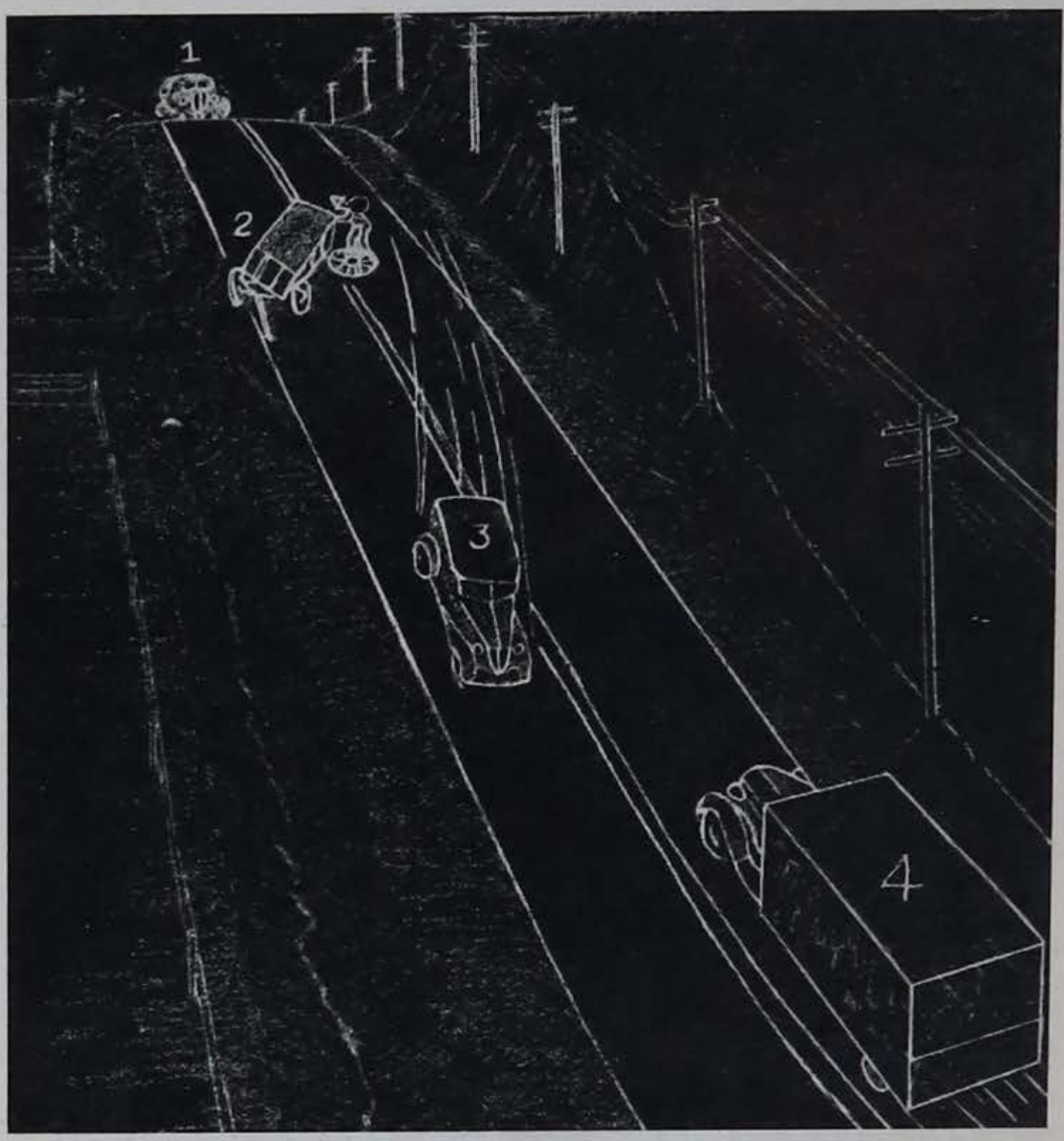
2. What is the minimum requirement of vision with both eyes in obtaining a driver's license?

3. If the applicant has lost the sight of one eye, what is the minimum requirement in obtaining a driver's license?

4. Is the driver's license restricted if glasses correct the vision to meet the minimum requirements?

5. Would the person wearing glasses, correcting his vision to the minimum requirements be required to wear them while driving or would he be violating a motor vehicle law if he did not wear the glasses?

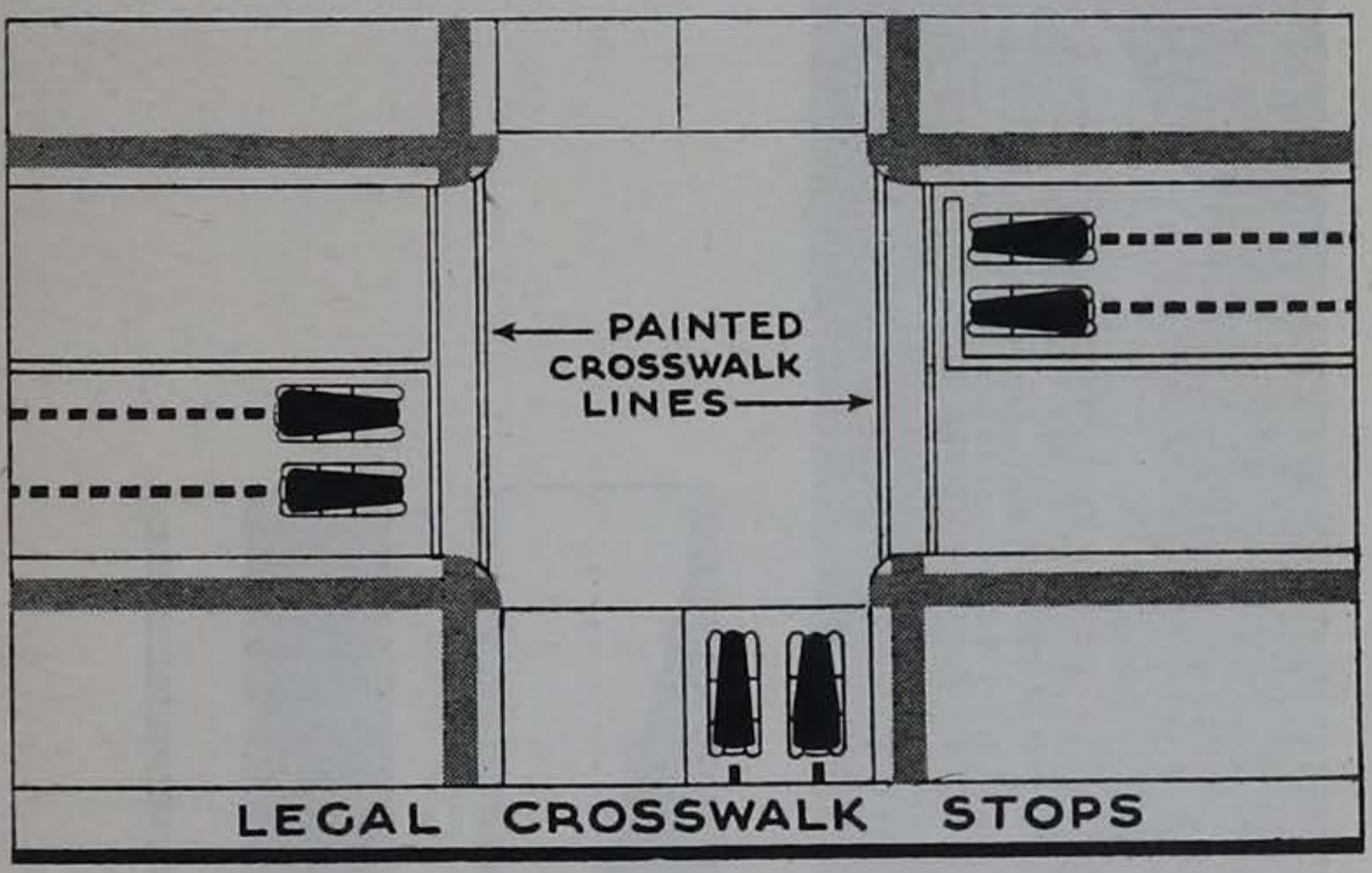
Plate 25—Speed on Hills and Curves



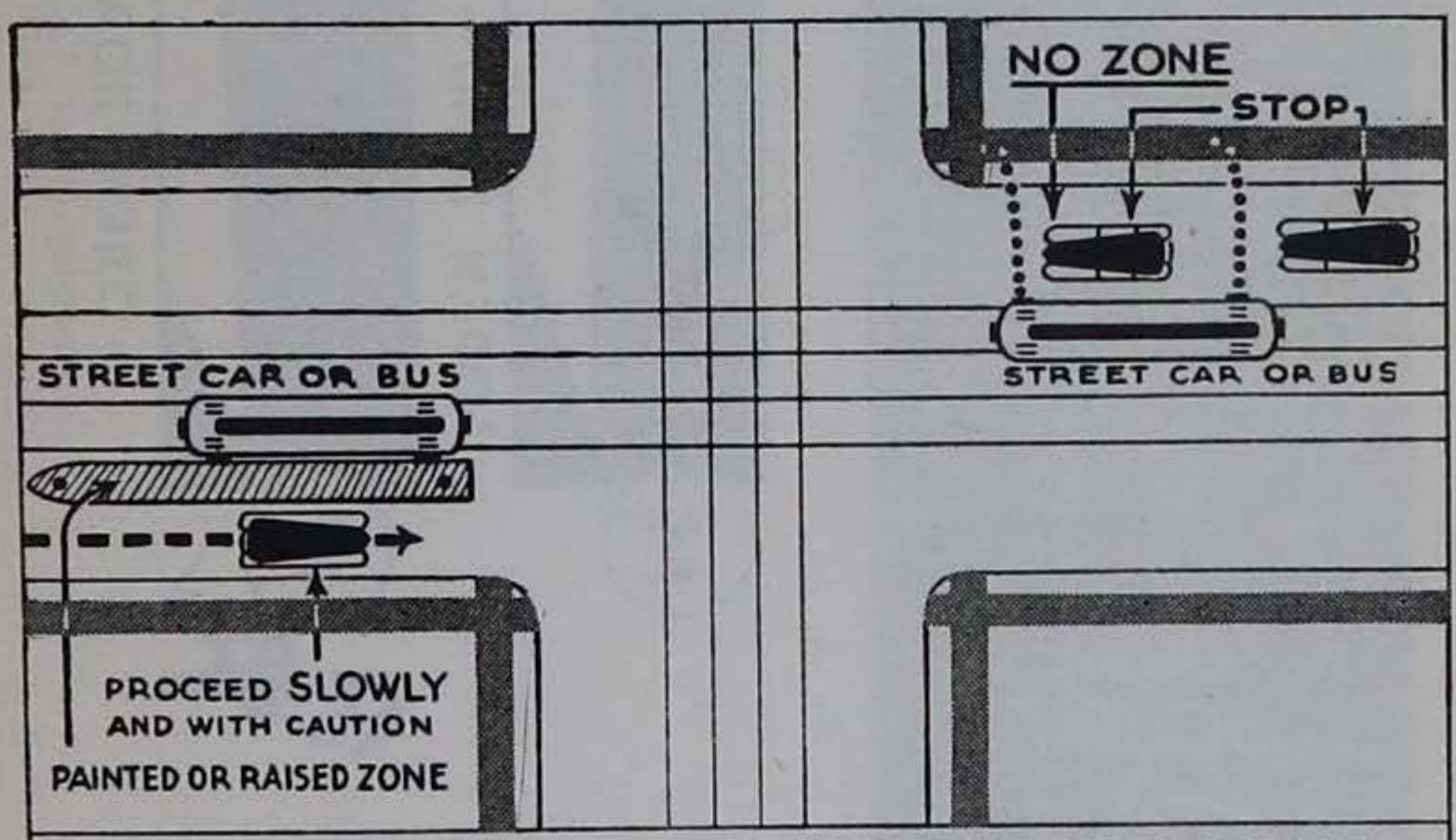
Driving on Hills and Curves

On hills or curves it is very reckless to drive at a speed that will keep you from stopping in the distance you can see ahead. Perhaps a car is stalled over the brow of the hill, or an accident has occurred, obstructing the highway with the debris of wrecked automobiles. In the event you go over the brow of the hill at sixty miles per hour, you must have a clear distance of 226 feet, about two-thirds of a city block, in order to bring your car to a stop, but one hundred feet ahead is an obstruction. The result is another accident (See Plate 25).

1. What law is violated by the driver of Car #3 in this illustration?
2. Does the law require driver of Car #3 to use horn or siren upon approaching curves, hill tops, or intersecting highways, where view is obscured?
3. What charges should be filed against driver of Car #3 if he is arrested?
4. What percentage of accidents were caused in Iowa last year by violations illustrated in this plate?

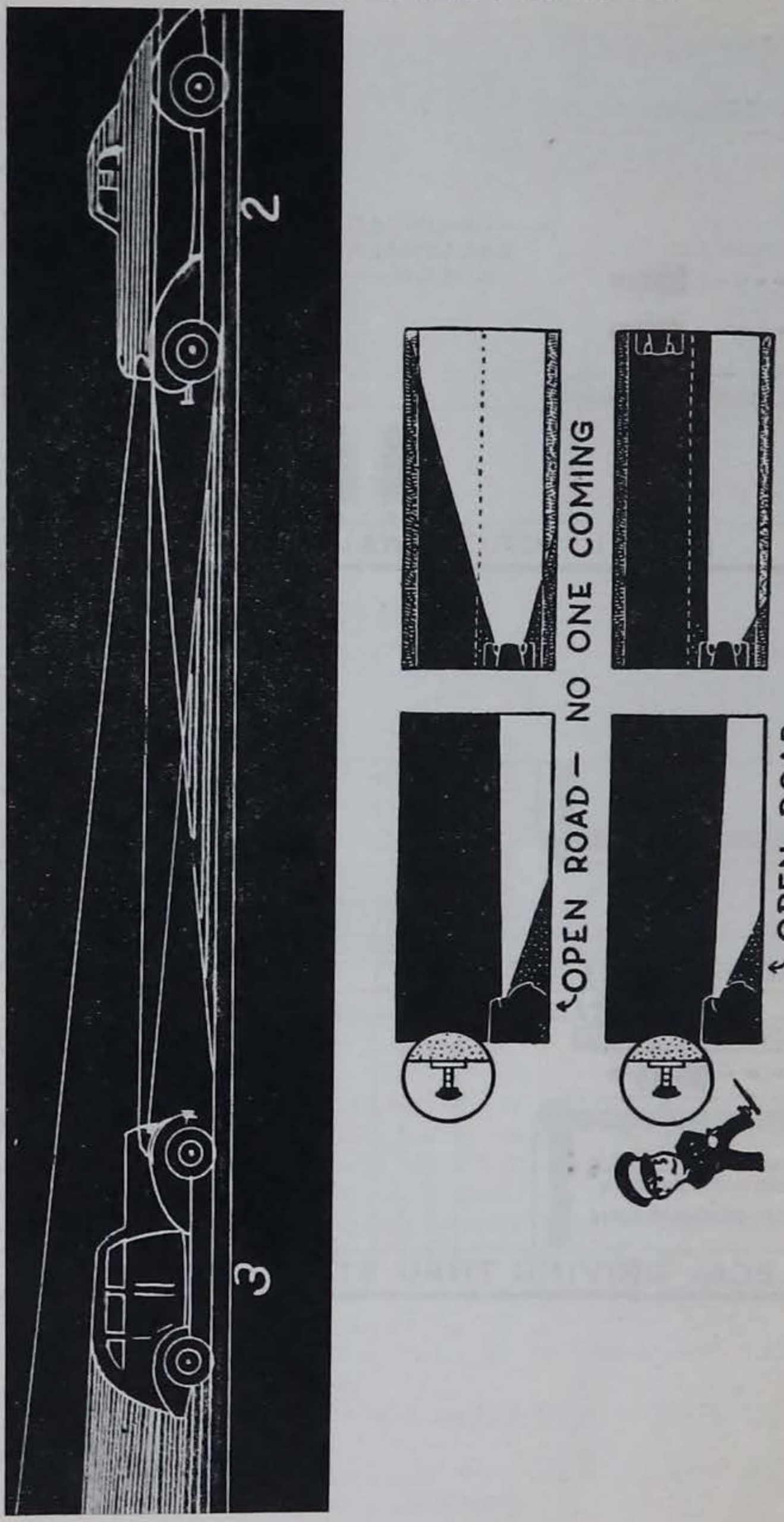


LEGAL CROSSWALK STOPS



LEGAL DRIVING THRU STREET CAR ZONE

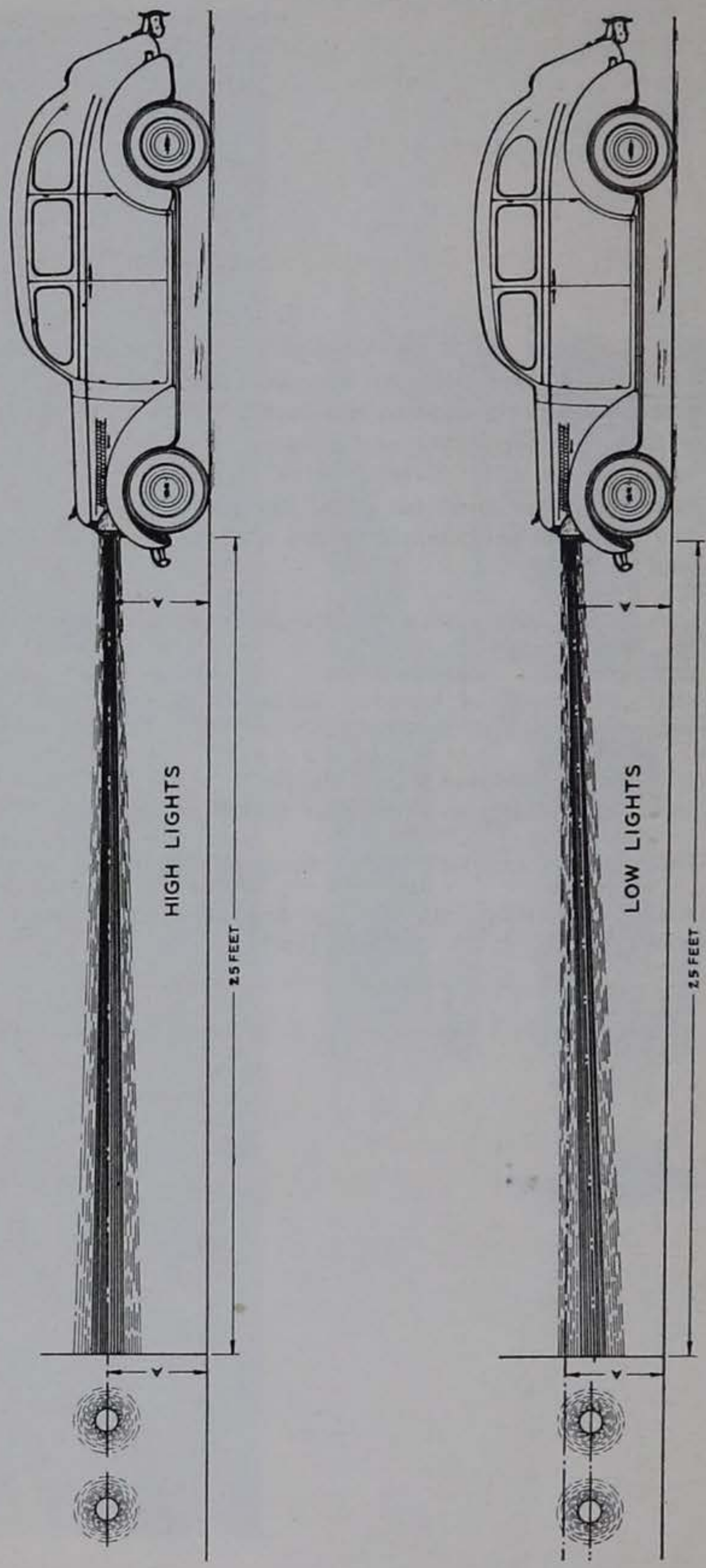
Plate 26—Iowa Headlight Requirements



The driver of vehicle #2 is not blinded by the headlights #3 because the lights of Car #3 are properly focused. The driver of Car #3 is blinded by the improperly focused headlights of Car #2. Every driver should see that his headlights are properly focused and should have them inspected frequently. Every driver should reduce his speed at least ten miles per hour from his usual day speed because his range of vision is decreased and the hazards of the road, including blinding lights, are increased at night.

1. What is the maximum elevation for headlight beams from surface of highway?
2. What percentage of highway accidents in Iowa last year were caused by defective headlights?
3. Why are all highway signs placed at a height of 42" from the center of the sign to surface of highway?
4. What time of day does Iowa require headlights to be turned on?
5. What is maximum capacity for headlight bulbs under the provisions of the motor vehicle law?

Plate 27—Iowa Headlight Requirements

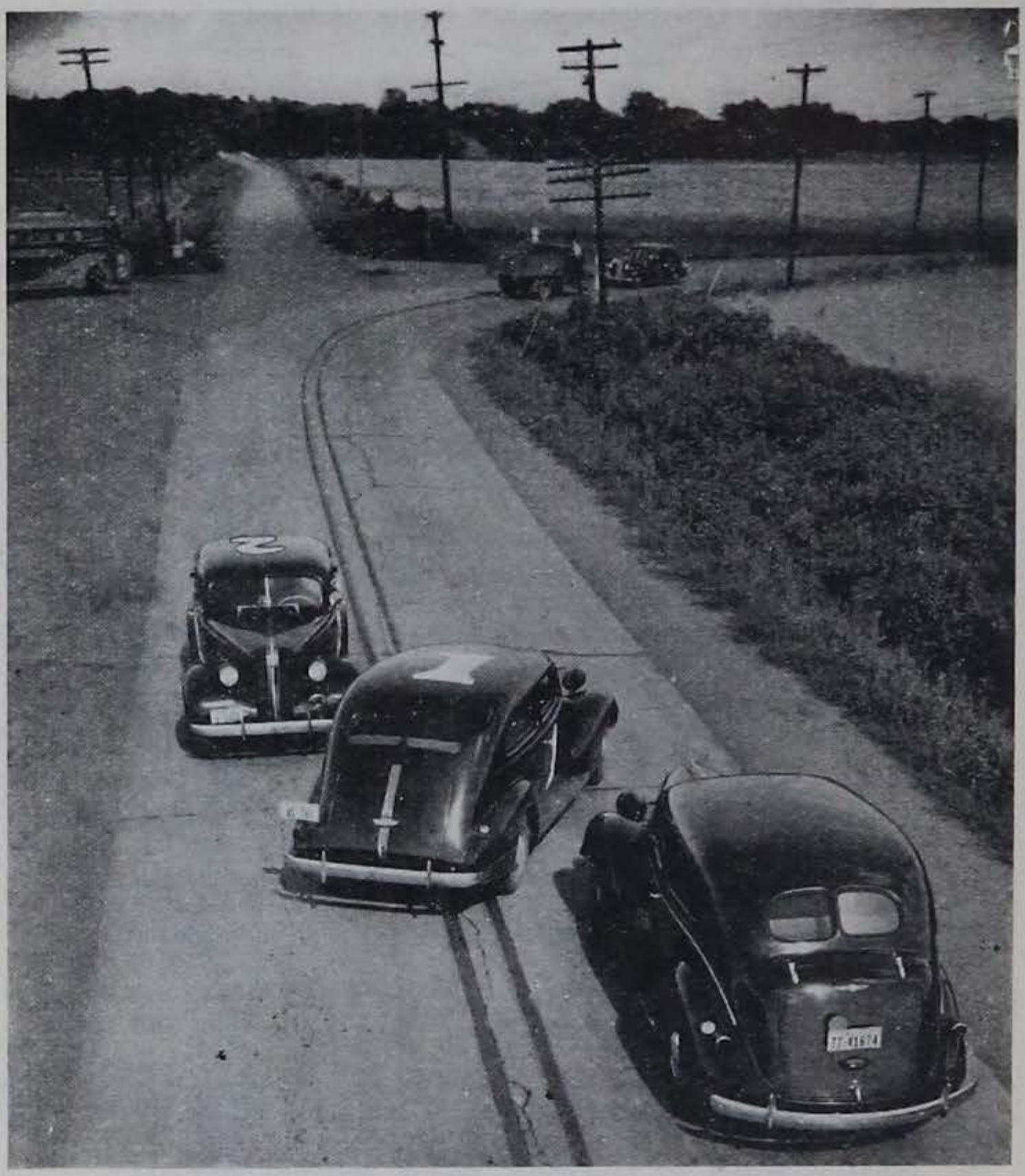


Properly focused headlights are important to every driver of a motor vehicle on the highway after dark. Particular attention should be paid to focusing of headlights. The importance of finding a center of a headlight and focusing the high lights to not over one degree of arc above this center is a law regulation. The dimming of headlights when meeting other vehicles on the highway is now a law regulation in Iowa. The proper focusing of dimmers, or low lights, is of as great importance as the focusing of high lights.

Plates 26 and 27 show the focusing of high lights and low lights.

1. What is one degree of arc in inches at 25 feet distance?
2. What is meant by 75,000 apparent candlepower?
3. What is meant by single-beam headlights?
4. What is meant by multiple-beam headlights?
5. What is the duty of the driver to lower lights?
6. What is meant by prolongation of the extreme left side of a vehicle?
7. Why is this specification given in the focusing of the left headlight pertaining to passing other vehicles on the highway?
8. What percentage of accidents in the 1937 Iowa Accident report happened after dark, or at night?
9. At what distance are headlights required to reveal subjects or persons on the highways at night?
10. Why are headlights important equipment on a motor vehicle?
11. What vehicles are permitted to display one headlight?
12. What vehicles are required to display two headlights?
13. Are bicycles and other vehicles operated on the highway required to be lighted at night?
14. Why is it more important to drive at a slower speed at night than during daylight hours?
15. What is meant by maximum seeing distance at night?
16. What is the penalty for violation of the lighting laws?

Plate 28—Passing



Never "cut in" sharply ahead of the passed vehicle, but allow him a safe stopping distance as outlined previously. This rule must also be observed when passing horse-drawn vehicles to prevent frightening the animals, which might cause them to swerve in front of oncoming traffic.

Following too closely when attempting to pass has caused many accidents. When directly behind another car your range of vision is limited, because you are unable to see whether or not you have a clear road ahead and you must turn your car to the left, taking a chance on a collision with traffic traveling in the opposite direction. Another danger in following too closely is caused by the driver of the leading car failing to signal when suddenly changing his speed or stopping. If you are following closer than the computed safe stopping distance, considering your speed, an accident is inevitable.

1. How many feet in the clear should be allowed for passing if vehicles are moving 60 miles per hour?
2. What distance must be traveled ahead of the vehicle being passed on a highway before cutting back into right-hand traffic lane?
3. What is the exception to this law? (See Sections 330-360)
4. Does the law require hand signal to be given when passing and overtaking a vehicle?

Plate 29—School Bus Operation

School busses are licensed as trucks and must meet the truck regulations. They are required to be lighted; they are limited to a speed of 35 miles per hour; they are required to stop at all railroad crossings; and they are subject to special specifications as to color and construction. They must be properly marked when in use as a school bus.

The drivers of these school busses are subject to the same law of the road as other vehicles, excepting special laws governing speed, etc. The drivers are required to pass a regular chauffeur's examination.

1. What section of the law requires a school bus to stop at a railroad crossing?
2. What are the exemptions? (See Sec. 368)
3. Are school busses required to be equipped with clearance lights, identification lights, stop lights, and tail lights, if their width is in excess of 80 inches? (See Sec. 417)
4. Are all public passenger carrying vehicles and school busses required to be equipped with a rear emergency door?
5. When is this door to be used?
6. Why is a ventilator important in a school bus?
7. What are the specifications on heating a school bus?
8. What are the specifications on filling the gas tank?
9. What is the law in regard to providing each child with an adequate seat on the school bus?

A GOOD INSTRUCTOR TEACHES HIS PUPILS

How to apply the brakes.

The value and importance of sitting properly so as to be able to see well and manipulate all controls with ease.

How to shift gears properly.

The importance of beginning his lessons on an uncongested highway.

The importance of operating a vehicle that is roadworthy.

When and where to pass another vehicle safely.

How to stop and start on a hill.

How to park on a hill.

How to turn at an intersection.

How to turn around on a narrow road.

How to signal.

How to make proper turns.

To have his car under control for any emergency.

That a stop sign means a complete stop.

That children use the streets and highways.

How to drive in the proper traffic lane.

That a green light means go; amber light means caution; red light means stop.

That weather conditions affect driving conditions.

That a skid may be expected on wet paving.

How to right his car if he goes into a skid.

That a good driver very seldom skids because he has the vehicle under control and is very cautious in applying the brakes.

The law of the road and how to act properly in emergencies.

To be courteous, avoid unnecessary delays on the highway in parking and to drive so as not to crowd or impede the traffic.

To be always alert and respect the rights of others.

How to operate the vehicle so as not to cause discomfort to the passengers.

To observe regulatory and warning signs and traffic rules.

To reduce his speed at night to compensate for his decrease in vision over daylight.

That road courtesy is displayed by yielding the right-of-way.

Dimming his lights and to afford the other persons using the highway an opportunity to return the courtesy.

Plate 30—School Bus Operation

School Bus Operation

The school bus in plate 30 has stopped at the side of the road and the driver of the bus is assisting two small children across the highway with safety because the driver of the vehicle following the bus and the driver of the vehicle approaching the bus are complying with the law and cooperating.

1. What distance from the front or rear of a school bus is the motorist required to stop when the school bus is stopped to load or unload children?
2. What penalty is provided if they fail to comply with this law?
3. Why is it important that the school bus driver and the driver of the cars know the same law?
4. What size school bus signs are these vehicles required to display?
5. Approximately what height from the ground?
6. When are these signs to be displayed?
7. What are the specifications in regard to the front entrance of a school bus?
8. Why is this important to the safety of the children?

Study of the accident report for 1937 should convince any person that bicycle riding on the streets and highways should be controlled by the same law of the road as other vehicles.

The following information on bicycle safety, including the illustrations, has been taken from the Travelers Insurance Company bulletin and reproduced for the information of children who are riding bicycles on the streets and highways.

When is a driver also a pedestrian? When he's riding a bicycle, of course.

Drivers have many responsibilities in this age of mounting traffic accidents and so do pedestrians, but the cyclist has all the worries and the responsibilities of both.

Bicycling is not a new fad. It had its first flowering in this country in the gay 90's, even before the automobile. In those days of hoop skirts and moustache-cups it became so popular that every town had a "Wheel Club". One of the catchiest tunes of the day was entitled "On a Bicycle Built for Two," and the sport even set a new style in upper lip adornment—the "handle-bar moustache".

Then, with the turn of the century, the fad did a rapid fadeout. Along came the motor vehicle to make the roads, such as they were, unsafe for cyclists. People began to talk of the bicycle in the past tense, and associated it only with messenger boys and six-day racers.

But now the bicycle is no longer spoken of in the past tense. It has wheeled itself right out from the pages of the scrapbook onto highways built for speedy automobiles and onto sidewalks built for pedestrians. In short, it is making a determined and successful bid to reclaim some of its past glories.

When the bicycle retired from public life nearly 40 years ago there were few accidents and practically no deaths. It is true that municipal authorities sometimes found it necessary to prohibit riding on the sidewalks as a measure of protection for pedestrians, but even the more serious bicycle accidents of the day rarely resulted in anything worse than a few bruises suffered by the rider or his victim. When the "bike" began making its comeback a few years ago, however, it found more than 25,000,000 fast-moving motor vehicles in its way and it is almost a daily occurrence to pick up a newspaper and read BOY BICYCLIST KILLED HITCHING RIDE ON TRUCK or BOY AND GIRL KILLED ON BIKE.

It is estimated that there are nearly 10,000,000 bicycles in use this year, and it is known that there are nearly 30,000,000 automobiles registered. The result is that the automobile-bicycle collision is now contributing a generous quoto of dead and injured each year to the accident toll.

In 1936, collisions between bicycles and motor vehicles brought death to nearly 800 cyclists and non-fatal injuries to more than 14,000 others. The greatest number of deaths (390) occurred in the age group 5 to 14 years; 330 persons ranging in age from 15 to 64 years were killed; and the surprising fact that a good many elderly men are bicycle riders was made clear by the recorded deaths of 40 persons more than 65 years of age.

Cyclists were at fault in some of these cases, motorists were to blame in others, and in still others the responsibility was divided.

The boy or girl who wants to ride a bike in these days of fast moving traffic and frequent accidents must know the motor vehicle laws at least as well as the driver of a motor car. Cyclists and motorists are subject to the same traffic rules and should be equally careful to obey them.

A study of 56 auto-bicycle accidents conducted by Ralph W. Ellis, Manager of the Springfield (Mass.) Safety Council revealed that practically all were caused by one of the following:

1. Failure of the cyclist to obey a traffic signal
2. Failure to give a hand signal when making a turn
3. Failure to keep to the right side of the road near the curb
4. Riding four or five abreast
5. Carrying someone on the handle-bars
6. Failure to have a light at night

Very few cities as yet have adequate ordinances regulating the use of bicycles, but there are certain common-sense rules that every rider should observe.

Here are a few:

1. Obey all traffic rules and signals, and give definite hand signals before stopping or turning. Keep to the right. Do not zigzag. Be especially careful when the road surface is slippery.
2. Keep both hands on the handle-bars. Do not carry another person or bulky packages. Avoid racing and stunt riding in traffic.
3. Never ride more than two abreast. When meeting vehicles, ride in single file.
4. Don't "hitch" rides to other vehicles or ride too close to them. Don't drag other children on roller skates or on "express" carts.
5. Approach street intersections and railroad grade crossings slowly.
6. In making left turns, do not cut the corner.
7. Avoid heavy traffic whenever possible—use the side streets and parks for pleasure riding.

There is a lesson to be learned from the bicycle safety programs of the telegraph companies. An important item in their accident prevention program is a daily inspection of all bicycles.

Lights, tires and brakes should be checked at regular intervals. Every bike should have a light in front and a light or reflector on the rear. Seats, handle-bars, grips and pedal pads should be kept tight. White or light clothing should be worn if you must use your bicycle at night.

Apparently the bicycle is here to stay this time and those who would enjoy its advantages without being involved in an accident must give serious thought to using it safely.

Plates 31 and 32 show the proper methods of signalling.

1. Why is this important?
2. How many accidents involving a bicycle and a motor vehicle occurred in your county during the year 1937?
3. Are there more bicycles being used in your community this year than there were last?

Plate 31

Proper Signal

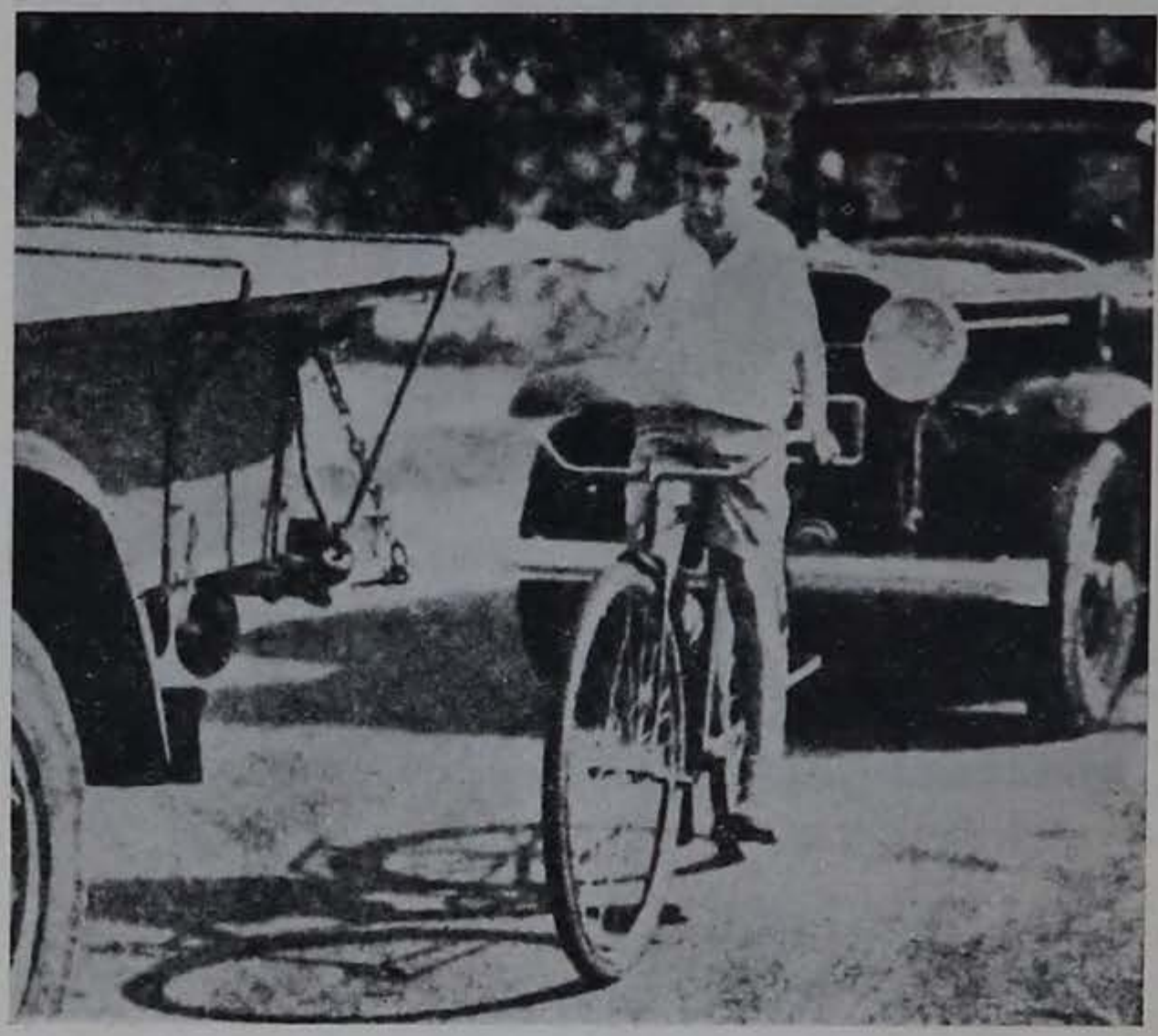
Plate 32

Proper Signal

Plates 33 and 34 show bicycle practices which are unsafe.

1. Why are the practices shown in these illustrations dangerous?
2. How do bicycle groups correct such practices as these?
3. Have you formed one in your school?
4. What is the penalty if a member engages in a dangerous practice, as shown in these illustrations?

Plate 33



Unsafe Practice

Plate 34

Unsafe Practice

GENERAL USE OF HIGHWAYS

Our modern highway system, like our public schools, has been developed for the benefit of all. Anyone is permitted to use our highways, provided he does not violate certain rules and regulations which have been made in the interest of public safety. These regulations, or laws, not only apply to operators of motor vehicles, but to bicyclists, pedestrians, and horse-drawn vehicles.

ALWAYS KEEP TO THE RIGHT SIDE OF THE HIGHWAY.

STOP AT ALL ARTERIAL HIGHWAYS BEFORE ENTERING UPON THE MAIN ROADWAY.

ALL ARTERIAL HIGHWAY TRAFFIC HAS THE RIGHT-OF-WAY.

YOU MUST OPERATE A MOTOR VEHICLE AT SUCH SPEEDS THAT YOU HAVE YOUR CAR UNDER CONTROL AT ALL TIMES.

ALL VEHICLES MUST BE EQUIPPED WITH SUITABLE LIGHTING AND SIGNALLING EQUIPMENT.

VEHICLES APPROACHING FROM THE RIGHT HAVE RIGHT-OF-WAY AT INTERSECTIONS (EXCEPT AT ARTERIAL HIGHWAYS).

AN OPERATOR OF A MOTOR VEHICLE MUST SIGNAL, USING STANDARD HAND SIGNALS UPON MAKING A LEFT OR RIGHT TURN, SLOWING DOWN, OR PARKING.

YOU MUST REDUCE SPEED WHEN APPROACHING OR PASSING A PERSON WALKING IN THE TRAVELLED PORTION OF A PUBLIC HIGHWAY; WHEN APPROACHING OR PASSING AN ANIMAL WHICH IS BEING LED, DRIVEN, OR RIDDEN UPON A PUBLIC HIGHWAY; WHEN APPROACHING AND CROSSING AN INTERSECTION OF PUBLIC HIGHWAYS, OR A BRIDGE, TURN, SHARP CURVE, OR A STEEP DESCENT.

IT IS ILLEGAL TO PASS A VEHICLE ON AN INTERSECTION, CURVE, OR A HILL, OR WHERE THE VIEW IS OBSTRUCTED.

ANYONE WHO IS FOUND GUILTY OF DRIVING A CAR WHILE INTOXICATED IS SUBJECT TO FINE OR IMPRISONMENT, OR BOTH, AND REVOCATION OF LICENSE.

NEVER PARK YOUR CAR ON THE ROADWAY. ALWAYS PARK ON THE SHOULDER.

NEVER LEAVE YOUR CAR PARKED DURING HOURS OF DUSK OR DARKNESS WITHOUT LIGHTS.

IT IS AGAINST THE LAW TO LEAVE A CAR UNATTENDED WITH THE MOTOR RUNNING. PEDESTRIANS SHOULD ALWAYS WALK ON THE LEFT-HAND SIDE OF THE HIGHWAY FACING TRAFFIC.

OBEY ALL TRAFFIC SIGNS AND SIGNALS.

The authors of Common Traffic Problems wish to acknowledge the courtesy and cooperation of the following for loaning equipment and for their assistance in producing the pictures that appear in this bulletin:

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