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# TRANSACTIONS

## 29th NATIONAL SAFETY CONGRESS



STREET AND HIGHWAY TRAFFIC,  
COMMERCIAL VEHICLE, TRANSIT,  
CHILD EDUCATION AND HOME  
SAFETY SESSIONS

CHICAGO  
OCTOBER 7-11, 1940

NATIONAL SAFETY COUNCIL, INC.  
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THE Transactions of the 29th National Safety Congress and Exposition of the National Safety Council, October 7-11, 1940, are published in two volumes. Volume I contains the General Subject Sessions and the Sessions of the Industrial Sections of the Council. This is Volume II. Volume I has been distributed automatically to Industrial Members of the Council; however, other members may receive a copy of Volume I on request if they are particularly interested in industrial safety problems.

THE Transactions are a condensed record of the proceedings of the Congress. The papers and addresses have been edited to delete extraneous matter, abbreviate the less important portions, and emphasize information which may be of particular usefulness in promoting effective safety organization and other accident prevention measures. These volumes are, therefore, a somewhat abridged version, compact, practical and of especial value to the safety student and the executive interested in achieving more thorough accident prevention success. The original manuscripts are available for reference, if desired, in the files of the National Safety Council.

THE National Safety Council, at its Congresses, seeks to eliminate from discussion matters which are not pertinent to the aims of the Congress or which may be contrary to Council policies. However, it cannot accept responsibility for all of the views expressed either in the papers presented or in the discussions which followed these papers.

**NATIONAL SAFETY COUNCIL, Inc.**  
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# Street and Highway Traffic Section

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*Secretary*—EARL J. REEDER, Chief Traffic Engineer, National Safety Council, Inc., Chicago, Ill.

## MONDAY AFTERNOON SESSION

October 7, 1940

### Joint Session with Institute of Traffic Engineers

*Presiding*: JUDGE HARRY H. PORTER, Chief Justice, Municipal Court, Evanston, Ill., and General Chairman, Street and Highway Traffic Section, National Safety Council.

### Interest and Plans of the War Department in Relation to Traffic Control

By LIEUT.-COL. A. D. BRUCE

War Department, General Staff, G-3, Washington, D. C.

Some of the questions that have been asked lately are: What is the traffic set-up in the Army? What is the Army doing to solve its traffic problems? How can civilian agencies assist the Army in the solution of these problems?

We know we shall have many traffic situations. They will vary from one in which the density of troop concentration is low, the road net is ample, and the danger of interruption is small, to the opposite extreme in which the massing of troops, and the scarcity of good roads and danger of their damage by hostile action make it difficult to maintain supply and troop movements.

In the first case, the minimum of control is required; in the latter, a rigid control of

traffic is necessary, particularly while extensive troop movements are under way.

Our Field Service Regulations, the bases of all training regulations, has the following statement: "In general, the methods of controlling and assisting traffic developed in civilian practice should be followed, with only the modifications necessary to meet the military requirements."

The essential differences between peacetime civilian traffic and military traffic in a theater of operations are, military traffic is subject to sudden interference and it gives prominence to secret movement at night.

The fact that military traffic is subject to sudden interference by hostile activities requires that the plan of road circulation and

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traffic control be flexible, so that damaged points may be by-passed at once, and that arrangements be made for prompt repair.

Movement of traffic at night with secrecy requires the development of means of marking the roads and of lighting vehicles to assist drivers and at the same time avoid detection by airplane observers. This is a problem that is entirely foreign to normal, civil practice.

With this general orientation we come to the question: What is the traffic set-up in the Army?

The provision of a plan of circulation, when required, the determination of the necessary control measures, and the supervision and coordination of the various agencies involved are functions of the G-4 section of the general staff of the headquarters which controls the area involved.

Recommendations for a plan of circulation, the maintenance of the existing roads, and their improvement and extension where feasible; the provision of suitable road maps; and the posting of signs along the roads indicating routes, localities, and establishments as shown on the maps, are functions of the Corps of Engineers.

#### Coordination

Enforcement of regulations and orders for traffic control and expedition of traffic are functions of the military police.

The provision of means of communication by telephone, telegraph, or radio, between traffic control posts of the military police, or other agencies involved in traffic control, is a function of the Signal Corps.

The provision of suitable vehicle accessories, including adequate brakes, and satisfactory lights is a function of the Quartermaster Corps, Ordnance Department, or other service which provides the vehicle. Maintenance is also a problem of these services.

The training of organizations and of individual drivers in the proper use of the roads is one of the important responsibilities of organization.

The development of anti-aircraft protection of bottlenecks is primarily the function of the Coast Artillery.

Defense against chemical warfare, especially the decontamination of road areas, is under the Chemical Warfare Service.

The Judge Advocate General is faced with the establishment of traffic rules.

The evacuation of civilian population are functions of G-1 and G-3 of the General Staff.

It is thus seen that we have quite a problem in coordination.

The next question we set out to answer is—What is the Army doing to solve its traffic problems?

In the spring of this year large maneuvers were held in the Ft. Benning and Louisiana areas. More motor transportation was involved in these maneuvers than ever before. Report after report indicated that our traffic control system must be improved.

Among the numerous recommendations was one to improve our training literature on Traffic Control. This is where my division (G-3) fits in.

In July, 1940, the Automotive Safety Foundation offered to assist the War Department in improving traffic control. Advantage was taken of the offer and a conference was arranged. Present at the conference were several civilian experts.

The purpose of the conference was to determine by informal discussion with the various civilian experts what application, if any, the experience of these experts might have to the problem of military traffic control.

The following three main subjects were discussed at the meeting: traffic engineering, training of traffic military police and driver training and fleet operation.

As a result of the conference Captain Everett, who is here today, was designated to attend the National Institute for Traffic Safety Training and since then has gotten in contact with many civilian experts.

Arrangements were made for civilian experts to witness the maneuvers of the First, Second, and Third Army. Among these experts was Sidney J. Williams. Their excellent reports have been disseminated to the interested agencies in the Army for study.

Later, a study was submitted to the Chief of Staff on means of improving training literature who approved a letter on this subject to the various agencies involved. Their studies are raising many questions that must be answered. For example, at the suggestion of Army and civilian experts tests may be made to develop scientific driver selection

and training that combines useful civilian developments in this field with the best military practices, and to determine additional basic factual data with modern Army equipment. The solution of some questions may involve changes in organization in the Army but definite steps toward their solution are being taken.

### Civilian Assistance

The last question is: How can civilian agencies assist the Army in the solution of its problem? They can devise a simple means for facilitating cooperation between military, state and city officials for traffic movement. In this connection we may need centralization on both sides. A centralized agency in the War Department and a central association among state, county and city authorities. For example, the problem of who to get in touch with in the metropolitan area of New York is a difficult one. An ideal to work toward would be to obtain through one association the selection of routes and provisions made for marking of routes and control in the execution of plans.

Continue to push the simplification and unification of traffic rules on the grounds of national defense. In this connection the

question of licenses for maneuvers is a troublesome one.

Continue to emphasize driver selection and training, safety measures and the like.

Since you have offered your help we expect to call on you from time to time to locate National Guard and Reserve officers in civil life now engaged in traffic work; to secure additional experts when required; to assist in drawing up courses, lecturing and the like in the several courses or schools for traffic control, driver training, driver tests, etc.; to let us know of improvements in communication for traffic control; to devise necessary equipment, to assist us to develop training films and strips from the Army viewpoint; to augment your disaster plans for flood, fire, earthquake, with plans for evacuation of civilian population. I repeat I have mentioned only a few of the problems.

I would like to point out that at the present time we have had to decentralize a great deal of the work for the improvement of traffic. So many people who write or come to Washington to help us get a feeling of being pushed around. In order to obviate this as near as possible we are using the Automotive Safety Foundation as a central agency for contacting the proper personnel to render or receive assistance.

## The Present Challenge of Traffic Accidents

By SIDNEY J. WILLIAMS

Director, Public Safety Division, National Safety Council, Inc., Chicago

The number of traffic deaths in the United States went down continuously for 17 months from November, 1937, to March, 1939. Then 12 of the next 15 months, through June of this year, showed increases. In July the toll went down 3 per cent, compared with July of last year, but it went up 18 per cent in August, the greatest percentage increase in three and one-half years.

The national death rate, in terms of mileage driven, went down 19 per cent in 1938, 5 per cent in 1939, and seems to be holding about even, so far this year. This trend in rates is an important technical fact, but it is a poor alibi for any sustained rise in deaths and injuries.

It is our business as traffic and safety experts to make the motor vehicle a safe as

well as an increasingly useful feature of American life. With what we now know about individual and community control of motor traffic there can be no possible excuse, in peace or near-war or war, for letting the national toll even approach the 1937 record of nearly 40,000 deaths, nearly a million and a half injuries, and billions of economic loss.

Elated by the 1938 showing of over 7,000 lives saved, some of us were bold enough to prophesy that within a few years an annual death toll of 30,000, 20,000 or even 10,000 would be regarded in retrospect as an inconceivable waste, unworthy of a civilized people. Must we now regret that proud boast and hope that no one remembers it? That is the present challenge of traffic accidents?

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So many factors can help to cause or to prevent a single accident, and to raise or lower the city, state or national total, that it is easy to "explain" a change in either direction. Two years ago I said that accidents were going down because we had better highways and cars, better administration of better laws, better safety education and publicity and organization, better understanding by the individual. Even then I pointed out that many states and cities had the weakest kind of safety program, that their rates were inexcusably high and that their decreases, if any, had been more lucky than deserved.

### Three Dangers

A year ago, when accidents were beginning to go up again, I said that the Safety Movement was faced with three serious dangers: the threat of unwise economy in official functioning and safety campaigning; the threat of political interference, and the threat of public lethargy—a reaction from the hectic wave of popular interest which started with "And Sudden Death" and which I fear is today too anemic to stand up against a World Series, to say nothing of a World War.

Perhaps that suggests the crux of the whole matter. Was safety a fad, like miniature golf? Is it a luxury, to be forgotten when sterner issues arise?

### Safety Is Efficiency

I need not prove to you what you already know: that, leaving aside all the humanities, safety is just another name for efficiency. Both mean the same—doing things the right way, in the factory, on the highway, anywhere. In this year and month more than ever before, we just can't afford to have a powder plant blow up, either by accident or by design. We can't afford to have traffic accidents tie up the swift and sure movement of goods to and from munitions plants and Army depots, not to mention the movement of the motorized Army itself.

Every accident is a symptom of something wrong. Accidents and the things that cause accidents, cause congestion and delay; and we cannot tolerate congestion or delay either on the assembly line or on the high-

way. I venture to say that unintended sabotage through accidents is a greater menace than the sabotage of alien agents.

### Tolerate No Losses

We cannot afford the loss through accident of a man who is serving his country in this crisis, whether behind a lathe or on the General Staff. In peace time, when such a loss occurs we may muddle through—but not in time of crisis. According to news reports, one factor in the French collapse was the death of General Billotte in an automobile accident just when he occupied a key position in the Franco-British effort to pinch off the German drive to the Channel.

We have a real job ahead of us! We must stop losses of men and material everywhere, because our country needs men and material. We must keep the highways open for military traffic, and "military traffic" today—or tomorrow—means every kind of traffic in every one of the 48 states.

### Correct All Defects

We must therefore quickly correct the defects and deficiencies in our highway system, or alleviate them with signs and signals. We must police these highways for maximum efficiency, and further insure the proper use of them through driver license control. We must train all our young people, and many older ones if we can, so they will know how to handle their own vehicles and, if need be, Uncle Sam's. The Army needs our help in recruiting great numbers of competent drivers. Our state and community safety organizations have an important role to play in the mobilization of all forces for national defense.

We must do all this despite the handicap of public indifference and a considerable amount of personal recklessness due to war emotions. We must face budget economies, which means that we must somehow do a better job on the same or less money. We all, officials and citizens of every rank and interest, must submerge petty differences and conflicting ambitions.

Can we do it? Will we do it? You in this room, more than any equal body of men in the United States hold the answer. I'm betting that we can and will.

## Report of Committee on Pedestrian Control and Protection

By **LESLIE J. SORENSON**

(Member I.T.E.) City Traffic Engineer, Chicago, and Chairman of Committee on Pedestrian Control and Protection

The following is a summary of the facts and recommendations presented in the 1940 Report of the Committee on Pedestrian Control and Protection. The complete report is available in a pamphlet from the Council's Traffic Engineering Bureau. It presents new information relative to the pedestrian problem as well as a discussion of methods of reducing pedestrian accidents in rural and urban areas.

The Report contains information concerning the status of pedestrian regulation in 180 cities having ordinances regulating pedestrians and a description of numerous educational activities now being conducted in cities throughout the United States for pedestrian safety.

### Facts and Recommendations for Pedestrian Safety

1. Although the cities in the United States have enjoyed a decrease of 28 per cent in annual pedestrian deaths since 1930, rural areas have suffered an increase of 41 per cent and the trend continues upward in 1940. These facts offer a major problem for states, counties and city officials whose duty is to protect pedestrians as well as motorists.

2. Nation-wide interest in the urban pedestrian problem and extensive acceptance of pedestrian responsibility have been developed in recent years. Physical protection and educational material have been provided in many cities by city officials, safety councils, safety commissions, civic organizations and others. More and more cities are now enforcing traffic laws that regulate pedestrians as well as motorists. Similar activities are recommended for the protection of rural pedestrians.

3. Studies of pedestrian accidents have shown persons of certain age groups, occupations and areas to be particularly susceptible. These groups should be educated through agencies which they understand and in which they have confidence.

4. The high frequency of child pedestrian

accidents during daylight hours and adult pedestrian accidents at night demands more attention of persons responsible for traffic safety. Half of the pedestrian deaths occur between six p.m. and midnight, while these six hours account for only one in three fatal non-pedestrian accidents.

5. Public officials (state, county and city) should investigate the seriousness of the pedestrian accident problem. Accident records provide this information and point the way to needed remedies. Accident records indicate the locations and the types of physical protection most urgently needed by pedestrians, and more officials should be making use of them.

6. Pedestrians share street and highway facilities with motorists. It is reasonable and necessary that pedestrians also share the responsibility for the safe use of these facilities. Nearly 200 cities and several states have recognized this by enacting traffic laws regulating pedestrians as well as drivers. Other cities and states should adopt similar laws as provided in the Model Municipal Traffic Ordinance and the Uniform Act Regulating Traffic on Highways.

7. Instructions for safe walking should be provided uninformed pedestrians that they may recognize and accept the responsibility for their own safety.

8. Pedestrian obedience to regulations should be made as easy as possible and violations more difficult. Traffic signals, protective barriers, tunnels, bridges, islands and pavement markings should be used where needed. However, traffic signals should not be erected unless warranted by the traffic volume, and tunnels and bridges should not be built unless conditions indicate clearly that they will be used. They should be so designed and located as to provide maximum protection and encourage obedience to pedestrian regulations.

9. Pedestrians must be compelled to obey rules of the road and drivers must be forced to observe the rights of pedestrians if accidents are to be reduced to a minimum.

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## The Motorist Looks at the Pedestrian

By BURTON W. MARSH

(Member I.T.E.), Director, Safety and Traffic Engineering Department,  
American Automobile Association, Washington, D. C.

The motorist looks at the pedestrian and sees the most neglected factor in traffic. He also sees the chap who accounts for two-thirds of fatalities and nearly half of the injury toll in cities. For the country as a whole, he sees the person who accounts for two out of every five killed.

The motorist looks at the pedestrian and says to himself, "There's the last object in the world that I would want to hit." For the motorist realizes that almost every pedestrian crash involves injury or death, whereas he knows that hitting another car or fixed object very often results in no injury.

The *considerate* motorist looks at the pedestrian and says, "Why, I was in that fellow's place just before I got behind this wheel: 'I'm the one now 'encased in armor' and it's up to me to give him a break. We're both street users and we've both got to learn to get along together—on a fair co-operative basis, according to a reasonable set of rules-of-the-game. Go ahead, brother, (waving his hand), I was about to turn but you have the right-of-way here." Note please that this is the *considerate* motorist of whom it may be said, "Abu Ben Adam, may his tribe increase—."

The *inquisitive* motorist looks at the pedestrian stranded in mid-street and asks, "Why wasn't he warned when there wasn't enough remaining time for him to cross before the signal light changed?" Or, "On so wide a street as this, why isn't there a safety isle in the center for him?" A bit farther down the street at a jog intersection he sees a pedestrian trying to cross where traffic is never stopped and asks, "Why aren't there barriers there so he can't walk out into trouble?"

A bit farther into the midblock and WHAM! He slams on his brakes and swerves, narrowly avoiding an adult pedestrian crossing from between loading trucks and never even once looking toward the inquisitive and now nervously-gulping motorist. "Why, oh why, isn't more emphasis given to training pedestrians in sound walking practices?" he mutters, his heart still

in his mouth. "I have my rules to follow and my responsibilities in traffic. And if I don't do as I should, I am quite likely to be penalized. The man afoot can't expect me to do the impossible—he should observe his rules for walking and accept his responsibilities in traffic."

The *night-driving* motorist looks at the pedestrian—or at least looks FOR him—but finds him mighty hard to spot when dressed in all dark clothing. Isn't it reasonable he asks, "for the walker at night to wear or carry something light-colored? And furthermore, this is a very busy artery and I've read of numerous pedestrian crashes on it at night. Why isn't it effectively lighted?"

A voice answers "Yes, those are good points, Mr. Driver, but until this artery is traffic-lighted or until walkers are trained to show something light-colored, it's up to you to keep your headlights adjusted and clean, your windshield clean, and to drive slowly enough so that you won't hit a pedestrian."

The *sober* motorist looks at the pedestrian—and sees one lurch drunkenly across the intersection, paying no attention to the red signal. Another driver whose view of the tipsy walker is hidden by a moving truck is BARELY able to avoid hitting the befuddled hooper. Says the *sober* motorist, "Now if I were to drive in that condition, I'd be in for real trouble. Why shouldn't that pedestrian be taken into custody, at least for his own protection?"

All of these motorists look at the pedestrian and ask, "Why aren't these pedestrian problems being given more attention?"

"Well," answers their Motor Club secretary, "one reason is that communities do not really appreciate how bad the pedestrian toll is, and that lots can be done about it. One trouble is that the main facts haven't been obtained in our community."

"Have the facts been obtained anywhere?" asks a motorist.

"Yes, the AAA has made a very extensive study," replies the secretary, "and the

results are most interesting." For example, these key facts are typical:

### Ten Key Crash Facts

1. *Pedestrians lead in toll.* In cities, two-thirds of those killed and nearly one-half of those injured in traffic are persons afoot. Even outside cities, one-quarter to one-third of those killed are pedestrians.

2. *Middle-Aged and Older.* Grandpa—aged 50 or over—is the victim in the majority of pedestrian fatalities.

3. *Male.* Seven out of ten pedestrians killed are male.

4. *Death After Dark.* Some four out of five adult pedestrians are killed in hours of dusk and darkness.

5. *Non-Drivers.* Non-drivers, ignorant of problems and limitations of the man at the wheel, account for nine out of ten deaths to persons of licensable age.

6. *Jay-Walking and Playing.* In cities, jaywalking in the midblock is usually the leading wrong practice of adults, while most children are killed at play.

7. *Intoxication.* Studies of brain tissue or body fluid by New York City's Medical Examiner and the Coroner of Cuyahoga County, Ohio, (Cleveland area) involving some 600 cases, indicated that two out of five pedestrians killed had been drinking substantial amounts of intoxicant.

8. *Low Income and "Foreign" Groups.* Unduly high proportions of pedestrians killed in cities come from low income and "foreign" residence sections.

9. *School Children.* The fatality record of school children has improved consistently while the adult toll has grown much worse. However, school children have by far the worst INJURY rate of any age group. Hence the schools still have much to accomplish in traffic safety training.

10. *Vigorous Programs Produce Reductions.* Contrary to what many have thought and now think, records show that intelligent pedestrian programs will prevent many pedestrian deaths and injuries.

"Say, those are interesting facts, and they will help me," states the motorist-looking-at-the-pedestrian. "As I understand it, our own community's facts may be different. They should be obtained; then we all would have a basis for improving the situation.

But what are the reasons behind those facts? There must be reasons why pedestrians are so often involved in traffic crashes."

Traffic specialists of the American Automobile Association believe that the following are among the main reasons:

### Six Reasons for Crash Toll

1. Elderly non-drivers, predominant in the toll, do not understand driving problems, such as distances required to stop, difficulty of seeing pedestrians (particularly in rain and when dressed in dark clothing), the many things the driver must watch, limited ability to swerve car suddenly.

2. Pedestrians, noting bright lights of car, think they can be seen much sooner than drivers "spot" them. Drivers very often overdrive their headlights.

3. Many pedestrians do not accept their responsibilities in traffic. In Minnesota, in 1939, two-thirds of pedestrians killed were breaking some sound walking rule.

4. Older pedestrians do not make proper allowance for their poorer vision—especially Night Vision—for hearing defects, for slower walking pace, lessened alertness and momentary lapses of attention to traffic.

5. In many places, there are unsatisfactory pedestrian facilities. Examples: lack of a traffic signal face ahead of pedestrian crossing at crosswalk, too long traffic signal periods, lack of pedestrian islands, crosswalks which motorists cannot see at night and in bad weather.

6. Many communities still do not know their pedestrian FACTS and hence have an inadequate basis for a sound program of pedestrian aid.

"Those sound reasonable" says the motorist.

"Yes," says the secretary, "but the accident measure does not represent the whole picture. As a matter of fact, the average pedestrian is vastly more irritated, if not enraged, by the delays and inconveniences to which he is so often unfairly subjected, than he is concerned about being on the casualty list. So to meet the pedestrian's needs, pedestrian convenience should receive equal attention with pedestrian protection. An effective program based on both factors will gain general public support."

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"A program, you say. Well, one surely seems to be needed. But it doesn't seem to me that the job to be done is an easy one. For to a considerable extent it involves changes in customs. There must also be changes in attitude by both we motorists and pedestrians. Those afoot, especially the middle aged and older, must get out of their minds the horse-and-wagon days' attitude that they may walk when, where, and as they wish and it's entirely up to the motorist to see that they are not hit. But until pedestrians have been *trained* to cross streets and walk along highways fairly and sensibly, I can see that we motorists, having control of the instrument which can do the injuring and killing, must so drive that a crash may be avoided even when pedestrians do foolhardy and unfair things."

"No," answers the secretary, "it's not an easy job, nor is it one that can be done overnight. But that's no reason for the apathetic attitude of some major officials and citizen leaders. In a recent field trip covering a dozen cities in one state, a number of such persons were found who admitted the problem *but just didn't believe that much could be done.*"

How wrong that viewpoint is, numerous progressive cities and some states are demonstrating. Schenectady, for example, reduced pedestrian fatalities 82 per cent in 1939. In the past few years, Cleveland by vigorous programs, has cut fatalities to those afoot more than one-half. Springfield, Mass., co-winner with Kansas City, Mo. in the 1939 National Pedestrian Protection Contest among cities of 100,000 to 500,000 population, cut fatalities from 13 to 7 in 1939 and reduced pedestrian injuries by more than one-third. For the first six months of this year, Rochester, New York's progressive program has reduced pedestrian fatalities from 13 to 4. And numerous cities have pedestrian death rates of less than one-third those of others.

"Well," said the inquiring motorist, "it looks as though various communities are proving that much can be done. But from what you have said, it appears that before any real program is going to be carried out, a selling job must be done."

"Right!" replied the secretary, "and that's one reason I'm so glad to talk this over with you. For it's those of us who really see the need and realize what can be done

who are going to have to do that selling job."

"Well," said the interested motorist, "I'm willing to do some selling, but how should our community go about this job? Aren't there a few simple, practical steps which can be recommended?"

"Yes, there are," replied the secretary, "and in considering these remember that the need for action is great, for the pedestrian is indeed number one problem child in traffic. Yet most communities are not making anything like satisfactory progress. The main reason is neglect, of lack of sufficient emphasis on the needs of the man afoot."

### Six Steps to Get Results

"Here is a six-point basis for getting desired results in your community."

1. *Get someone assigned to the job of becoming your pedestrian expert.* The seriousness of the problem warrants this perhaps seemingly drastic step! In the larger communities, this should be a full-time assignment, at least until the situation is greatly improved. Where a traffic engineer has a staff, a man on that staff might well be given this job. In communities where that is impractical, a keen police officer might be the best selection. Incidentally, the police are accustomed to this idea of specialization where the problem warrants it. They have fingerprint experts, ballistics experts, scientific crime detection laboratory experts, officers who become expert in juvenile delinquency and its prevention, and some have hit-and-run case experts.

"But is there enough specialized work to warrant such an assignment?" asked the inquiring motorist.

"If you doubt this, let me suggest that you study this AAA manual—pedestrian protection. Yes, there is plenty to keep any keen interested person very busy."

2. *Have your pedestrian expert-to-be get the main local pedestrian facts* so that he and you will know just what your main problems and needs are. Obviously, this is the only sound way to tackle this or any other problem. And your facts and needs may differ from those of other communities.

3. Organize for a "total war" on pedestrian accidents and inconveniences. The job is not wholly a traffic engineering or police job. Schools must do better their job of training children. Newspapers, radio stations, motion picture theatres, churches, automobile clubs and other civic agencies, mass transportation companies, insurance companies, etc., should do their part in adult education. The city attorney should check to see that proper ordinances exist and prepare amendments and new proposed regulations as needed, to be enacted by the legislative branch.

#### Steps in the "Total War"

Organization is necessary to get all such agencies informed and united on the need for action—and then to get each to do his part of the job, in a *coordinated* program.

If your community has a Traffic Commission, get it to set up a special pedestrian committee. Or better, get it to direct each of its committees to propose a list of important practical activities which it will carry out or promote, for pedestrian aid. If there is no Traffic Commission or similar organization working steadily on traffic improvements, have one organized. Section five of the printed Model Traffic Administrative Ordinance will serve as a useful guide.

"Organization is necessary to do any important job well. I agree to that," said the motorist, "What's next?"

4. *Decide on a vigorous, continuing pedestrian program which can and will be carried out.* It doesn't need to be expensive. Much can be done with no special municipal funds, desirable though they are. Many civic-minded leaders and agencies will contribute time, materials and services.

The program should keep going the year 'round, with always some worthy activities getting public attention—and with enough variety, merit and showmanship to attract public interest and cooperation.

5. *Work everlastingly for active public cooperation,* for it is essential to success. Providence, Rhode Island's national record of 156 days without a traffic fatality—which means 32,501,384 man-days—rests not only on a splendid program but also on

superb public interest and active cooperation.

6. *Enter and utilize the national pedestrian protection contest* for the stimulation which active participation will provide, and for the materials and suggestions sent every three weeks. Every state and 390 municipalities are entered in the 1940 contest, sponsored by the American Automobile Association. If your city has entered (it can still enter if it has not) see that full use is made of the materials and of the competitive spirit which is one of its main values.

"That pedestrian contest idea should help. Yes, those six steps seem practical and I'm going to propose them to the government and civic leaders in our community," concluded the motorist. "But suppose they agree—then they'll want some specific activities and some materials to use in their projects. Where can they get these?"

"From several sources," answered the secretary.

#### Source of Safety Materials

"Our motor club and the American Automobile Association have, I believe, the largest selection as Three A, aided by grants from the Automotive Safety Foundation, has made this a major project for four years now.

"Here is a kit of sample and guide materials, and incidentally, every city and state entering the contest not only receives such guides, but also receives this pedestrian pointers bulletin every three weeks. We particularly invite cooperation of cities and states in a Pedestrian Interview Plan, designed to secure pedestrians' viewpoints and factors concerning accidents.

"In addition, excellent materials and aids are available from the National Safety Council, the Liberty Mutual Insurance Company, the Travelers Insurance Co.—in fact, about every national organization working in the traffic field can and will help.

"I only wish, too, that there was time to tell of some *grand* work being done by Connecticut, New York, New Jersey, Massachusetts, Minnesota—to mention only a few states, and by Rochester, New York, Cleveland, Cincinnati, Detroit, Minneapolis, Hartford—to mention only a few cities."

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MONDAY EVENING SESSION

October 7, 1940

Dinner for City and State Police

Robert C. Dunn, Attorney-at-Law, Toledo, O., presided as Master of Ceremonies and made a cryptic extemporaneous dissertation of humorous character.

The "Chairman's Report" was presented by Matthew J. Bolger, Inspector of Traffic, Police Department, Newark, N. J.

The "Secretary's Report" was given by Professor Joseph L. Lingo, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

The speaker of the evening then was introduced, as follows:

The Modern "Code of Honor"

By WILLIAM J. CAMERON

Director of Public Relations, Ford Motor Company, Dearborn, Mich.

(The following is a summary of notes taken by a reporter during Mr. Cameron's address.)

You can't be immune from safety in the United States today, said Mr. Cameron. The safety movement is too comprehensive and too effective in saving human life and preventing accidents. Safety has become a modern religion (we all know the meaning of a white cane, signal lights, pavement markings, rules of the road, school safety patrols, etc.).

On the other hand danger has a fascinating attraction for all of us—we left land to conquer the sea and then looked to the air. A corduroy road of frozen bodies paves the way to the poles.

We have come to realize in industry that the worker is an asset and that his individual safety is a public responsibility, for the public pays for carelessness and loss of life; the training of new men.

We are learning to be excessively safe instead of considering life excessively dangerous, as we did when the motor age began to alter our lives.

The possibilities of dangers are increasing, yet accidents grow fewer because we are controlling our problems on the highways through enforcement, engineering and education.

To correct a false impression: statistics say one out of five in this country owns a car—this isn't true. There may be in existence enough cars to average one out of five, but that won't work out any more than it would be true to say one out of five persons owns a cap.

We are still amateurs on the road both as drivers and as pedestrians—out of 40,000,000 drivers about 2,000,000 can be classified as trained drivers.

The attitude of the present generation is safer than among those who lived in the first part of the motor age. Today the smart thing is to drive safely.

We carry a code of honor in our minds when we go out to drive—to protect the other fellow as well as ourselves.

"Twelve fatalities for every 100 million vehicle miles traveled."

TUESDAY MORNING SESSION

October 8, 1940

Group Session for Traffic Court Judges  
and Prosecutors

Presiding: JUDGE PHILLIP B. GILLIAM, Municipal Court, Denver, Colo., Chairman, Committee of Traffic Court Judges and Prosecutors, Street and Highway Traffic Section, National Safety Council.

The meeting was held for the purpose of discussing such topics as handling juvenile traffic offenders, what to do with the impecunious violator, and extra-legal penalties.

James A. Geroulis, Assistant Corporation Counsel, Department of Law, Chicago, suggested that in speed cases involving juveniles in Chicago, parents are brought to court and the judge proposes the defendant visit a specified hospital and donate \$5 (or some other amount set by the judge) to patients in the hospital. After this is done, the defendant re-appears in court and the judge discharges him. Mr. Geroulis pointed out that the Chicago Municipal Court considers speeding a social and not a criminal problem.

Chief Justice Harry H. Porter of the Evanston Municipal Court disagreed with this point, saying speeding and drunken driving were legally criminal cases and should be considered as such.

One of the judges present stated that one-third of all traffic cases in his city involve juveniles.

Judge Harper Harb, Municipal Court, Little Rock, stated his court allows juveniles to deposit licenses on minor violations for from 30 to 60 days. Judge Harb said he once sentenced a school boy offender to do chores on his father's farm for 30 days. In another case, he sentenced a minister to attend a violator's school.

Judge Gilliam, in talking about extra-legal penalties, said that Denver drunken drivers formerly were sent to jail for week ends rather than for 30 successive days when such imprisonment might mean the loss of income. He said this idea was a failure because many of the offenders would not appear voluntarily for week end imprisonment, and when found by the police were often intoxicated.

Regarding the impecunious violator, Judge Gilliam said the Denver Municipal Court sometimes suspends sentences when the defendant cannot pay but will work it out on some municipal job, such as laboring on park grounds.

## TUESDAY MORNING SESSION

October 8, 1940

### Group Session for City and State Police

*Presiding:* MATTHEW J. BOLGER, Inspector of Police, Traffic Division, Newark, N. J., and Chairman, Committee on City and State Police, Street and Highway Traffic Section, National Safety Council.

### What's New in Traffic Law Enforcement?

By A. R. FORSTER

Director of Training, Northwestern University Traffic Institute, Evanston, Ill.

The fundamentals of a good traffic law enforcement program remain today essentially the same as they have been defined in recent years. It cannot be said there is much that is new in the sense of radical innovations in policy or techniques. Whatever may be classed as new relates primarily to improvement in the quality of recommended practices and in their increasing application, with good results by departments throughout the country.

To answer the question it is necessary to analyze the fundamentals of good traffic

law enforcement, re-examining proved basic concepts and studying their recent extension and development. It is, however, imperative that we at all times keep in mind the fundamentals of good enforcement if sound programs are to be developed and pursued. There is a real danger, in this as in other fields, of our becoming so concerned with minor refinements and novel ideas that we lose sight of fundamentals and permit our activities to become unbalanced and to develop major inherent weaknesses. This examination of the fundamentals of en-

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enforcement logically divides itself into two phases: (1) standards of quality; (2) enforcement facilities.

The first important quality standard is that there must be an adequate amount of enforcement. Studies have conclusively established the definite inverse ratio between the amount of enforcement and the frequency of accidents. The need for keeping enforcement up was recognized years ago when the "enforcement index" was first developed. The deterrent effect of a given amount of enforcement, or enforcement index, is proportional to the nature of the accident experience in a given locality and the character of the driver group under supervision. These elements being variables, it is obvious that what constitutes adequate enforcement will be a variable from place to place. It is, therefore, important that each police agency not only bear in mind the importance of having an adequate amount of enforcement, but that it define as accurately as possible what constitutes adequacy under its particular conditions and seek to hold consistently to that level.

In addition, proper enforcement policies must be developed and pursued. Enforcement is not always applied in strict conformity with the letter of the law. Legislation is often modified by the policies guiding enforcement application. Development of enforcement policies is justified whenever they make possible a better quality of enforcement. Policies are sound only when they assure a kind of enforcement which assures proper balance between the needs for reasonableness and for effectiveness, and when they are uniformly observed by all officers insofar as practicable. These conditions are best met when general control of policy formation is vested in the administration rather than being left entirely to individual officers.

### Selective Enforcement

The third quality standard is that enforcement should be highly selective. One of the major weaknesses of enforcement programs in many jurisdictions is failure to direct effort to various times, places and violations in proportion to their importance in the accident problem. Obtaining selectivity in enforcement is not only essential but is also the most logical first step improvement. It is generally within the power of

the police themselves, regardless of obstacles to improvement of some elements of the enforcement program, to apply it selectively. Proper use of available personnel is, moreover, a requisite to the making of requests for additional enforcement facilities.

Newest developments in selective enforcement include its more widespread use, refinement of planning techniques and development of more thorough methods for checking the degree of selectivity actually achieved. Many so-called selective enforcement plans have not achieved the desired results because of unsound planning. Assignments must be based upon study of accident records which give a reliable indication of how enforcement may be most effectively directed. More widespread recent recognition of the fact that selective assignment planning does not necessarily constitute selective enforcement has led to the development of performance records whereby work can be checked to determine the actual degree of selectivity. This is a vitally necessary followup technique.

Next is the need for "post accident" enforcement, or the direction of attention to violators involved in accidents. This has been widely neglected in the past, but there are clear evidences of its increasing application. The development of improved accident investigation by police and emphasis on the fact that, in most cases, thorough investigation gives the officer a legal basis for signing complaints (even though he did not witness the violation) are helping to extend enforcement along this line.

Finally, in the list of standards, is the need for an adequately high conviction rate and for penalties appropriate to offenses. There is growing recognition today of the fact that enforcement in terms of arrests alone is almost meaningless. Enforcement is real deterrent on potential violators only when to the probability of apprehension there is added the probability of conviction and punishment. This is primarily a court responsibility, but there are many things the police can and must do. Among these are making proper arrests, improved case preparation, improved court room demeanor and methods of testifying, increased use of scientific aids to enforcement, such as chemical intoxication tests and formulae for determination of speed from skid marks, the avoidance of "fixing" and attempting to

"sell" prosecutors and judges on the desirability of good enforcement.

Police need to recognize two important facts: (1) effective court work is dependent upon the quality of police work as well as prosecution and judicial work; (2) the police cannot reasonably criticize the court or seek better cooperation unless their own enforcement work is above reasonable criticism.

### Facilities for Enforcement

The attainment of these objectives depends upon several important elements of what may be called the facilities for enforcement. Failure to meet standards may generally be traced to some weakness herein.

First is the nature of police organization for conducting the traffic program. The desirability of specialization has been clearly demonstrated and many municipal police departments have created special traffic divisions. There is, however, need for refinement in the internal organization of most traffic divisions. There is also need for recognition of the fact that creating a special traffic unit does not mean that all other units of the department are relieved of traffic law enforcement.

State departments, with their limited personnel, cannot specialize in the same manner as cities. However, an encouraging recent trend in rural enforcement is the tendency of state departments to specialize at least in principle by providing special headquarters units for planning and supervision of traffic activities and by devoting a greater portion of personnel to traffic enforcement.

More attention is also being given, as it should be, to undesirable practices which, to a great extent, qualify the potential advantages of specialization. Among these, are failure to employ selective assignments and the drains upon patrol strength for special details. The former has already been mentioned. Special details should be handled only when the public interest is served, and motorized traffic patrol officers should not be assigned to them unless absolutely necessary.

### Administration

There is a growing realization of the critical importance of administration to the success of an enforcement program. The

needs in this respect are gradually being fulfilled, but still demand considerable attention. They include the appointment of well-qualified commanding officers to traffic administration posts. Such assignments must include the delegation of authority commensurate with responsibility and the development of better programs of administrative activity.

The next element is personnel training. One of the most generally encouraging signs in the police field recently has been the growth of interest and activity in personnel training. Unfortunately, much training activity has not been of sufficient quality to make it effective. Better planned courses and a higher quality of instruction can do much to increase both the desire and ability of police personnel to do a good job.

Adequate equipment, particularly motor vehicles used in traffic patrol work, is essential. Most commonly observed weaknesses are poor maintenance of motor vehicles, an inadequate number of patrol vehicles and failure to provide types of equipment well adapted to operating conditions.

Certain advances are being made with respect to equipment. One of these is the growing practice of using motorized officers for parking supervision. Another instance is the increasing use of scientific investigational equipment, including chemical intoxication test devices and photographic equipment.

The final element is the type of tactics employed. Despite the importance to an effective enforcement program of the methods employed in its execution, there is still much non-uniformity and a widespread use of inefficient methods.

Practice and opinion vary so widely on many tactical questions that it is difficult to summarize the situation briefly, particularly with respect to such issues as the relative merits of one or two-man patrols, the desirability of open view patrolling as opposed to semi-concealment methods, or the conspicuousness of traffic patrol cars. However, there is evidence of growing efforts to determine factually the desirable practices to follow.

Two new developments in the field of enforcement tactics, are outstanding in recent refinement and more widespread use. These are the employment of devices to check speed over measured distances and the

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use of the "traffic sampling" technique. Some cities have found these speed checking methods safer and more effective than the more commonly employed method of pursuing and pacing speeding cars, although there is still some question as to the extent to which it should be employed. The sampling technique has, in various forms, often proved effective in detecting violations which frequently pass unnoticed and in creating a greater deterrent effect, partic-

ularly on such violations as drunken driving and operating defective vehicles. The most outstanding recent development in sampling techniques has been increasing popularity of the "blockade" method. Experience has shown, however, that this must be applied, if at all, with considerable discretion. It must avoid the aspect of a drive, must be as selective as possible, should not occasion undue inconvenience and should not interfere with the maintenance of regular enforcement work.

## Statewide Coordination of Traffic Enforcement Activities

By P. T. BEVERFORDEN

Sergeant of Safety and Education, Indiana State Police, Indianapolis, Ind.

Present day traffic, being of more than purely local interest, has produced a great number of problems which are comparatively new in our work. These are problems which require and involve the active coordination of all policing agencies. Having been in active police work for over 10 years, I have seen a great deal of the petty jealousies and scrambles for credit that have existed between our various federal, state and local police departments in regard to criminal activities. In some instances we are beginning to see the same thing in traffic work. One of the major responsibilities of every organization interested in traffic enforcement today is to realize that personalities, egoisms and getting the credit have no place in their program. Going even farther, they must use every possible means to combat these very practical enemies of cooperation that are steadily undermining the efficiency of modern traffic control. Too many excellent traffic programs have failed completely because some superior officer took newspaper credit for an outstanding piece of work done by the man on the beat.

To me, the coordination of traffic enforcement activities involves more than just an understanding of uniform procedures between police agencies. Coordination is essential to each agency. We have all seen the police department when the detectives refuse to do traffic work and where the traffic officers pass up criminal work. The training program that produces such conditions is bound to fail. The coordination of which I speak involves a definite understanding between every officer in all depart-

ments as to his own powers and duties and how they fit in harmoniously with others.

In Indiana the facilities and personnel of the state universities, the Automobile Protective and Information Bureau, the State Police Chiefs Association and the State Municipal League have been used in cooperation with the State Police in a complete service and training program for all police agencies dealing with traffic problems.

Our service and training program originated in 1937 when the Public Safety Institute of Purdue University, the State Police and the Automobile Protective and Information Bureau began offering assistance to any city or county police department in installing scientific accident prevention bureaus and conducting in-service training. Staff members from each of these organizations were assigned to work directly with all police agencies in the state at no cost whatever to the agency requesting the services. At the very start, the cooperation of the Indiana Police Chiefs Association, the Indiana Traffic Safety Council and the Indiana Municipal League was sought and obtained. The support of these groups has largely accounted for the success of the program.

### Accomplishments

Since 1937, the following work has been completed by the cooperating groups:

1. Complete police department surveys, including recommendations for improvement were completed in 12 cities of more than 15,000 population.

2. Re-organizational programs including the installation of accident prevention bureaus, personnel and record systems, accident reporting systems, "no-fix" ticket systems, warning ticket systems and general procedures for determining a selective enforcement police were completed in six cities of more than 25,000 population.

3. In-service training programs for the police personnel were completed in seven cities of more than 25,000 population.

4. A one week intensive basic course for traffic officers from cities under 25,000 population is conducted each year at Purdue University at no cost to the attending officers.

5. Direct in-service assistance is rendered to all officers who attend the Purdue school in setting up report and record systems, ticket systems and general enforcement activities in their own departments.

6. Special re-training courses and follow-up assistance is given in each of the cities where services have been rendered. Staff members spend at least two days each month in follow-up work in each city for the first year.

7. Short conferences and assistance to police officials in 21 cities on general traffic enforcement problems.

8. In-service assistance to eight cities in conducting traffic studies and surveys in conjunction with the other enforcement activities.

Our purpose in conducting this type of service and training program in Indiana is to bring about greater coordination of enforcement activities and methods and to assist in the development of well organized and fully trained police departments. Each phase of the program is designed to assist the department in doing the type of enforcement job that will result in reduced loss of life and property.

#### Examples of Results

Muncie, a city of 50,000, experienced 13 traffic deaths during 1939, nine of these during the first seven months of that year. Following the installation and training program, Muncie went through the first seven months of 1940 without a single traffic death and is one of the leaders in the National Traffic Safety Contest.

Anderson, an industrial city of 45,000, experienced eight deathless months following their installation and training program in 1939. During the preceding year of 1938, Anderson had eight traffic deaths.

These are, of course, some of the cities where the best results have been obtained, but every city in which our group has worked has shown a definite reduction in deaths over the average of the preceding three years' record.

We feel that we have a practical program in Indiana for the training and assistance of all police groups. The responsibility for the teaching and research is centered in the state (Purdue) university where it rightfully belongs. The services are available at no cost and at all times. Staff members who direct the program have all done actual police work. For those of you who might be interested in conducting any phase of this type of activity let me offer a few suggestions in the form of cautions which I feel may save you a number of headaches. These don'ts we have learned through the school of mistakes and experience.

1. Don't attempt to force yourself or your program either directly or indirectly on any police official or group. Too many training and service programs have been "sold" to police officials by over-zealous citizen groups only to fail because they were not sincere.

2. Don't feel that by selling the Chief of Police or Mayor of a city that your job is completed. Many service programs have collapsed because the officer on the street who must do the actual job is not completely sold on your program.

3. Don't play favorites in choosing personnel for traffic duty. Merit only should count. When antagonism is aroused between the men in another division toward those in traffic the program cannot succeed.

4. Don't neglect the officer on the beat in your training program. Too much specialization can ruin any department. Every police officer can and must be a part of the traffic enforcement program. We try to fully train every officer in cities under 75,000 population. Even in larger cities every officer should receive at least a short training period.

5. Don't criticize present methods too strongly. No police officer likes to be told that his way is not the best way of doing a

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certain job. Offer a factual and balanced program with proof of results and criticism will not be needed.

### What Is Included?

First, just what is included in a typical in-service training and assistance program? The first step necessary, of course, is a sincere desire for it, on the part of the city. In answering the question further let me review briefly a typical installation under our own general plan of procedure.

Early in 1939 the Institute received a request from the Mayor and Chief of Police of Gary, to assist them in the re-organization and training of their police traffic division. The first step was making a complete survey of the police department. Upon completion of the survey a list of 48 definite recommendations were submitted to the Chief of Police and other city officials. These included recommendations on equipment, records, selection and training of personnel and on organization and selective enforcement procedures. The report was accepted and the program was started. More than 10 weeks were spent by our group working directly with the Gary Department at no cost to the city. Selective examinations were given and the traffic personnel was increased from 18 men to 36 men by a re-shifting of divisions. No additional officers were hired. Two weeks of instruction were given to the men selected for traffic and a permanent training program was arranged. Courses taught in the school included accident investigation, first aid, reports and records, law of evidence, driver psychology, selective enforcement, court procedure, photography, field work, hit and run investigation and others. The old offices of the traffic division were re-vamped and the necessary report and record systems installed. On May 15, the five trained accident investigation squads and 13 trained motorcycle officers began operating.

In each city members of our group assist the police department in other phases of the balanced program. A day by day series of publicity releases on the enforcement activities of the police department are given to the local papers. Speeches explaining the purpose of the police program are made before local citizen groups and service clubs. In two cities our group actively assisted in the organization of a safety council to sup-

port the work of the police department. In general, we try to assist in any and all activities that will obtain the needed support for the police efforts in a well-balanced program. Much of the follow-up work done by our group consists of activities to gain this support.

### Recommendations

In summarizing, let me enumerate the specific services we offer to police groups in Indiana at the present time through our cooperative program:

1. In-service training and assistance, including police department surveys for cities of more than 15,000.
2. Advanced training courses in city police departments where basic in-service schools have been conducted.
3. Basic and advanced training courses at Purdue University for police officers and administrators from cities under 15,000.
4. Regional training courses in various parts of the state for police officers in the regional area. Classes are held one afternoon each week for 10 weeks.
5. Special short courses for police recruits to be held at Purdue and in the larger cities.
6. Direct in-service assistance to police departments and city officials on public safety problems.
7. Development and promotion of uniform standards for recruiting police officers, personnel ratings and general enforcement activities.
8. In-service assistance to police officials in setting up administrative, organization and training programs, personnel and record systems.
9. Development and promotion of legislation designed to benefit the individual police officer and the police profession.
10. Studies and research on police problems with the university acting as a clearing house for information of value to all police departments.

We have been more than pleased with the demands for services which have come in from police agencies in all parts of Indiana. With only one staff member assigned on full time from each of the cooperating agencies and with the present facilities available through the Public Safety Institute

of Purdue, our present program must, of necessity, be somewhat limited. The services which I have mentioned are, at present available only to police agencies in the state and the program is financed entirely by the cooperating groups.

We feel that the combination of the teaching and research facilities of the university with the practical and valuable experience of police officers has proven its effectiveness as a worthwhile activity.

## Idea Exchange

Conducted by **CAPT. JOHN M. GLEASON**

Traffic Division, Police Department, Greenwich, Conn.

The group agreed that it is vitally necessary to sell the men in the Department on the safety program before attempting to sell it to the public. It was brought out that sending men to traffic schools builds up their interest. The issuance of a house organ is also an effective means of maintaining interest.

One newspaper feature article suggested was "Around the clock in traffic safety" which depicted the police at school crossings, a motorcycle man apprehending a speeder, an accident squad investigating an accident and attending the injured parties and a maintenance crew working on traffic lights and signs.

Dayton, Ohio, has open safety meetings conducted by police for fleet operators.

Lynn, Mass., held a three-day pedestrian clinic. Eyes were tested and reaction times checked. This proved to be very popular, it was reported.

Toledo, Ohio, has furnished maps to school children showing the safest route to school. Some 38,000 maps were distributed.

San Antonio has conducted a "man on the street" broadcast in which courteous and safe drivers were interviewed. Substantial prizes were given, such as a year's supply of gasoline and a complete set of tires. The programs were broadcast twice a week.

Open house programs at police headquarters for civic groups proved to be popular. The accident prevention activities of the department are emphasized at these open houses.

## TUESDAY MORNING SESSION

October 8, 1940

### Group Session for Public Education and Safety Organization

*Presiding:* **CARL J. RUTLAND**, President, Texas Safety Association, Inc., Dallas, and Chairman, Committee on Public Education and Community Organization, Street and Highway Traffic Section, National Safety Council.

### The Community Safety Council

By **GEORGE M. BURNS**

Director, Kansas City Safety Council, Kansas City, Mo.

Whenever we attempt to discuss community safety councils from a national viewpoint, we must realize that the organization and financial set-up of these safety councils

varies extremely in the different cities. Some of them are financed by and are a part of the chamber of commerce, some are operated with funds from community chests, au-

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tomobile clubs, and in many other ways. This being the case, I will stick closely to the Kansas City plan.

Back in 1921, when there were only 45,000 motor vehicles registered in Kansas City it was discovered from the meager records that 71 persons had lost their lives as a result of motor car accidents. This was an alarming situation. It was decided that a community safety council should be organized in Kansas City. Not only was the Safety Council organized to study the local problem as it pertains to traffic safety, but, rather to stimulate interest in safety in all its varied forms. It was the hope of this group of business men that the efforts of the safety council might check the rate at which accidents were increasing each year. The Safety Council is not a branch of the city government or the police department, but, rather, is composed of representatives of business firms and individuals who not only furnish the necessary finances but also supply the membership for committees. As an outgrowth of this early organization, we now have a community safety council with a membership of over 300 firms and individuals.

The working organization consists of an executive committee whose principal function has to do with the budgeting and approving of the financial expenditures and a Board of Governors comprised of approximately 75 representative business men and public officials who determine the policies of the organization.

Since the Kansas City Safety Council was first organized, it has operated as a strictly non-political, non-profit organization for the prevention of accidents in the home, on the streets and in the industries. The work of the safety council is handled through its various committee with their recommendations being submitted to the Board of Governors before any attempt is made to put them in operation. The basis upon which these committees proceed with their problems is primarily that the solution lies in the application of engineering, education and enforcement. The Safety Council is operated on the basis of the exchange of ideas with the hope that as a result of keeping the public informed through the press, radio and other advertising media, we may be able to obtain a continued strong public support.

### Top Men Needed

Since the community safety council works for the welfare and safety of all the citizens, we must have only the most influential citizens of the community as officers and personnel on the governing board. Top men must first be sold on the need for safety before any great results can be obtained, second, the names of these men lend prestige to the organization and cause Mr. Average Citizen to feel that if John Jones, the president of one of the most respected banks of the community, is affiliated with the safety council it really must be a worthwhile project and merits his support and cooperation. These people are also of very material assistance when there is need for new or special legislation.

To the end that accomplishments may result, the safety council should always act as a coordinator for all interested agencies in the promotion of community safety. The reason for this is very evident when we consider that if the police department, the city administration, the schools and other interested agencies conducted their own program there would be a great deal of duplication of effort and many things attempted which would be directly the opposite of one another. With such administration of a safety program, it is readily seen that the all-important general public would become confused and the program would bog down with no tangible results being achieved.

As you know, the public must be informed of the necessity for new legislation or enforcement and favor it before it can ever hope to be successful. Many of our best programs for traffic safety have met defeat because the people were not informed about what could be accomplished. Since the community safety council is an unofficial organization, it is the group which can best take to the public, the problems of traffic safety and the proposed plans for the corrective measures needed to solve these problems. The reason for this is apparent when we consider that should the proposal come from the Mayor, for instance, the members of the opposite political party immediately form the opinion that he is merely building campaign material. With this type of reaction, to the program, it is easily seen that after a few members of the city council hear complaints of this nature, they are likely to at-

tempt to curry favor of the general public in their desire for re-election and pass ordinances which would totally block the traffic safety program.

### Reaching the Public

Now, how does the community safety council reach the people to prepare them for new methods of traffic control? We use every known form of publicity to accomplish this sometimes colossal task. We supply speakers for radio broadcasts, luncheon clubs, parent-teacher groups, churches and many other civic groups. The community safety council prepares and distributes thousands of copies of material telling of the problem and calling for the support of the general public in the undertaking to save lives in the city. All of these things have a tendency to stimulate a desire for just the things which are needed.

To reduce the pitiful slaughter of our children, the safety council began organizing junior safety councils in the schools. These proved to be very popular and very effective. Now the safety council sponsors and furnishes all needed supplies to 105 junior safety councils in the public and parochial

schools. In 1937, Kansas City won national acclaim for completing 430 days without death to a child under 15 by a motor car and we were able to go more than two years without death to a child of elementary school age.

At the present time, because of the splendid work of our junior patrols, no elementary school child has been killed by a motor car while going to and from school for a period in excess of five years. We feel that the activities of this group played no small part in making possible the winning of the Grand Award in the National Traffic Safety Contest last year. One other activity of the community safety council which plays a very definite part in the traffic safety program is the work that is done with the fleets in the promotion of safety.

In Kansas City, we conduct a contest with 60 fleets operating some 2,000 vehicles.

The results of the work of the community safety council are intangible; we cannot say that we have saved a certain life or that we have prevented a specific accident. How far our work extends, no one can tell, because we measure results by accidents that might have happened, but did not.

## The Traffic Safety Commission

By RALPH W. ROBINSON

National Safety Council, Inc., Chicago

The Traffic Safety Commission is a body created by ordinance, composed of responsible public officials and a number of civic and business representatives. Its operating expenses are provided for in the city budget. It has a full-time director with an adequate staff. Its budget provides funds for educational and other safety activities.

The functions are to coordinate and stimulate the activities of the official agencies concerned with the traffic safety problem and the private agencies which can be of service. The Safety Commission is a special educational institution.

The Commission is designed to provide leadership for the traffic safety movement and to marshal all the available forces within the community in a well organized, systematic attack against traffic accidents. It has no absolute, direct authority, but it

has in its membership, on its working committees, or otherwise associated with it, those public officials who do exercise all of the authority of the city government relating to street traffic safety.

Its functions are primarily advisory and educational. The power the commission can wield is the power of organized and specialized knowledge, and of cooperative effort.

In my opinion it would be impossible, under the American conception of government, to give to any one official agency absolute authority over all governmental functions concerned with the traffic accident problem. Some of those functions are: legislation, police, prosecution, courts, street design, construction and maintenance, street lighting, control of public utilities using the streets, fire prevention, traffic engineering planning, city planning, erection and main-

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tenance of traffic control devices, budgeting and taxation, and public schools.

When you consider all these functions which have some direct bearing upon traffic safety, and which operate more or less independently, controlled mostly by the city charter and a mass of ordinances, it becomes quite apparent that some means must be devised to coordinate their traffic activities, if the city is to gain real control of traffic accidents.

Some means must be devised to educate the responsible public officials in the modern techniques of traffic accident prevention, and to stimulate the adoption and application of improved practices.

The safety commission is designed to bring about a meeting of minds through frequent contact, and through factual studies including studies of the activities of the several departments bearing upon traffic control and safety. These studies measure the results being obtained. Comparisons are made between the practices being carried on by the city, and the methods of accident prevention which have proved especially effective in other cities, to determine the feasibility of adopting better methods.

The processes are scientific. That means patient investigation, the gathering of pertinent factual data, and the interpretation of such facts in terms of improved departmental action. Promulgation to the public of interesting factual material and of the highlights of plans being developed or applied for the protection of the public is an important part of the Commission's work. That is essential as a means of building public support for the application of sound accident prevention measures.

Studies of this nature, and especially matured plans for betterment, or action under way, furnish a splendid basis for public safety education. Education founded upon such matters can be made interesting and vital. In my opinion that kind of education commands far keener attention than safety education based upon platitudes, general statistics, and personal opinions.

A Traffic Safety Commission of the kind just described has been established this year in Portland, Ore., a city of 310,000 population. It is in successful operation, and is now conducting its activities along the lines I have described.

## Organization of the State Safety Council for Traffic Safety

By HAROLD L. MUELLER

President, Oklahoma State Safety Council Associate Editor, The Daily Oklahoman and Oklahoma City Times, Oklahoma City, Okla.

I cannot understand a campaign that too often appears waged on the theory that the way to vanquish the enemy is to whip him on the head with a pamphlet or a tabulation.

Inexperience may be the explanation of my impatience with slow progress of the attack. Possibly gains cannot be made rapidly. I don't know.

Out of a short experience I have arrived at a few conclusions.

A state safety council or a statewide organization of some kind is essential to the conduct of a militant safety program in any state.

I believe this because I have become convinced that the reduction of traffic accidents like the preservation of liberty requires constant hammering.

A state council is the hammer.

When I first became acquainted with the existence of a state safety council in our state I was not convinced it was an essential element in success of a state program.

I could not see, for instance, why a state safety program could not be conducted effectively by our state department of public safety.

There is a safety program in Oklahoma because there is a state safety council and whenever, or if, the state council goes dead, the program will collapse. We have a safety department and a highway patrol in our state because a safety council got the department created and the patrol established. We have an official attitude favorable to safety activities because of the untiring efforts of a safety council.

I can say this because the credit for these accomplishments goes to others; not to me.

The important work and the heavy work was done while I still was easing across stoplines. As I have learned, by degrees, how safety councils are formed and how they operate I have become converted to their usefulness.

I do not now believe a safety program can be carried on aggressively in any state if the responsibility for the success of the program rests principally upon one group of individuals or one class of individuals. I do not think a program can accomplish maximum results if it is, for instance, entrusted solely to officials or political hands. A safety organization composed of all the sheriffs of a state, even though each was sincere, could not get a statewide safety job done.

I do not think a safety group composed entirely of newspaper editors could direct a completely successful program; nor a council composed wholly of safety experts and engineers; nor a council composed only of representatives of insurance companies; nor a council composed of a committee for the membership of the state legislature; nor a council composed of automobile mechanics, or highway builders or paving contractors, or Main street merchants, or ministers or mayors.

Representatives from each of these fields must be included, to the extent it is practical to do so, in the membership of the board of directors or the executive committee of the state organization.

The policy-making group of the state council should include as great a variety of viewpoints as possible.

Otherwise the program will be lop-sided, the objectives will be selected unwisely, the program will be narrow—rather than broad—and the cooperation of agencies vital to success will be lukewarm or absent.

The state safety council must have the genuine, honest and energetic support of every public and private agency and group that can strengthen the attack on loss of life, injury to human bodies and damage to property. It cannot afford to overlook any; it must have them all.

It must be so constituted that it not only can rationalize divergent viewpoints and harmonize antagonistic interests but it should have among its membership the men and women who are the representatives—the spokesmen, if possible—of diverse

groups that may not be in agreement on anything but the belief that an improvement in traffic safety is important.

The state council should be big enough and strong enough that, collectively, it is more powerful than any of its elements. It must be representative enough that it can apply pressure to accomplish desirable, beneficial ends and to block undesirable or selfish or crackpot proposals.

Once organized and operating, a state safety council should not forget its primary function.

### Its Primary Function

My idea is that a state council's primary function is to provide leadership and direction for a statewide program and to harmonize and coordinate the activities of all of the many agencies that are interested in, and can be interested in, traffic safety.

In performing this function it is most important to establish a broad program in which the public and official viewpoints are properly balanced. And their activities and participation thoughtfully coordinated.

When official activity leads, the safety organization must see that public interest is maintained in proportion. When official interest and activity lag, the state organization must persuade officials it is the public's desire to have greater interest and activity.

When both official and public interest lag, the state organization must generate public interest and stimulate official interest.

In balancing a program and coordinating the various activities, I know of no better general guide than the three E's of traffic safety: Education, enforcement and engineering.

Every phase of traffic safety activity falls into one of these classifications. I can think of no other classification to add to these three. I do not think any one of the three can be neglected.

It is up to each state safety council to study the over-all traffic picture in its state and to decide which of the three E's should have the greater stress—the greater emphasis.

If my observation is correct the emphasis now being applied is not equal on each of the three elements of the problem.

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The emphasis seems applied in the following order: Education, enforcement, engineering.

I do not believe this order of emphasis is getting maximum results. At least, not maximum immediate results.

The order should be revised to put enforcement first, engineering second and education third.

I say this because I believe I perceive both bull-headed resistance and scornful indifference to the present style of traffic safety education.

People want to know who's telling them how they should drive their automobile. They bought it, didn't they? And they have a right to drive it, haven't they? They drive as safely as they think necessary.

What are the stories in the newspapers that have a deterrent effect on reckless, careless and illegal driving? I believe they are the stories of two kinds: Those that report strict enforcement; and those that relate the sordid details of bloody accidents.

I hate to think we have to kill somebody in gruesome fashion every day or so and spread the story across the pages of our newspapers to scare readers into decent driving.

There is a weakness, too, in the horror type of accident story. From the standpoint of education. Though it may cause the reader to pause and think he is likely to shrug his shoulders and say, "That will never happen to me."

The accounts of strict enforcement—vigilant patrols, many arrests for violations, courageous prosecutions and certainty of punishment—register effectively on every individual.

I don't feel that increased traffic on the highways this year and the element of jitters

caused among drivers by concern over the war are a sufficient explanation for the increase in motor vehicle wrecks. I think relaxed enforcement, which the public seems to prefer—although it expresses itself otherwise when questioned—accounts considerably for the rise in the accident line on the 1940 chart.

Where greatest responsibility rests and where largest results can be obtained with a given amount of effort are controversial questions which each safety council must study earnestly.

Decision of the majority then should guide the council's activities. There is a tendency to go off on tangents and make problems seem harder than they are. After all, there are only three elements embraced in traffic: The driver, the car, and the roadway upon which the driver operates his car.

The car is further advanced than the other two. Roadways need to be better engineered. But if every new mile built in the United States is engineered perfectly from the standpoint of safety there still will be hundreds of thousands of miles of obsolete and hazardous slab. We can't remake our highway system overnight. It would take hundreds of millions of dollars of money we haven't got. We have to replace poorly-engineered roads with modern roads as we can afford to do so.

We have left only the driver to work on for immediate results. Appeals don't seem to register very strongly on him. It looks like he has made stiffened enforcement imperative.

Safety councils must support the officers who are faced with this unpleasant task. And they must realize that if stricter enforcement is to avoid public kickback the laws, rules and regulations enforced must be sound and sensible.

## TUESDAY AFTERNOON SESSION

October 8, 1940

### General Session

Presiding: JUDGE HARRY H. PORTER, General Chairman, Street and Highway Traffic Section, National Safety Council.

## Selling Enforcement to the Public

By ELIOT NESS

Director of Public Safety, Cleveland, Ohio

In the past traffic enforcement was a relatively new problem. When they were picked up for some infraction, respectable members of society were subjected to police regulation for the first time in their lives.

To most policemen of the period, a violator was a violator; no matter whether his arrest was of a criminal or traffic nature. As a result, respectable citizens were humiliated and mistreated because they were subjected to the same treatment as thieves and criminals.

The enforcement was wholly unrelated to traffic experience. Spasmodic drives and speed traps became common and traffic arrests tended to become merely an excuse for raising revenue.

Consequently, the public became very hostile toward traffic enforcement policies of police departments.

It was not long before intelligent police officials saw the necessity for a fair and effective enforcement program as well as a friendly public relations program.

Accident investigation was established on an exhaustive and scientific basis. Squads were set up on a selective enforcement basis, every accident was carefully investigated by trained officers and complete information gathered. The accident facts were interpreted by experienced officers and traffic engineers. Officials were now in a position to know when and where accidents were occurring, their types and, finally, why they were occurring.

With all this data before them, police officials could now determine accurately the proper attack necessary and were in a position to go before the general public and explain their problem. The police explained what they were planning to do and why, as well as what they hoped to accomplish. This was substantiated by authoritative statistics. A well-promoted educational program was found to be the most effective and desirable way of selling enforcement. A public relations bureau, or a comparable body, was set up to act as a liaison and press agent for the police department. Officers were carefully selected for special abilities along this line and were assigned on a full time basis.

The bureau supplies newsworthy information which subtly promotes the enforcement program to newspapers; scripts were written for radio programs and a speakers' bureau set up to furnish speakers to clubs, industrial meetings and various social gatherings. Literature was widely distributed as well as posters and signs obtained from generous firms. Trade papers and foreign language publications were regularly supplied with appropriate articles.

The educational program was laid out on a selective basis. Hazardous practices were specified and attacked, dangerous places and locations concentrated on and accident-prone groups reached.

The result of all this was that hostile public attitude gradually changed to a friendly and cooperative spirit when people learned that the police program was based on an honest and real need for the betterment and good of the entire community.

The police strategy board decided upon and guided the public relations policy. A monthly luncheon meeting was held, sponsored by the safety council and under the chairmanship of the director of public safety. It was attended by top-ranking members of the police department and officers vital in traffic safety, as well as invited guests.

Reports were read from the traffic engineer, the traffic statistician, public relations bureau, child safety division, enforcement bureau, traffic post division, etc. Suggestions and ideas were introduced freely and openly discussed by the entire board.

Judges, police, prosecutors, reporters, city officials, etc., were invited to participate whenever their experience and position was believed to be of value in connection with some problem. Awards for the safety contest were presented at these meetings.

The meetings of the strategy board have done a great deal toward originating effective weapons and methods for traffic enforcement. They have encouraged suggestions and ideas from all members of the police department and have served as an efficient and effective means of consolidating and formulating a successful policy for traffic enforcement and safety.

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## Report of Committee on Tests for Intoxication

By DON E. STIVER

Director, Indiana Dept. of Public Safety and Chairman, Committee on Tests for Intoxication

The following is the Summary of Committee Recommendations presented in the 1940 Report of the Committee on Tests for Intoxication. The complete report is available in pamphlet form from the Council's Traffic Engineering Bureau.

During the past year, the Committee has continued its program of promotion of scientific tests. In addition, it has undertaken three projects which are reported upon in the report. These are:

1. Study and preparation of recommendations on methods for handling drunken pedestrians.
2. Study of tolerance to alcohol.
3. Study of legal problems relating to compulsory tests.

Also, the 1940 report contains information on new accident facts, the growing use of chemical tests, methods for training police in use of scientific tests, and methods for developing interest and support among officials and the public for such tests.

### Summary of Committee Recommendations

The following recommendations include those which were made in the progress report in 1939. They are presented here in revised form as a complete summary of all the recommendations made by the Committee:

#### Examining Suspected Persons

1. In every examination to determine intoxication, questions should be asked at the scene of the accident or violation, to collect evidence for ruling out possible false defenses of illness, injury, taking of medicine, drinking since the accident, or non-operation of a motor vehicle.

2. Officers should be thoroughly trained in the examination procedure, particularly with reference to observing objective symptoms, and should use a special report form for recording answers to questions, observations of physical conditions, and results of coordination tests.

3. The Alcoholic Influence Report Form is recommended for use by city and state enforcement departments. Parts of the form that are not adapted to local conditions may be omitted so as to shorten it.

4. Chemical tests of body fluids or breath should be used in all cases where drivers are suspected of being under the influence of alcoholic liquor, as a supplement to the officer's examinations. They should be used also in questionable cases involving pedestrians suspected of being under the influence of alcohol.

5. Clinical examinations by physicians are recommended at least for those cases in which the person has been injured or complains of illness.

#### Obtaining Specimens

6. Specimens for chemical tests should be taken as soon as possible after the accident or violation, to permit a more accurate estimate of the degree of influence of alcohol at the time. In important cases, samples of two body different materials should be taken, or a second sample of the same material should be taken at a later time, to provide evidence for a more convincing case.

7. Whenever possible, sufficiently large specimens should be taken to permit duplicate tests when a case is to go to court. A portion of the specimen always should be retained in a tightly stoppered container, sealed and kept in a refrigerator until the case is closed to give the defense an opportunity to make a check test.

#### Borderline Limits

8. When the concentration of alcohol in the blood is above 0.15 per cent, all persons show a definite loss of that clearness of intellect and control of themselves which they would ordinarily possess. The Committee recommends therefore that blood alcohol concentrations above 0.15 per cent should be considered as definite evidence that the *driver* or *pedestrian* was under the influence of alcohol.

9. When the level of alcohol in the blood is 0.15 per cent by weight or below, a great many people will be under the influence of alcohol. The Committee recommends prosecution in such cases when the circumstances and results of physical examinations confirm such evidence. However, when the level is below 0.05 per cent, the person should not be prosecuted for such a charge.

10. The Committee recommends that in

every case all available evidence of abnormal actions or conditions should be obtained to permit presentation of a more convincing case, even though the blood alcohol concentration may be above 0.15 per cent.

#### Legislation and Definitions

11. Each state should consider the adoption of legislation dealing with the use of evidence obtained from chemical tests. The wording of the provisions of the new Indiana law (Chapt. 48, Art. 5, Sec. 54, par. 2, 1939) is suggested as a model for states.

12. There should be a state law or city ordinance providing definite minimum penalties for a pedestrian under the influence of intoxicating liquor while in a cross-walk or on a street or highway. This might be in addition to the usual law regarding public intoxication, and would be based on need from the standpoint of protecting pedestrians from traffic accidents.

13. The phrase "under the influence" should be used in place of the term "intoxicated" in laws and ordinances. Legal definitions of the phrase "under the influence" should be improved, clarified and made more uniform. The Committee suggests adoption of the Arizona definition as one step in improving legal definitions.\*

#### Setting Up a Testing Program

14. Before using chemical tests for enforcement purposes, a carefully planned educational program should be carried on for several months, to stimulate interest and to obtain support from judges, prosecutors, police officials and the public in the new program.\*\*

15. Police, chemists and others who will be handling specimens for chemical tests should be given thorough training in the proper procedure for handling the specimens so that results of the tests can be admissible in court.\*\*\*

16. The Committee is of the opinion that most of the commonly used chemical tests\* are satisfactory provided they are properly made by competent and well trained persons. For practical medico-legal purposes, the methods when properly used can be considered as specific for alcohol.†

\*Steffani vs. State, 42 Pac. (2nd) 615.

\*\*See discussion in complete report.

\*\*\*Instructions for examining suspected persons and obtaining specimens are given in a mimeographed memorandum "How to Handle the Drinking Driver," available from the National Safety Council.

17. A person who plans to make chemical tests for possible court use should first make a complete set of control tests to establish his range of accuracy. The analyst then will be able to testify in court on his ability to make the tests without appreciable error. *Only those who have had thorough training should be permitted to make the tests.*

18. The Committee strongly recommends that the testimony in court with reference to the effects of alcohol and the meaning of different body fluid concentrations be committed solely to competent specialists who have thorough knowledge of the literature and an adequate experimental background on the relationship between test results and physical impairment.

19. A fee should be paid for the analysis of the specimens especially when the analyses are made in a private laboratory or by a private physician. In cases involving convictions, consideration should be given to including the fee as a part of the court costs. When this is done, suspects should be advised of the procedure.

20. City and state enforcement departments should work with police surgeons, physicians, hospitals, departments of health, and other technical persons or departments in the establishment of cooperative arrangements for making chemical tests and for presenting expert testimony.

21. Ultimately, a state-wide testing system should be adopted in each state, with Standardized laboratories, preferably approved by state departments or courts, set up in centrally located districts.

#### Other Recommendations

22. Educational information should be prepared to inform the public in a more specific manner of the hazards of driving or walking after drinking and to develop public support.

23. Educational and enforcement methods should be directed at drinking pedestrians on streets and highways as well as at drinking drivers.

24. The Committee recommends the use of chemical tests in civil as well as in criminal cases, and recommends also that their use be considered by industry in determining intoxication of employees when necessary.

†A description of several test methods is given in the 1938 Committee Report. Copies of this report are still available from the National Safety Council.

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25. The Committee should continue its program of scientific study and promotion, looking forward to completion of the final Committee report in 1941. During this next year, particular attention will be devoted to (1) promotion of scientific methods and of

legislation, (2) completion of study of compulsory tests, (3) study of tolerance to alcohol, and (4) development of an administrative procedure for cities and states in carrying on a procedure of chemical tests.

## Report of Committee on Speed Regulation

By D. GRANT MICKLE

Traffic Engineer, City of Detroit, and Chairman, Committee on Speed Regulation, N. S. C.

During the past year, it was planned to complete the study of the entire speed problem by giving special attention to speed enforcement, educational materials relating to speed and speed regulation, and to complete the study of speed control in municipalities. Three sub-committees were appointed to accelerate these studies.

It was hoped to have the final Committee report ready for presentation at this time. However, a great deal of material and suggestions were assembled by these Sub-Committees, and it was found that more time was needed to finish the job. Hence, it has been decided to present a brief report of progress at this time, and to delay completion of the final report until at least some time early next year.

The three project Sub-Committees which have been working during the past year are as follows:

1. Sub-Committee on Educational Materials, Professor C. C. Wiley, Chairman.

2. Sub-Committee on Urban Speed Control, T. J. Seburn, Chairman.

3. Sub-Committee on Enforcement of Speed Regulation, Captain C. J. Scavarda, Chairman.

This progress report contains a brief summary of the activities of the Sub-Committees, and a review of the major recommendations. During the remainder of this year and the first part of next year, it is planned to prepare the final Committee report which will summarize information presented in the three preceding reports and will outline in some detail the essentials of a reasonable speed control program for states and municipalities.

### Review of Sub-Committee Reports

The Sub-Committee on Education was appointed to review existing educational

material on speed control, to attempt to harmonize conflicts in data or statements, and to select materials for educating the public on control of speed for safety. The various means for carrying on the educational program also were to be studied.

Subjects relating to speed control on which the public should be informed were subdivided into three classifications:

1. Need for operating at reasonable speeds.

2. Education on speed limits and on enforcement policy.

3. How to adjust speeds to conditions.

The Sub-Committee on Urban Speed Control has concentrated its attention primarily on development of an urban speed control program based upon the speed provisions as given in Act V of the Uniform Vehicle Code. This speed control program includes (1) setting proper speed limits, (2) establishing speed zones where necessary, (3) carrying on an educational program, (4) reasonable enforcement of speed regulations.

The Sub-Committee on Enforcement was appointed to develop a policy for the enforcement of speed laws. Such a policy was desired as a guide for police administrators when preparing instructions for patrol officers and as an aid in achieving a proper balance between enforcement of speed and other traffic regulations.

The Enforcement Sub-Committee's recommendations stress the need for all police departments to adopt a uniform policy for enforcement of speed regulations and to furnish specific instructions to officers. Under the enforcement policy recommended by the Sub-Committee, tolerance would exist only as may be necessary to take into account possible errors in speedometers and in pac-

ing. Much of the enforcement would be conducted under the basic rule that no person shall drive a vehicle on the highway at a speed greater than is reasonable and prudent under the conditions and having regard to the actual and potential hazards existing.

**Enforcement Policy**—The essential points in the statement of enforcement policy include the following:

1. Enforcement of speed regulations should be directed most critically against drivers who are involved in collisions while operating at excessive speed.

2. Enforcement should be directed against all persons who are driving at a speed too fast for the conditions regardless of whether the speed is in excess of lawfully established speed limits, or below them.

3. In accident cases involving excessive speed, officers should seek all evidences from which they may determine the speed of the violator's vehicle prior to the accident.

4. In cases of excessive speed when there is no accident, officers should determine the speed driven by pacing or by some other acceptable method. Then, they should obtain all other available evidences that the speed driven was unreasonable or unsafe or potentially so. This will involve notations on all pertinent conditions such as weather, visibility, highway surface, traffic and physical conditions, and information on speed or the range of speed customarily driven at the time of day upon the section of street or highway. Speed limits should be noted, but will be useful as evidence only when the speed driven was in excess of the limit.

5. Tolerance should exist only as may be necessary to enable officers confidently to swear that the person apprehended was actually driving at or in excess of a certain speed.

6. At any point such as an intersection, hill crest, curve or other location where actual or potential dangers exist because of lack of adequate visibility distance, any speeds in excess of the critical limit, should be deemed in violation of the basic rule and subject to inflexible enforcement. Proof that a speed driven was unlawful may be established by presenting engineering data showing that at the place any rate in excess of the critical speed was potentially dangerous.

Since each Sub-Committee has stressed

the value of reasonable speed limits, some attention to that subject is warranted here. It is well known that speed limits which are posted in many locations are entirely too low. This applies both to the posting of the usual residence district and rural speed limits, and to the posting of special zoned speed limits.

#### Need for Reasonable Speed Limits

This situation is partly the result of obsolete speed limits, but it is due also to the mistaken belief of some officials and of many persons living in the area that low limits are necessary to hold down speeds.

In many localities speed limits have been posted at unreasonably low values because it was the line of least resistance. Persons living along the streets ask for the low limits to "protect their children," and obtained support for the lower limits from their aldermen or other officials in their part of the city. In addition, police officers favored the lower limits since it made less work for them to get evidence of a speed violation. When the limits are set sufficiently low, the officers could make all speed arrests for speed in excess of the limits, with no need to make arrests under the basic speed rule during times of unfavorable weather, visibility or traffic conditions.

At present there seem to be three schools of thought as to what speed limit signs should mean to the motorist. Some officials appear to think that they should serve merely as guides to reasonable speeds under average favorable conditions. Others think that they should represent the maximum speed generally permissible under normally favorable conditions. Still others say they should represent maximum speeds above which a driver never should go, irrespective of conditions. The first two generally favor the *prima facie* type while the last recommends absolute limits.

In some localities officials tell the motorists that the speed limits are maximum values above which they never should operate. Then they establish lower values for the limits, often below the prevailing speeds of traffic, apparently under the assumption that the motorists will use them as guides to reasonable speeds and recognize that they can exceed them without danger of arrest. This is then followed by an enforcement policy which does not begin apprehension

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until the posted limits are exceeded by some indefinite amount.

Thus under favorable conditions there are actually two official speed limits, the one shown on the sign and the one where enforcement begins. Since the average motorist has no means of knowing the spread between the two under different conditions and in different localities, he must set his own values and in so doing may run into conflict with the law.

When police administrators adopt uniform policies and when police officers are trained to carry on a greater share of the speed enforcement under the basic rule, there should be less resistance to establishing and posting higher and more reasonable limits. Complaints of local persons can usually be overcome by getting these objectors to drive their own vehicles over the section in question at speeds which they consider as reasonable maximums. They are usually surprised to learn that their speeds and the prevailing speeds of other vehicles are considerably higher than the speeds which they had recommended as desirable maximums.

In more than half the states there is authority for establishing special limits through zoning on through streets and on streets in outlying parts of cities. If this authority were exercised as it should be, much of the unreasonableness of speed limits would be eliminated. In the remaining places where there is no zoning authority, the existing speed limits should be posted only on sections of street or highway where the limits are suited to the conditions. If these two steps were to be followed, motorists would have much more confidence in posted speed limits.

Motorists also should be told of differences between prima facie and absolute speed limits. They should be told that if they do exceed prima facie limits, they are subject to arrest and must be prepared to prove that they were driving at a reasonable and prudent speed.

Recent speed studies in Kansas City, Missouri, have shown the value of posting proper speed limits. There, results of speed observations show that actual decreases in driving speeds resulted from posting increased and more reasonable speed limits. In one instance, a change of speed limit from 25 to 45 miles per hour on a section

of street outside the built-up district resulted in a change in maximum speed from 72 to 45 miles an hour, and a change in average speed from 37.8 to 34.1 miles per hour. There was no change in enforcement.

### Value of Speed Observations

Another point stressed in each of the three Sub-Committee reports was the value of speed observations in establishing reasonable speed limits and in guiding the enforcement and educational phases of the speed control program.

It is the firm conviction of the Committee that drivers want to drive safely and that most of them stay within reasonable limits most of the time when they are on familiar streets and highways. Thus, observations of the speeds of vehicles at any one location should be a good clue to the safe speed at that location under the same conditions.

Some will be driving too fast, it is true. Traffic engineers often consider that 10 or 15 per cent of drivers are going too fast, and use the top speed of the remaining 85 or 90 per cent as an indication of the maximum speed for safety.

It is rather discouraging sometimes to find that existing posted speed limits are set a great deal below this 85 or 90 per cent speed value. In one instance recently, only 10 per cent of the cars were observed traveling within the posted limit.

Of course, speed observations are not the only information to consider in determining the proper numerical value of a limit for a speed zone. The past accident record should always be considered, along with results of trial runs. Yet, a posted numerical limit should never be set so low that more than half of the traffic exceeds it under normally favorable conditions.

More detailed criteria in terms of speed observations are now being developed for use in safeguarding the establishment of reasonable limits. It is expected that these tolerances will be in terms of leeway allowed on either side of the 85 per cent or 90 per cent speed.

In addition to using speed observations in determining proper values of the posted speed limits, it is recommended that city and state traffic engineering authorities make periodic speed observations throughout their

jurisdictions for use in education and enforcement as well as in engineering. The results will be useful in the following ways:

1. Information on ranges of speed at different locations should be referred to police administrators for use in instructing patrol officers.

2. The educational program should include information on the ranges of speed customarily driven on different streets and highways, and the need pointed out for motorists to keep within the speed ranges.

3. As speed practices change, results of the observations will be useful in revising posted speed limits through zoning authority, and in identifying locations where the blanket speed limit is sufficiently reasonable to be posted there.

#### Summary of Sub-Committees' Recommendations

1. There is a general need for the establishment of higher and more reasonable speed limits on major streets and highways in cities through zoning or legislative authority. Speed limits should not be posted except at locations where the numerical limits fit the conditions. Similarly, speed zones on rural highways must also be established with reasonable numerical limits.

2. Representative speed observations are a good measure of the reasonableness of a speed limit, although comparative accident experience must also be considered. A posted numerical speed limit should never be set so low that more than half of the traffic exceeds it under normally favorable conditions.

3. Traffic engineering authorities should make periodic speed checks throughout their jurisdiction and results should be used in engineering, enforcement and educational phases of the speed control program.

4. As speed limits are established at higher and more reasonable values, police officers will need to give more attention to enforcement of the basic rule, especially when weather and visibility conditions are unfavorable and traffic is heavier than usual. This should be included in police training programs.

5. There is need for proper balance between attention to speed control and attention to other safe driving and walking practices.

Campaigns should not be based entirely upon speed control; likewise, speed control should not be neglected by concentrating traffic safety activity almost entirely on some other phase such as pedestrian control or control of drunken drivers.

#### Urban Speed Control

Recommendations which deal primarily with the urban speed control program include the following:

1. The first step in a speed control program in a city should be a traffic engineering study of the streets to determine which section of street will need to be zoned with special zoned speed limits and to determine the proper values of those limits.

Studies for determining proper zoned limits should include at the very minimum (a) representative field checks of motor vehicle speeds, (b) studies of accident distribution, and (c) trial runs over the sections. The numerical values of the limits should conform with the conclusions reached in the engineering studies; otherwise limits should not be posted at all.

2. Speed limit signs should be erected at regular intervals throughout the city so that motorists will be informed of the prevailing limits. In some states, it will be necessary for the city council officially to adopt special limits for the special zones so that they may have legal significance.

3. A continuous and thorough public educational program should be maintained on to acquaint citizens with the speed control program and its fairness to the community. Results from speed observations will be helpful in encouraging voluntary obedience to the posted limits.

4. The educational program should be given support through enforcement. Much of this effort should be in the business districts and at times of unfavorable weather or traffic conditions must be based upon the basic speed limits rather than on posted speed limits.

#### Enforcement

Recommendations of the Enforcement Sub-Committee include the following:

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and follow a uniform policy for enforcement of speed regulations similar to that previously outlined.

2. In traffic officer training, emphasis should be placed upon officers acquiring the ability to discriminate in the determination of charges to be preferred against violators. Charges should be appropriate to the offense committed. With regard to speed control, there is a special need for distinguishing between such offenses as following too closely, driving too fast for conditions, improper overtaking and passing, being on the wrong side of the road, and reckless driving.

3. To guide administrators in determining proper balance between excessive speed enforcement and enforcement directed at other violations, the administrators should make periodic law observance studies. The resulting data on frequency of various types of violations should be used to supplement accident report data on contributing violations in determining whether patrols are making as many apprehensions as they should on each type of violation.

4. States now having restrictive provisions with respect to securing evidence of speed violations should repeal them. When special speed checking methods are necessary, care should be taken to insure their accuracy.

With respect to this latter recommendation the Sub-Committee found that 10 states have laws which place limitations upon methods for obtaining evidence of the speed at which a motorist was driving. Two states, Oregon and California, entirely prohibit the use of any device obtained through speed "traps." Other states, Maryland, Pennsylvania, and Washington, permit the use of such evidence under certain conditions. The Washington state law contains a requirement regarding accuracy of the speed measuring instrument, but the final statement in the law regarding the length of the "trap"

must be at least one-quarter of a mile in length would seriously limit its application. (It may be better to avoid use of the term "trap," by using a term such as "speed check station" or speed "timing.")

### Education

The following are among the recommendations of the Sub-Committee on Education:

1. Motorists should be told of the need for operating at reasonable speeds suited to the conditions. They should be told what officials are doing to aid them in adjusting speeds to conditions, and should be furnished specific educational information on how to make this adjustment.

2. Officials must make sure that all posted speed limits are reasonable if they expect to keep faith with the motorists. When the blanket speed limits are not suited to particular sections, the limits should not be posted there at all unless the limits are changed to reasonable and proper values through zoning.

3. When limits are reasonable, motorists should be told that posted prima facie speed limits should usually be considered as maximum limits. They should not be exceeded unless conditions are unusually favorable and the motorist can show that he was driving at a reasonable and prudent speed.

4. Educational information should be directed at officials as well as at motorists. They should be impressed with the need for providing reasonable limits with adequate enforcement.

The Sub-Committee reports contain detailed recommendations and discussions supporting the recommendations. These Sub-Committee reports will not be available in printed form. They will be included in condensed form in the final Committee report which should be in print by next May.

WEDNESDAY MORNING SESSION

October 9, 1940

### Group Session for Engineers

Presiding: Professor ROGER L. MORRISON, Department of Highway Engineering and Highway Transport, University of Michigan, Ann Arbor, Mich., and Chairman, Traffic Engineering Committee, Street and Highway Traffic Section, National Safety Council.

## Selling Traffic Engineering to the Community

By THOMAS E. WETZLER

City Engineer, Peoria, Ill.

The selling of traffic engineering is much the same as the selling of toothpaste, electric sweepers or the latest model motor car. It must be sold from the purchaser's standpoint. The salesman must demonstrate what his product will do for the consumer, who, in the case of traffic engineering, is the traveling public. Will the proposed improvement add to the convenience of the property owner, the merchant or the man behind the wheel? Will it contribute to his pleasure or efficiency? If the proposition is presented from this angle it can be sold with greater ease.

In the past traffic engineering has been administered much in the manner of a dose of medicine. We have prescribed safety measures, speed regulations, etc., with the explanation "this is good for what ails you—so take it and smile!" They haven't always smiled.

Instead of selling traffic regulations, it is the business of the engineer to sell increased traveling facilities, reduced time between place of business and home; greater profits to the merchant and convenience to the shopper. In other words, "Don't sell the steak—sell the sizzle!" What will your program of traffic engineering *do* for the general public and the individual?

While traffic engineering is designed to cut down accidents and increase safety, an approach from this angle is much like treating the symptom instead of the disease. Accidents are a symptom of traffic inefficiency. While traffic counts and accident surveys are important from a fact-finding basis, it devolves upon engineering to utilize these facts with an eye to improved traffic design, rather than to impose upon the public regulations which seek to govern and restrict.

Something over two years ago it was proposed that Hamilton boulevard in Peoria be improved. This is a main artery from the business district to the residential section. In order to increase the capacity and efficiency as a modern thoroughfare it was necessary that the street be widened. This proposal met with united opposition, both from the property owners and various civic

organizations. How to sell that idea to the public was the question. Here's how it was done.

In the first place the pavement was worn out to a point where repairs were impractical. Our first wedge was "cost appeal." We told the property owners, "If we pave this street in its present form, as you suggest, you will have to foot the entire bill. On the other hand, if we modernize the street from a traffic safety angle, the funds will come from state motor fuel tax."

This financial arrangement was entirely agreeable. However, both the property owners and the general public balked at the idea of sacrificing any part of the boulevard or parkways, the latter of which contained many beautiful trees.

Now our original plan was to cut the 24-foot boulevard in the center to eight feet, leaving the parkways and trees intact. A public hearing was called, but instead of offering this plan, we presented an entirely different suggestion—one which we were sure would be rejected.

The meeting ended with the majority of the people against any improvement and all opposed to the plan suggested.

The following day several of the objectors were asked to come to the engineer's office for a conference. They were received one at a time and after discussing the plan submitted at the previous meeting, the alternate scheme was suggested. This apparent "compromise" worked.

### Another Problem

Another major improvement which required a large measure of salesmanship as well as engineering, was Franklin street—which borders the central business district.

For several years attempts had been made to widen this street, but in the face of organized opposition by the property owners and lack of public interest, the improvement was abandoned.

First we called a public hearing of the property owners and learned that their attitude had not changed. It was suggested by them that four lanes could be provided on a

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40-foot pavement if parking were eliminated. Taking the property owners at their word we proposed to the traffic commission that parking be eliminated from Franklin street.

The first day that "no parking" went into effect the merchants on the street voiced their disapproval in no uncertain terms. A petition, signed by these merchants, was presented. It demanded that the traffic commission call a special meeting to lift the "no parking" restrictions immediately. We refused to take any action before the next regular meeting of the traffic commission a week hence, wishing to generate all the heat possible before making our next move.

At this second meeting, which was held jointly with the board of local improvements, the indignant merchants and the property owners were in attendance. When the tenant merchants learned that the no parking suggestion had come from their landlords, heated arguments between the two groups followed. At what we considered the proper moment, the suggestion was made that a committee of five property owners be appointed to meet with the city engineer in order to formulate a plan agreeable to all.

This improvement demonstrated the fact that often the salesman of traffic ideas must have recourse to various methods, all of which hinge on the proposition of selling his idea from the customer standpoint.

### Elliott Street Extension

The latest and quite the most ambitious project we have yet tackled is the proposed Elliott street extension in Peoria. This will provide a link in the route for cross-river traffic to and from the bluff section and leads directly from the second major bridgehead. It will dead-end a second major street at the base of the bluff.

Dead-ending this major street met opposition from certain groups interested in our major street plan. However, we explained that when increased traffic makes it necessary, we can carry this street over the Elliott extension. At present traffic does not warrant the expenditure.

When we first proposed this plan much confusion and opposition were raised, many residents of the bluff section holding the idea that it would necessitate a tunnel with large portals in front of their costly homes. A petition opposing the improvement was

filed, bearing a formidable list of names. In spite of newspaper publicity and descriptions of the project the public was uncertain as to just what this improvement would accomplish. We saw that it would be necessary to do some hard selling in order to put the plan over. Consequently we built a model of the project, hoping thereby to clarify our objective. It was displayed at various civic clubs and organizations and the plan was explained in detail. Pictures and descriptions appeared in the local newspapers, with the result that opposition to the improvement has almost entirely disappeared.

From our experience with selling this idea I would conclude that in all complicated engineering improvements, a miniature of the plan makes selling much easier and is a sound method of overcoming public resistance and misunderstanding.

One of the most immediate problems which confronts the traffic engineer of today, one that calls upon his resourcefulness both as an engineer and a salesman, is the congested central business district of larger cities. Because this problem has in large measure remained unsolved, we see outlying districts cropping up in residential sections, with a resultant loss of business to the downtown merchant and the depreciation of property values, thereby creating "blighted" areas.

Parking meters in Peoria have partially solved the parking problem, but in submitting remedies for downtown traffic congestion we have attempted to show the businessmen that it is to their interests to help the city promote parking lots in the blighted areas near the business section and offer free parking to the public.

A recent proposal was made to eliminate parking entirely on Washington street in the wholesale district, reserving the space for loading and unloading purposes only, providing that all vehicles be parked parallel to the curb. This was passed by the traffic commission and presented to the city council, but due to lack of interest on the part of the merchants and the public, there was no action taken. The proposal was pigeonholed. We are still working on this problem, trying to stir up sufficient public interest to exert pressure upon the city council to take the necessary action. As it stands now it is "no sale." Likewise the promotion of free parking lots to be spon-

sored by downtown merchants in cooperation with the city is still on the shelf.

While the salesman of traffic engineering cannot hope to score a hit every time, while often his plans for public safety and traffic efficiency are met with indifference or downright opposition, he can find individuals and organizations willing to back any sound improvement. In our case we have had 100 per cent cooperation from the Illinois State highway department. We have had exceptionally fine support from the newspapers, both with news items explaining the projects and editorials backing them. The Chamber of Commerce has been a valuable help through its safety council in making suggestions for traffic safety and in backing plans in this direction.

Another factor in promoting civic engi-

neering of any kind is the support of the municipal governing body. Much of the impetus given to our proposals for traffic improvement has been provided by the Mayor, the Commissioner of Public Works and wherever public interest has backed such proposals the City Council has passed the necessary legislation. This cooperation is of primary importance in any community.

In conclusion, the traffic engineer must not only have available exact information in the way of traffic counts and accident surveys, he must be able to visualize the workings of his plan beforehand, understand the public reaction to same and then—square his shoulders, put on his best Dale Carnegie manner and go forth and sell his bill of goods to the ultimate consumer—Mr. and Mrs. John Q. Public.

## Cooperation of Traffic Engineers with Transit and Enforcement Officials

By HAWLEY S. SIMPSON

Research Engineer, American Transit Association, New York City

The ends to be sought by an intelligent traffic engineer, transit or enforcement official, are very much alike. Each is a public servant. The first and last are employed by the public. The second is engaged in an enterprise endowed with a public interest and, while its revenues come from private sources, it is required by law and regulation to operate in the public interest. Thus the three individuals should have as their prime objective the best service to the public they can possibly give.

That objective is to better the transportation and communication facilities which we now possess or which we can construct. This can be done individually or it can be done cooperatively. But what can be done cooperatively better than individually? If we can answer that question, we have answered the question: "Why cooperate?"

The need for an intelligent and cooperative attack on our traffic problem arises from the fact that transportation is a very complex function. On this is superimposed the pedestrian with his own special and highly individualized characteristics. To keep all these units moving safely so that each has appropriate freedom and encroaches

least on the rights and privileges of others is not very simple.

Traffic has often been compared with the flow of water in a pipe. No analogy that has been repeated by so many people was ever more absurd. Water is made up of multitudes of identical molecules, each of which acts exactly like every other one. All that a sanitary engineer has to do is design a water system, provide a source of supply, and sit back confidently and predict what is happening everywhere along the line with reasonable assurance of accuracy if he has made no mistakes. Traffic is the exact reverse. It is made up of millions of units, no two of which will react precisely the same under identical, external influences.

It is a clear recognition of the heterogeneous nature of traffic that will bring us to a real understanding of the traffic problem. The engineer who has laid out a traffic system cannot predict what will happen with any assurance that his predictions will be sustained. The more experience he has, the more nearly his assumptions will be borne out.

Because of the way in which the traffic stream is constituted the knowledge of many

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people whose contacts with the problem, and thus their approach to its solution, may differ widely is essential to any intelligent attempt at achieving better traffic conditions.

Let us look at the relation between the traffic engineer and the enforcement official. To effectuate traffic plans devised by the engineer, they must be understood by the enforcing official who is going to have a large part to do with their success. To understand why a particular plan was adopted, the facts and considerations leading up to its adoption must be clearly understood by everyone who is to have a part in its operation.

I think that, in the early days of traffic engineering, there may have been a lack of understanding between him and the enforcement official as to their respective provinces and relationship. That is to be expected in any new functionalization of traffic handling. That this transmission has been successfully accomplished and an appropriate arrangement of responsibilities established in so many cities is a clear indication of the effectiveness of cooperation brought about by a fuller understanding of the several parts of the traffic problem by those engaged in its handling.

#### Investigate Accident Causes

Both traffic engineering and police officials can most effectually cooperate in the investigation of street, vehicle and human conditions which contribute to the causation of accidents. By that I do not mean the investigation of individual accidents for establishing responsibility or as preliminary to criminal litigation. That, clearly, is within the province of the police official.

It is with the investigation of mass groups of accidents that the traffic engineer can be of most assistance to enforcement officials. Here again I do not mean merely the preparation of the conventional monthly accident report, important as that is. Rather, I refer to the necessity of breaking down these figures into their component parts and the investigation of specific locations, groups of vehicles or groups of individuals which seem to be appearing too frequently in the accident record. Such investigations are of a statistical and technical nature and their significance can best be determined by trained engineers.

This is not to say that the enforcement officials have not been alert. What it probably means is they have been doing the best they could, but except for such investigations as I have mentioned, their attention would not be directed to these places where conditions are such that increased enforcement, even though coupled with decreased enforcement in other sections, will result in a greater return to the public.

Three locations seem to be most suitable for city traffic engineering departments. One in the public safety or police department; one in the city engineering department and one in a separate traffic engineering bureau. There is much to be said for the establishment of a traffic engineering department both in public safety and city engineer's offices. I think the preferred location depends largely upon local conditions and doubt that general recommendation of preference can be made. Traffic engineering departments have been successful in both locations.

Ultimately, however, I foresee that the work of traffic engineering departments will develop to such a point that it will become highly desirable to establish a formal disassociated traffic engineering bureau. I say this not because it is impossible to maintain a traffic engineering bureau in an existing department but because the work is so highly specialized that it can best be directed by an official concentrating solely upon these duties. In most city governments, the establishment of such a new department is not feasible without special enabling legislation. I could not, however, adequately cover the cooperation of traffic engineers with others without mentioning what, to my mind, is an extremely desirable objective.

#### The Transit Official

The vehicles the transit official operates differ materially from others in the traffic stream. Street cars, for example, are fixed in direction. While at free running speed they approximate the speed of automobiles, they are required to make frequent stops and so their over-all speed is less than that of a free moving passenger automobile. Buses have similar characteristics except for the important distinction that they are not fixed in direction and are free to maneuver on the streets. However, this freedom is limited by the necessity of stopping at the curb to pick up and discharge passengers and

so they, too, operate differently from other vehicles.

It seems to me that the primary objective of the three officials about whom we are talking should be to eliminate, so far as possible, the traffic conflicts that may arise from the way in which the characteristics of these vehicles differ. If these conflicts can be alleviated every user of the streets will tend to benefit. I think it may fairly be said that nothing which will act to improve mass transportation service can in any way interfere with the freedom of the use of the street by others and will, in most cases, result in improvements for every one.

#### Elimination of Conflicts

If we proceed on the assumption that such elimination of conflicts is desirable, we presuppose the cooperation of transit and police officials with the traffic engineer. Through his experience, the operating head of the transit company and his associates are most clearly aware of the situations which give rise to these conflicts.

These conflicts occur primarily at one point, the intersection.

Anything that tends to better conditions at this point will improve traffic flow throughout the area generally. I think it can be said there are just two things which, if intelligently applied here, will clear up most of the conflicts between units with different operating characteristics. The first is the traffic signal system. It should unquestionably be designed for progressive operation. But the mere fact that the signals operate progressively is not enough; they must be timed intelligently. Studies leading to the timing of progressive signals should consider the relative volume and speeds of each of the several classes of traffic and a timing should be worked out which will function most successfully for all vehicles. To move street cars and buses, as well as passenger automobiles, successfully through a progressive signal system, it is extremely important that speed and loading and unloading time studies be made on the transit vehicles to determine the probable operating conditions which must be met during each period of the day. With this information, a mass transportation time space diagram can be worked out, as well as one for automobiles alone. Then, often, by slight adjustments in the two timing programs, a new time space diagram can be developed which

will best accommodate the total traffic and cause the least delay.

The second cause of conflict is in the fact that both street cars and buses must stop and stand in the street to receive and discharge passengers. To accomplish this function as rapidly as possible, and so with the least delay to other traffic, adequate attention should be paid to the installation of loading zones for street cars where traffic conditions warrant and the proper location and length of bus stops. Much of the criticism levelled at the street car and bus by private operators comes about because of inadequate provision for loading and unloading at intersections. These objections can be practically eliminated by a careful study of the requirements of mass transportation vehicles. Then, after their adoption, by the rigorous enforcement of no-parking regulations to provide maximum street space.

Studies conducted by the American Transit Association have developed considerable information about the best design of loading zones and the space required for bus stops. These show that, with notable exceptions, safety zone design and distances allocated at the curb for bus stops, are well below the standards essential for maximum traffic and transit efficiency. The exceptions occur in those places where traffic, transit and enforcement officials have cooperated in the alleviations of these conflicts.

In closing, I should like to make one recommendation to transit companies. If this recommendation were generally adopted, it would, I believe, promote much more effective cooperation of the three groups. I think it highly important that the transit company set up a traffic engineering department, within its own organization, headed by a competent traffic engineer, to work in close cooperation with the city traffic engineer and city police officials and handle company traffic engineering problems. This is being done by many city transportation properties and it is gratifying that the trend is strongly in this direction. It should be encouraged by traffic engineers and enforcement officials in cities where no single individual has traffic engineering responsibilities of the transit company. Any city large enough to maintain a traffic engineering department has reached a point where the transit company can well justify the employment of a full-time traffic engineer.

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## Using Speed Observations in Zoning

By L. E. HENDRICKSON

Electrical Engineer, Minnesota Highway Department, St. Paul, Minn.

Designers of traffic facilities consider present requirements and try to estimate the future demand that will be placed on these facilities. The traffic problems are approached with the attitude that the public must be served, and the solution which favors the majority is generally adopted.

Let us consider the problem of establishing proper speed zones for streets and highways. Factors that must be considered are:

1. The area through which the street or highway passes. Rural, semi-urban, urban or congested urban.
2. Provisions for pedestrians.
3. Parking.
4. Roadside exploitation and encroachments.
5. Traffic volume. Peak flow; average flow.
6. Type of traffic. Percentage of commercial vehicles.
7. Number of intersections and conflict areas. Sight distance at these locations.
8. Alignment and road surface. Width of right-of-way.
9. Accident experience.
10. Prevailing speeds before zoning.

Without going into the discussion of these different factors in their relationship to one another, let us just consider "Prevailing speeds before zoning."

Taking the viewpoint that the majority of motorists drive conscientiously, we may assume that these motorists will choose a speed which they feel is reasonable and proper. If this fact is properly taken into consideration, enforcement will be less burdensome and drivers are encouraged to comply with posted speed limits, with a resultant increase in respect for all traffic regulations.

Our problem now is to obtain this information, analyze the data and correlate it with all the other factors. Before discussing this procedure, it might be well to provide a brief background of speed zoning in Minnesota.

In 1935, "Speed 30 Miles" signs were erected by the State Highway Department

in all municipalities in the state. Often these signs were erected at the city or village limit without regard to whether the highway was an open or built-up area. In 1937, under a new law which permitted the Commissioner of Highways to establish speed zones with *prima facie* limits of 30, 45, or 60 m.p.h. (50 m.p.h. at night in 60 m.p.h. zones), an experimental speed zone was established on U. S. 169 from Elk River to Grand Rapids; approximately 150 miles. This highway was chosen because it had sections of concrete, bituminous, and gravel surfacing, straight and winding alignment, sections of restricted sight distance, and heavy tourist traffic during the summer months.

### Public Approved Zoning

No speed observations were made prior to this experimental zoning, but test runs were made by engineers and highway patrol captains before the signs were erected. After the zoning had been completed, hundreds of questionnaires indicated almost 100 per cent approval of the principle of zoning and of the zones as established. Public interest was very keen because this was the first highway in the state on which speeds higher than the long established *prima facie* limit of 45 m.p.h. in rural areas, and the more recent absolute limit of 30 m.p.h. within municipalities were legally permitted. At the beginning of each different speed zone, "Begin 30 Zone," "Begin 45 Zone," or "Begin 60 Zone" signs were erected. The confirmatory speed signs carried the message "Speed 30 Zone," "Speed 45 Zone," or "Zone 60 Nite 50."

In 1938 we zoned 1700 miles of the most heavily traveled highways. The same method of zoning was followed and, in addition, a mercury tube device was used to check speeds on curves. This tube was calibrated to ring a buzzer or flash a light when the curve was negotiated at too high a speed. Speed zones were thus established for curves instead of posting maximum safe speed signs for the curves. Because of the legal limitation permitting the use of only 30, 45, or 60 m.p.h. zones, many of the curves were

zoned for speeds from five to 10 m.p.h. slower than was needed. Deceleration zones of 45 m.p.h. were established between 60 m.p.h. zones and 30 m.p.h. zones. These zones were 0.2 mile long, tests having shown that it takes that distance for the average car to decelerate from 60 to 30 on a level highway without application of the brakes and without coasting. This deceleration zone was decreased proportionately on up grades and similarly increased on down grades. As an added safety factor the "Begin 30 Zone" sign was erected 0.1 mile in advance of the exact location where the speed should first apply.

In 1939, the legislature amended the highway traffic regulation act to raise the prima facie speed limit outside of municipalities to 60 daytime, and 50 nighttime. The power of the Commissioner to determine and establish speed zones was made much broader by authorizing him to establish speed zones either above or below the statutory limits, on any street or highway on or off the state trunk highway system, on the basis of an engineering and traffic investigation. This power can be exercised on streets or highways not a part of the state trunk highway system only at the request of the local authorities, and who in no case possess such power. The speed limits as established and posted were made absolute.

These changes in the speed law also changed the method of speed zoning somewhat. Prior to 1939, it was usually advisable to raise the speed limits on rural highways from 45 to 60. After passage of the 1939 law with the higher prima facie limit, it became necessary to zone only those areas where a speed limit below 60 was required. With the change from prima facie to absolute limit speed zones, much more care had to be exercised in their establishment. In order to provide more uniformity in zoning, it was decided that whenever possible zones of 30, 40, and 50 would be established, with 60 m.p.h. zones to be used only where it would be desirable to have an absolute instead of the prima facie limit.

In July, 1938, the Department made arrangements with Dr. Herbert J. Reich of the Electrical Engineering Department at the University of Illinois, for the construction of an electrical speedmeter similar to the one in use at that time by the Illinois Highway Department.

### The Electric Speedmeter

The operation of the speedmeter is fairly simple. Two flexible rubber-covered electrical switches are placed on the highway 15 feet apart. On highways wider than two lanes, small air tubes, connected to diaphragm-type air switches which make the electrical contact, are used instead of the electrical switches. The switches or tubes appear as pavement joints on concrete roads and blend in with the surface of bituminous roads. These switches are connected to the speedmeter through long lead-in wires. The speedmeter is generally kept in a private car with regular license plates and with no distinguishing identification. The car is usually parked close to the location where the speed survey is being made, but is parked far enough from the traveled portion of the highway and in such a manner so as not to present a traffic hazard or in any way to influence the speed of the traffic. Motorists generally pay little attention to it.

The front wheels of the vehicle strike the first road switch or air tube. This starts the building up of a charge on the condenser. At the same time, a relay disconnects road switch so that the rear wheels will not affect the meter. When the front wheels strike the second road switch the electrical charge is stopped. The amount of the charge on the condenser is determined by a vacuum tube voltmeter, and this is read directly in miles per hour on the calibrated milliammeter. The speedmeter is checked by a pendulum which gives the same time impulses as are provided by a vehicle traveling the 15 feet between road switches. Controls are provided for adjusting the meter to read correctly. At least 100, and preferably 150 or more, vehicles for each direction of traffic should be observed and the speeds recorded separately for each direction. Truck speeds should be kept separate from car speeds. Where traffic is extremely light, we have not considered it worth while to spend over three hours for one survey trying to record a reasonable number of vehicles.

### Picking the Sample

The speed surveys should be made during hours of the day when traffic is fairly normal. It is not reasonable to check just the peak flow, which might be causing congestion. If time permits, it is desirable to make more than one speed survey at the same location, or else make surveys at similar near-

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by locations and combine the results to get a larger sample. Needless to say, speed surveys made under adverse weather conditions or when the road surface is wet, slippery or covered with snow or ice, will not give a true picture of the situation under normal conditions.

Before getting set to make a speed survey, the operator should ascertain that there is nothing unusual within a reasonable distance that might affect the speed of traffic; such as, construction or maintenance work, improperly parked vehicles, near-by police cars, or obstructions on the highway.

Locations where the speed survey is to be made should be as representative as possible. If speeds at intersections are to be checked it is helpful not only to get the actual speeds through the intersection, but also at places in advance so as to get approach speeds. Similarly, speed surveys made at the beginning of the curve might be supplemented by surveys made in advance of the curve, and also at places on the curve where there might be an accident "hot spot."

#### Using the Data

Once the data is gathered, the question of how to use it arises. Should an average speed be determined? Should the upper limit of the pace (the 10 mile interval of speed containing the largest number of cars) be considered as a top limit to be established, or should a certain percentage, such as 85

per cent, of the traffic be assumed to be driving reasonably and the other 15 per cent assumed to be driving too fast? While the average speed is useful in some types of speed surveys, we have not used it in our zoning procedure because a few extremely fast cars or slow cars might unreasonably affect the average figure obtained. The upper limit of the pace and the speed at or below which 85 per cent of the passenger cars are being driven, are given a great deal of consideration. Generally, there will be but little difference between these speeds, and the speed zone selected from analysis of the speed survey data may be slightly above or below them. The other factors to be considered in arriving at the proper speed zone to be selected will determine this, however.

No matter what speed zones are established there will always be complaints that the speed zones are too high or else traffic does not obey them at all. Reliable speed surveys give the traffic engineer some factual data to check these complaints and, as so often happens, to refute all or at least most of the allegations made.

In making speed observations prior to zoning, we very seldom inform police officers or local officials that the speed survey is to be made, but in checking speeds in zoned areas we often invite them to witness the speed survey. This builds good will and helps to establish confidence in the data obtained.

## WEDNESDAY MORNING SESSION

October 9, 1940

### Joint Session with City and State Police and Traffic Court Judges and Prosecutors

*Presiding:* RAY ASHWORTH, Chief of Police, San Antonio, Texas.

### What Is Wrong with Traffic Law Enforcement?

By W. K. INGRAM

Chief of Police, South Bend, Indiana

You would expect a police officer to take the attitude that life would be much simpler and easier if policemen did not have to bother with such nuisances as prosecutors

and courts. But I am not at all certain that life would be better under that kind of set-up.

Law enforcement by the police alone isn't a new idea. That is the way things are in

Italy, Germany, and Russia. In this country we like the checks and balances that come under a system of divided responsibility. But there are drawbacks. Probably the most striking example of the bad side of this divided responsibility in law enforcement occurs in the application of traffic law.

I recognize that there are many things wrong with both the policing and the prosecution of traffic law. But, the main fault, in my opinion, is that the courts just haven't caught up with the automobile. It seems to me that there is a tremendous lag between the reality of the modern motor car and the court's technique in coping with the new situation.

I have known a judge to sentence a man from three to 10 years' imprisonment for stealing an old car. Then I have observed this same judge five minutes later fine a man \$10 for driving while drunk and then suspend the sentence.

### No "Oomph"?

Part of the explanation is that the average judge is just plain bored when a traffic case comes before him. Traffic cases don't have the "oomph" of a nice assault and battery. These judges do not realize that the case docketed under the dull code of reckless driving, driving under the influence, speeding, or failing to yield right-of-way, are cases involving needless expense and pain.

How can a judge turn from a perfectly fascinating case of wife-beating to an innocent-looking charge of driving under the influence, and keep his proper perspective? Wife-beating is the sort of thing that every red-blooded American resents. Driving under the influence is too often looked upon merely as something rather naughty.

In other words, too many of our judges do not know the meaning behind traffic laws. Their thinking is still back in the horse-and-buggy days, when a man could get joyously drunk and rely on the horse to take him safely home.

But, even when the judge realizes that traffic law enforcement is a serious business, he is often so handicapped by the legal formalities of his court that there is not much he can do about it. Then the system, rather than the judge himself, is at fault. Legalistic procedure in traffic cases is top-heavy—a moss-covered antique.

Most traffic cases today involve almost the same procedure as our most serious offenses, such as murder, rape, and arson. You know that in many courts traffic cases are, in fact, handled on the same docket.

Why not set up a streamlined traffic court that is quite as modern as the automobile itself? If a separate court is not practical in some of the smaller cities, at least the court could allot a special time for handling traffic cases.

### Indiana System

Perhaps the magistrate court is the answer. In Indiana these courts were authorized by the legislature to "meet the many new problems which arise from modern highway traffic and from other complexities of modern life," in the words of Professor James J. Robinson, of Indiana University, a leader in modernization of law enforcement.

These courts are designed to remedy the evils of the justice of the peace system and to relieve the crowded dockets of the city, circuit, or superior courts. The magistrate system almost automatically brings traffic law jurisprudence up to date, regardless of the variation in the views of individual judges.

My first indictment against the courts, then, is: The judges do not take traffic cases seriously. Number two is: The system itself is not designed to handle traffic cases. Number three: Endless technicalities play on the side of the guilty defendant and operate against the innocent defendant.

You will agree, I am sure, that half the penalty, inflicted twice as quickly, is far more effective than twice the penalty administered only half as quickly. If we could remove delay from court procedure, we will win more than half the battle toward real traffic law enforcement.

The eternal procrastination of our courts, is the bane of the police officer's life and a thoroughgoing nuisance to every citizen who is so unfortunate as to have to appear in a traffic case.

Witnesses many times are required to spend all day in court only to be told they must return the next day. Naturally they make a mental reservation never again to be an eye-witness to a traffic violation, a drunk driver, or a traffic fatality.

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There is something else which is quite as destructive as needless delay. That is the scornful attitude of some courts toward police officers. This attitude destroys police morale.

The court, on the other hand, can exercise a powerful influence in building up morale. I don't mean that a court should favor the police. Not at all! Sometimes, by reason of legal restrictions, the court must acquit a defendant whom the court knows is guilty.

Under these circumstances the judge could be of immeasurable benefit to the police department if he would frankly explain to the officer—privately, if possible—where the officer failed to make an air-tight case. Then, even though the prosecution lost, the morale of the officer remains intact.

Too many courts take a lofty attitude. Some judges humiliate witnesses, abuse officers, and look down their noses at prosecutors. The judge fumes with satire and scornfully ridicules his victims.

Of course, it is not so tough for the prosecutor, as a rule. The judge, being a lawyer—but not always a good one—has some appreciation of the prosecutor's job. I am sorry to say that there is no requirement that judges have any knowledge of traffic problems.

Let me quote Harry H. Porter, Chief Justice of the Municipal Court, of Evanston:

"To the traffic judges of this nation let me say: This institution and this authority committed to your care is sacred to the people of this nation. Conduct it with the best of judgment, skill and morality at your command. Justice, complete and unbiased, must not be delayed, sold nor denied to any person, upon penalty of your own conscience."

You know, some courts brag about their ignorance of traffic matters, just as kings used to brag that they could not read or write. These courts, basking in the light of their own esteem, grandly decline to participate in community safety organizations, or to cooperate in a study of traffic accident problems.

Some of these courts are funny. The judge makes such absurd sentences as requiring the violator to visit a morgue, to write an essay, or to take a generous dose of castor oil. This is about as effective as

the old-style judge who used to order wife-beaters to kiss their wives every morning, or go to church for a year.

This is not traffic law enforcement. Silly sentences do not deter anybody from violating traffic rules.

Another senseless practice that has been held over from olden times is maintaining separate fines and costs. If a man has to pay \$1 fine and \$10 costs, he has been sentenced to pay out \$11. He has merely academic interest as to what part was fine and what part was court costs. Publication of the fine "\$1 and costs" looks bad in the local newspaper and carries but slight deterrent value. It is even worse if it reads "\$1 and costs; costs suspended."

### Suspended Sentence Evil

The police have very properly been given the devil for fixing tickets. Many cities have passed so called anti-fix ordinances. But these ordinances do not, as a rule, touch the courts.

It seems to me that just about the most pernicious form of fixing is the suspended sentence ordinarily practiced by our courts. It is pernicious because it is essentially hypocritical.

The court says, in effect—"You are guilty. But I am a pretty good fellow. I'll let you off this time." And then the court judiciously and pompously descends the bench serene in the belief that he has added one more vote when election time comes around.

Either a city is going to permit tickets to be fixed, or it isn't going to permit tickets to be fixed. It makes no difference, from the standpoint of law enforcement, whether the fixer is a cop, a prosecutor, or a judge, and it doesn't matter what particular technique is used.

I think the refusal of a court to convict for traffic violations arising from accidents—taking the attitude that the court does not wish to leave the defendant open to damages from a future civil suit—is at least a first cousin of the ticket fix. It is certainly a rank miscarriage of justice.

What kind of reasoning is it that permits a court to decide that a man shall go free when his actions have resulted in an accident that endangered lives and limbs, at the same time punishing another law violator whose actions haven't hurt anybody.

When you get right down to it, what right has a police officer to give a violator a ticket, to arrest a violator on the street, write out a notice to appear, and release the violator on his own recognizance? These are court functions. Legally, no arrest has been made by the mere issuance of a ticket, legally, the man can be released on his own recognizance only by the court. Moreover, no police officer has a right to issue a subpoena, another function of the court. Yet,

this is done necessarily by the police to avoid stuffy court rules.

My only reason for calling attention to the police sins in this respect is to point out this moral: At least police operations are flexible. All the admitted faults of the police department can be cured by proper organization, administration, and well-trained personnel. I wonder whether the courts may be brought up to date so readily.

## What Is Wrong with Traffic Law Enforcement

By JUDGE PERRY A. FREY

Municipal Court of Cleveland, Ohio

Before making the bold statement that the police can and should do a better job, let me say a word about their bosses: the mayors, councilmen who control the purse strings, police chiefs and traffic commissioners. It is the duty of these gentlemen to know that traffic safety is now demanded by every community. It is their duty to make a careful study of the problems and then—and this is of paramount importance—to furnish the police departments with sufficient funds to bring their man-power up to par and supply them with the proper tools for adequate enforcement. After this is done, the courts and the police must assume the balance of the burden.

### Courts vs. Police

There is no doubt in my mind that whoever championed the cause of either the courts or police could hurl some very stinging darts. If this procedure were followed, Mr. and Mrs. Motoring Public, acting as the referee, would be inclined to think less of courts and police than they now do. To make their work effective, it is necessary that both command the respect and cooperation of the public.

The first step in this direction should be a complete understanding and the proper respect by both for the corresponding problems, duties and functions of the other. One should not attempt to run or dictate the affairs of the other. Satisfactory results, however, are largely dependent on the cooperation each receives from the other. Often when a judge reprimands the traffic

officers he is looking for an opportunity to discharge some offender whose friend might have reached his ear. It likewise often happens that the arresting officer will bitterly complain about the court when the defendant is dismissed, in order to cover up their own deficiencies in preparing their case.

### The Traffic Officer

What can we expect of the traffic officer? Is he doing the best job he is capable of? Is he an agent for the prevention of accidents on the highway, and is he at all times exercising his authority for our protection? It is indeed regrettable, but nevertheless true, that we are oftentimes disappointed in our expectations. We find for instance, in some traffic officers the characteristics and qualifications more suited to an uncouth low-brow. We also sometimes find that he is a boogey-man parading the highways scaring, ridiculing and browbeating the motoring public.

What right has any traffic officer to greet a motorist, regardless of the violation, by such remarks as, "Where's the fire?" "Where do you think you are—on a farm?" "Who do you think you are—Barney Oldfield?" "What's the matter, are you blind?" and similar remarks, perhaps not so mild. I say, he has no right, but he does have an absolute duty which is printed in almost every police rule-book in the country, to conduct himself as a gentleman at all times. The traffic officer who attempts to browbeat and scare the motorist and who uses such language, does more to break down the re-

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spect of the motoring public toward traffic law enforcement, than any other fact I know of. When such conduct on the part of the police is brought to the attention of the court, it tends to weaken and destroy the court's confidence in the testimony of such an officer. Courts then look upon his every arrest with suspicion. Furthermore, such an officer brings the public's ill will and contempt on his fellow officers, who are in no way deserving of it. I realize and fully appreciate from my experience as Chief Police Prosecutor and Judge, that many times an officer is subjected to very unfair treatment by the public—this, however, does not excuse him. There should be no room on any police force for hoodlums, tough guys or smart alecks.

Besides possessing the qualifications of a gentleman, Mr. Traffic Officer should thoroughly know his job. He should first have an adequate knowledge and understanding of both city and state traffic laws. He should be able to analyze quickly the facts in any traffic situation and present them intelligently to the booking officer and police prosecutor. He should be properly schooled in obtaining evidence at the scene. He should be able to gather from the witnesses, proper and sufficient statements and he should also know how to prepare an intelligent report. He should be observing, so that at least the important details, as to distances, lighting and weather conditions and other factors do not escape his attention.

Any arresting officer should not permit his own personal feelings to influence him in bringing the proper charge. I have known officers who, for one reason or the other were over-zealous in attempting to give the offender a break, and I likewise have known officers who are very solicitous in rubbing it in.

Many cases are lost and many a dangerous traffic violator escapes punishment when he is not charged with the proper offense. It is elementary, of course, that in any criminal case, the defendant must be proven guilty beyond a reasonable doubt.

Our enforcement receives a disastrous blow from police chiefs and other superiors who are more interested in the number of arrests and convictions than they are in the actual prevention of accidents. The patience of a court is severely taxed by such enforcement. Traffic men are sometimes repri-

manded for not making more arrests and I have also heard that traffic officers were instructed to bring in not less than a certain number of violators. This concept of traffic law enforcement is very dangerous and has disastrous results. It tends to stultify honest officers. Certainly the motoring public is entitled to better treatment from the hands of their paid servants. The police chief who thinks that enforcement consists solely in apprehending violators and inflicting a fine upon them does not belong in this modern era of traffic law enforcement. Our traffic departments will serve a much better purpose if they will turn their attention to selective enforcement with prevention as its purpose.

Traffic men should be stationed at the places where the most serious violations and accidents occur and at the time of day or night when a survey shows they do occur. Police should turn their attention to major violations which cause the serious accident; the use of the spot map and accident records filed by locations is essential for selective enforcement.

It should be the aim of every well-rounded traffic law enforcement program to instill in the public a genuine zeal for traffic safety. The police are in a position to assume the leadership in this phase of the program and can do much constructive work. I suggest a bureau of public relations to educate the public in the matters of traffic safety and to promote the goodwill of the citizens. This may be done by talks on safety given by the police at public gatherings and to various groups; by short announcements where large numbers of people are gathered and by the use of the radio. Safety contests also should be promoted and attractive signs and slogans displayed throughout the community. Small pamphlets and other literature is available for the police in many localities for distribution to the public. Courtesy and warning cards have also been successfully used in traffic educational programs. The police are in a better position to create and foster the good will of the motoring public and pedestrians than any other group. They are the ones who constantly are in contact with the members of their community. In the first place, school children are placed under their care and protection on the way to and from school and the police should not let this opportunity pass in dem-

onstrating to the children that they are present for their safety and protection. By showing a real interest in the children and by their demeanor and conduct toward them the police will implant in the minds of these future citizens a favorable and lasting impression of duly constituted authority.

Furthermore, by conducting themselves as gentlemen at all times in directing the constant flow of motorists and pedestrians policemen will gain public support. The conduct of our police officers in the court room is of the utmost importance. I am quite fearful that we who are accustomed to courtroom procedure lose sight of its importance and its effect on the general public. It is our duty to realize that more people gain their first impressions and perhaps their last of law and order in a traffic court than from any other tribunal. The impressions acquired there of justice, law-enforcement and legal procedure may have an important bearing on their future conduct. If they see the dignity of the law upheld

and thereby gain a wholesome respect for law and order, our work has been well done. If, on the other hand, they find the courtroom to be untidy, noisy and disorderly, we will have much to answer for.

### The Officer In Court

It is therefore necessary, that the Judge conduct the court affairs in a dignified manner and it is likewise necessary that the police officer should do his part. He should never slouch down in his chair, especially when testifying. His testimony should be given in a clear and convincing manner; he should avoid the use of any slang expressions and address the court and attorneys respectfully. He should be alert to all the proceedings and never allow himself to lose his temper. He should not be vindictive towards the defendant or any witness and above all, he should be courteous and polite to every one. Such conduct will always merit the respect of the court for that officer.

## What the National Committee on Traffic Law Enforcement Found

By GEORGE WARREN

Special Counsel, National Committee on Traffic Law Enforcement

The Committee, composed of judges, prosecutors, police executives, and other safety authorities, was organized in May, 1938, to conduct a nation-wide study of traffic law enforcement procedure. Arthur T. Vanderbilt of Newark, N. J., Past President of the American Bar Association, is Chairman. Franklin M. Kreml, Director of the Safety Division, International Association of Chiefs of Police, is Secretary. George Warren of the New Jersey Bar is Secretary of the Sub-Committee on Courts. A. R. Forster, Director of Training, Northwestern University Traffic Institute, is Secretary of the Sub-Committee on Police.

The recommendations of the sub-committees cover enforcement practices of the police and of the traffic courts and prosecutors. (The report on traffic courts had already been approved by the American Bar Assn.)

Upon conclusion of the report, it was voted to endorse the report of the National Committee on Traffic Law Enforcement. This endorsement was confirmed by the Street and Highway Traffic Section at their luncheon-business meeting later in the week.

The reports of both sub-committees appear below.

### Summary of Recommendations Traffic Courts and Prosecutors

#### Traffic Laws

1. Traffic laws with inherent defects should be revised and those which are unenforceable or unnecessary should be repealed.

2. Traffic statutes should be founded upon the "Uniform Vehicle Code" and the "Model Traffic Ordinances" with only regulations purely local in nature left to local ordinance. However, an exception should be

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made where this would result in ousting local courts from jurisdiction to try traffic violations.

### Traffic Courts

3. All courts should treat traffic cases apart from their other business.

4. Special courts for traffic cases are necessary when the number of cases reach 7,500 per year with a violations bureau in operation, and 15,000 cases per year when there is no bureau.

5. The ideal traffic court organization would be on a state basis with various district courts, and with circuits operating from each district.

6. Physical courtroom conditions should be improved as to facilities, arrangements, cleanliness, and appearance.

7. The taxing of courts costs as a separate penalty should be eliminated, and the fine assessed in one sum. If costs are included, they should be in a reasonable amount.

### Violations Bureaus

8. Violations bureaus are to be used only when the number of traffic cases make it impossible for the court to properly dispose of them.

9. The basis for all violations bureaus should be a signed plea of guilty and waiver of trial.

10. Schedules of fines charged at the violations bureau are not to be alterable.

11. The bureau should handle the least hazardous violations and should deal with moving offenses only when they respond to treatment outside the courtroom. Major traffic law violations should never be handled in a violations bureau.

12. Assuming conformity with the recommended basis for violations bureau jurisdiction, the payment of fines by mail, properly safeguarded, is recommended.

13. Fines assessed at the violations bureau should be in average amounts used by the judge for the same offenses, and should be scaled higher for repeaters.

### Traffic Judges

14. Traffic judges should recognize the fact that a knowledge of traffic laws, traffic policing and engineering is necessary in addition to a legal background and should aim to obtain an understanding of these factors.

15. Traffic judges should not be selected by local authority or on a localized basis where appointment or election on a wider scale is possible.

16. The selection of alternates for traffic judges should be safeguarded.

17. Where more than one magistrate is available for the traffic bench, it is recommended that one judge be assigned to that post permanently or for a long period, rather than the use of a system of rotation of judges.

18. Traffic judges should be under the supervision of a chief magistrate who should be given regulatory powers.

### Prosecutors

19. It is recommended that the title "Prosecutor" be eliminated in favor of "Public Attorney" or "Public Solicitors" or a similar term.

20. "Prosecutors" should be assigned to traffic courts for aid in the disposition of cases.

21. Where the information on the ticket or complaint does not afford the prosecutor sufficient detail, the arresting officer should be required to furnish him with an additional report.

22. Prosecutors should not be used for the purpose of deciding whether a traffic violation should be brought to trial.

### Defense Counsel

23. Bar associations should interest themselves in ascertaining what the function of a lawyer in the traffic courts should be, and in encouraging the maintenance of that standard.

### Traffic Court Procedure

24. Preliminary hearings in minor traffic cases should be eliminated.

25. Summonses and tickets should be returnable on particular days assigned to officers.

26. Where the volume of cases is large the time of appearance should be staggered according to the type of offense.

27. Complaints other than tickets are unnecessary and should not be used in traffic cases where the officer witnessed the violation.

28. Dockets should be kept by the court clerk's office and traffic cases should be kept in a separate docket.

29. Dockets should be in duplicate, the disposition to be marked on the original by the judge at the time of trial.

30. Each defendant should be treated as a single case regardless of the number of charges against him.

31. Appearances should be enforced by the service of warrants through the police department and by additional fines.

32. The traffic court judge should be made solely responsible for the granting and use of continuances.

33. Continuances should not be used for the purpose of allowing violators an opportunity to obtain the money needed for the fine. Instead, surrender of the offender's license until payment is made is recommended.

#### The Jury

34. The use of juries in trials for summary or minor traffic offenses should be eliminated.

#### Appeals

35. There is need for the study and revision of the appellate procedure available to persons convicted of traffic offenses.

#### Conduct of a Traffic Court

36. There is a general need for higher standards of decorum and courtroom procedure in traffic cases.

#### Punishing the Traffic Violator

37. Juvenile traffic violators should be treated by traffic courts except where a behavior problem is involved.

38. Rigid and set fines (as distinguished from flexible standards) for the various traffic violations are to be discouraged.

39. The utilization of effective methods other than fines and sentences for the punishment and treatment of traffic violators, should be encouraged.

40. The primary aim of the traffic court should be to impress defendants with the need for traffic law observance rather than to penalize.

#### The Fix

41. Reduction of charges in traffic cases should be a judicial power and exercisable only by the judge.

42. Judges should hold police officer, prosecutor, or both, strictly accountable for deliberate attempts to weaken the case against the defendant.

43. Clerical procedure should be revised for the purpose of permitting audits, allocating responsibility and providing checks on the handling of cases before they are tried.

#### Records

44. Traffic Judges should be furnished with the traffic record of the defendant by the police department, to be used only after deciding guilt in the present case, for the purpose of assessing the punishment.

45. Drivers' records should be state-wide for maximum effectiveness and made available through police departments to traffic courts throughout the state.

46. Traffic courts should keep daily cumulative records, broken-down by division into the common offenses, and published at least annually.

#### Conviction Reporting

47. Bar associations and other interested groups should interest themselves, where necessary, in the problem of the failure of judges in traffic courts to report convictions as required by state law.

#### The Justice of the Peace

48. The justice of the peace system is outmoded and its plan of organization, ineffective for good traffic law enforcement. It is recommended that the justice of the peace should be replaced by the trial of traffic cases by a state-wide system of regular courts with trained personnel functioning on a circuit basis from centrally located seats and under the supervision of a chief judge.

#### Qualifications and Supervision

49.\* Minimum qualifications should be prescribed for candidates for the office of justice of the peace.

50. The basis governing the number and location of justices of the peace should be revised to allow the existence of a reasonable number of officers and an efficient distribution.

51. Adequate supervision should be provided, and regular inspections made of all functioning justice courts.

#### Fee System and Salaries

52. The present fee system in use in most states as a method of remuneration for justices of the peace, should be abolished and replaced by a means of compensation

\*Recommendations numbers 49 to 57 are subject to recommendation number 48.

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not dependent in any manner upon the decision in the case.

53. Where practical, fair and adequate salaries should be given justices of the peace.

#### Administration of Justice

54. Courtrooms should be furnished to justices in the various localities.

55. The choice or selection of a particular

justice court by the arresting officer should not be permitted if the practical necessity therefor is removed.

56. The practice of taxing costs should be eliminated.

57. All justices should be furnished with, and required to keep, satisfactory dockets, financial and other records, and should be obliged to report to a county or state office at least monthly.

## Summary of Recommendations Traffic Police

### I. ENFORCEMENT REQUISITES

#### Organization and Personnel

1. The principle of specialization should be followed in police organization for traffic control.

2. Traffic divisions, incorporating all functions of traffic control, should be set up in city police departments as major units of the organization.

3. All uniformed units of city police departments should participate to the greatest possible extent in the traffic law enforcement program.

4. Traffic officers should be carefully selected upon the basis of interest in and aptitude for traffic work.

5. The personnel strength of traffic units in any city should be proportional to the demands imposed by local conditions.

6. Most efficient possible use of present available traffic personnel should be sought as a prerequisite to attempts to secure additional personnel.

7. Traffic assignments should be made attractive to qualified officers by elimination of unnecessary undesirable aspects of such assignments.

8. Special headquarters units for functional supervision of traffic work should be set up in state departments.

9. Organizational specialization as practiced in cities is not practicable at present in state departments, but the amount of traffic work done by all state officers should be proportional to the importance of the traffic problem and should be directed on the basis of recommendations of the headquarters traffic unit.

#### Administration

10. Commanding officers of traffic units should be selected upon the basis of their personal and professional qualifications for such duty.

11. Commanding officers of traffic units should be given rank and authority commensurate with their responsibilities and the relative importance of the traffic control function.

12. The commanding officer of a traffic division should have an adequate number of commanding officers to insure proper direct supervision of personnel and activities.

13. Training in administrative duty performance should be provided for commanding officers.

14. The administrative responsibility in traffic control should be conceived of as involving program planning, supervision, and support building, rather than merely routine personnel supervision.

15. Detailed performance records should be maintained and studied as a major step toward effective enforcement administration.

#### Training

16. Recruit training schools should include approximately 75 hours of traffic instruction.

17. General in-service schools should include approximately 30 hours of traffic instruction.

18. Special in-service courses should be conducted for each traffic unit in city departments.

19. Traffic instruction should provide attention to various topics in proportion to

their importance and the needs of the particular class being taught.

20. The quality of training must be kept at a high level by careful attention to course content planning, selection of qualified instructors, employment of effective teaching methods, etc.

21. Training must be of such character as to "sell" as well as present instructional matter.

22. Training must be used as an aid to, not a substitute for, execution of a sound enforcement program.

## II. ENFORCEMENT PRACTICES

### Policies

The importance of police enforcement policies as an influence on the quality of enforcement, and the necessity of determining such policies, demands careful attention to their development, in accordance with the following principles:

23. Policies should be developed by executive officers and in general uniformly followed by all personnel.

24. Policies should seek achievement of proper balance between the needs for reasonableness and of effectiveness in enforcement.

25. Enforcement action should be taken on the basis of commission of violations, without undue consideration of such elements as intent, degree of hazard, frivolous excuses, etc.

26. Non-resident violators should generally be treated in the same manner as resident violators.

27. Tolerances should be granted only when, and to the extent that, such action makes possible more efficient, reasonable, and effective enforcement than would "letter of the law" enforcement.

28. The gap between an existing and a smaller desired tolerance should be closed gradually rather than suddenly.

29. Warnings should be used to augment arrest activity; a printed form should be issued, a copy being retained for filing; repeaters should be prosecuted.

30. Arrests should be made for major vehicle defect violations, and a defect notice, to be returned with proof of correction, for minor defects.

31. Enforcement quantity should be measured in terms of convictions, using the "enforcement index," and maintained at the level of maximum effectiveness as determined for each jurisdiction on the basis of analysis of the local accident and violation experience.

32. The use of arrest quotas should be avoided; desired levels of enforcement should be considered only in general administration of the program.

33. A low level of enforcement quantity should be raised by gradual steps rather than suddenly to the desired level.

34. Police should refrain from traffic case fixing, follow practices which do not encourage violators to seek special treatment, and enlist cooperation of other agencies in its elimination.

### Assignments

Lack of selectivity in enforcement, and curtailment of patrol strength by special assignments greatly reduce efficiency in traffic police work. Elimination of these faults is the first step to be taken to increase and improve enforcement, as recommended below:

35. Motorized traffic patrol assignments should be based wholly in cities and insofar as possible in rural areas upon study of accident records to secure maximum possible selectivity as to times, places and violations. Selective enforcement should also be applied by other units of city departments.

36. Assignments should be based upon regular periodic studies of those accidents of a type controllable through enforcement.

37. Arrest records should be analyzed to determine the degree of selectivity in enforcement actually achieved.

38. Drains on patrol strength should be reduced by elimination of special details where the public interest is not served, and by reduction in other non-patrol duties of motorized officers, particularly school crossing assignments.

### Tactics

Tactics employed in the execution of the enforcement program have a great bearing on its effectiveness. The following pro-

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cedures are recommended with respect to leading issues in this regard:

39. Single officer traffic patrol should be maintained to the greatest possible extent, in the interests of effective control, subject to necessary modification to insure safety of officers.

40. Motorcycles are most effective in city traffic patrol work. Cities suffering a high accident rate for motorcycle officers can reduce this by improved training and supervision. Cities frequently unable, because of adverse weather, to maintain motorcycle patrol should regularly use a fleet composed of both numbers of cars and motorcycles, maintaining patrol in the former alone when weather conditions require. Automobiles are superior in general for rural highway patrol work and should be used except in areas where the motorcycle's advantages commend its use.

41. Traffic patrol cars should be clearly designated for close-range identification but not extremely conspicuous.

42. Both open patrolling and semi-concealment methods should be employed, each to the extent necessary for proper traffic supervision and adequate violator apprehension. Complete concealment and other forms of deception should be avoided.

43. Speed violator detection should be accomplished primarily by having patrol officers pursue and pace cars. Mechanical speed checking over measured distances should be

employed only where it affords the only practicable means of securing needed speed law enforcement.

44. The "traffic sampling" technique should be used only to the extent that it can serve as a helpful and necessary adjunct to patrol operations in controlling violations of a type not easily controlled by other methods of patrol work. The technique should be selectively employed, with avoidance of "drive" aspects or undue disturbance of normal traffic movement through large scale "blockades."

45. Citizen violation-reporting groups do not effectively augment regular enforcement activities and their creation by the police is not recommended.

46. Chemical intoxication tests should be employed by police as the basis for prosecuting persons driving under the influence of liquor.

47. Effective enforcement attention must be directed to violators involved in accidents through more and better investigative work and through prosecution by police rather than citizens insofar as possible.

48. Case preparation and court work of police must be improved to provide closer coordination of the work of all enforcement agencies and more effective enforcement.

49. Warrant service must be improved both as to percentage of service and efficiency of police procedure in handling this job.

## WEDNESDAY MORNING SESSION

October 9, 1940

### Group Session on Public Education

*Presiding:* PAUL F. HILL, Director of Safety Education, Department of Public Safety, State of Iowa, Des Moines, Ia.

### Training the Adult Driver

By MILDRED Y. McKAY

Director, Adult Education, Cleveland Automobile Club, Cleveland, O.

Perhaps part of the price we pay for our motor transportation could be eliminated if we spent a little more time, money and effort on the two-bit driver, who is using the bil-

lion dollar highways, and the thousand dollar cars so carelessly.

Very little has been done directly for the man behind the wheel—the driver himself.

The driver has been given roads, cars, regulations, and the cooperation of the enforcement officials, but he has *not* been taught to use them properly.

It becomes obvious, therefore, that specific, as well as general things, must be done for the man who attempts to guide a motor vehicle. Accidents happen singly and to individual drivers. It is by reaching individual drivers that an effective fight against these accidents can be waged.

Now, our problem is, just what are some of the specific things that we can do to help this man, who drives or intends to drive, do a safer and more intelligent job?

The American Automobile Association has been giving this problem a great deal of thought in the past few years. The result of this, plus a lot of hard work and some money, has resulted in a driver-training program. This program has taken hold very firmly in the high schools, and attention is now being given to the adults who do not have the opportunity to learn about traffic safety in school.

The aim of adult driver training is not only to teach the driver the actual skill required, but to bring to his attention all the possibilities at his disposal to obtain the maximum pleasure and safety from driving.

What can we do to reach these aims?

Of course, the most desirable procedure would be a complete driver training program for each new driver and a retaining procedure for many old drivers.

#### A Training Program

A complete driving program should have three major parts: First, a series of driver tests to ascertain whether the applicant is physically, mentally and emotionally capable of handling a car safely. Once aware of his difficulties, the individual can be taught, in many cases, to compensate for them. For instance, some individuals have a low resistance to glare. When they pass a car at night they may have to drive for seven seconds—sometimes even as long as 12 seconds—before their eyes become readjusted and they can again see clearly. Such people have a right to know how great a hazard they are and to realize how necessary it is that they refrain from driving when it would subject them to glare.

There is a definite psychological value, too, in these tests. They make the new

driver more aware of the serious responsibility he owes society when he exercises the privilege of piloting a car on a public highway; they impress upon him the fact that part of his responsibility as a driver consists of seeing that he is physically and mentally competent.

The second part of a complete program is a series of classroom lessons. As much as possible should be taught in the classroom because here a large number can be handled by one instructor at one time, thus substantially cutting the costs. In the classroom the student can be taught the names and positions of the various parts of the car, their functions, and the driver's part in controlling the vehicle by means of the levers, pedals, buttons and knobs.

There is a three-fold objective in including this kind of a lesson in an adult driver training program. First, to have the driver handle his car more intelligently because of his understanding of it; second, (this is particularly important with the more timid drivers), to give them more confidence. By understanding what makes a car go, they lose the feeling that it is some mysterious monster which may break through the traces and do unpredictable things. Third, to give the driver an understanding of the care a car requires. When 49 of the best drivers in the United States were asked to what they owed their good records, "Keeping the car in good condition," led the list.

There should be an opportunity in the classroom to study laws and ordinances. Attention should be given to the development of a commendable driver attitude. Courtesy of the road should be discussed thoroughly along with sound driving practices.

With such a program a new driver would not be permitted to guide an automobile until he has first proved himself to be physically capable of handling a car safely and has learned as much as possible in the classroom. Dual-control cars should be used for his road lessons and this should not be an obstacle to any group interested in promoting training of this kind. There was a time when dual-controlling might have been an elaborate and expensive process, but now almost any good mechanic can put duals in a car at a cost not exceeding \$25, at the very most, and it can be done for less than half of that.

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Ideally, the new driver should spend at least two hours where there is no traffic, or, at least, until he has learned the fundamentals of clutch and brake control, shifting and judgment stops. That is, judging the speed and distance so that the car can be brought to a smooth stop on a four inch line. He should be kept away from other drivers until he has learned to start and stop his car on a hill without sliding back; hand signals, steering, and road positions of cars about to make turns. This is a very different procedure from the trial and error method which has been used in the past and, for the most part, is still being used in this so-called enlightened age.

A private training field has been opened by the Cleveland Automobile Club. This field was developed from a vacant lot and, although small in size, contains many of the traffic situations which are to be met on the road. There are cross streets with varying angles of intersection, railroad tracks, a traffic light, a three per cent grade, a fifteen per cent grade, curbs for parking lessons, angle parking lines, pedestrian crosswalks, etc.

#### Trained Instructors Needed

Road lessons should be given only by trained instructors. The best drivers are not always the best teachers. From the qualifications that are offered by applicants for positions as instructors one would think that a no-accident record over a period of time was the only requirement. The most difficult job in conducting a program of this kind is to get good teachers who have a background of good driver training.

After instructors are selected they should be given a carefully worked out course of study. After three years of experimentation, detailed lesson plans and corresponding assignments in the AAA Sportsmanlike Driving Book have been developed. If these assignments cannot be followed by classroom discussion, question sheets can be used as a study guide and as a check of the student's diligence. These question sheets, as they have been developed by the Cleveland Automobile Club, cover the assignment and the road lesson of the day and must be filled out and returned before the next lesson period. The instructor can quickly correct any mistaken idea the student may have before permitting him to progress.

Even after a complete training program, lack of experience is bound to play a part in the driver's career for a short period of time. During this period of formation and setting of driver habits, he is apt to react a little more slowly than a more experienced driver. His judgment will probably be less accurate, he may take too much or too little room on a corner, or do other things equally as annoying to the experienced driver and which may be contributing causes to an accident. For this reason, while we are talking about training the driver, let us also teach him to identify himself for his own and others' welfare. A simple means of identification is a new-driver plate that can be attached either to the license plate or the bumper of the car. Many hundreds of these are now in use in Cleveland. There is no patent or copyright on these plates and the proper launching of new-driver plates for the protection of both old and new drivers in your community would be a large step towards greater traffic safety and fairer highway usage.

Perhaps one of the largest problems in reaching and training the driver is to make the driver, himself, realize the necessity of this training. For so many years drivers have been learning by the Jones method, with which you are all familiar. I am sure, that the idea of taking the time to really study the thing out appalls them.

A course of training such as we have been discussing is being offered in many cities by the motor clubs, on a cost basis. In some states, the state is attempting to take over driver-training and is operating through its state highway patrols. Three-quarters of my class in driver training at the National Institute for Traffic Safety Training this year were state highway men who were doing, or intended to do, driver training as part of their duty as officers. A program of this kind could fall naturally into the state accident prevention program.

#### The Financial Side

We have had such a school in Cleveland three years, and each year has seen it grow until now it is enrolling from 150 to 170 students a month. Because we have no funds with which to subsidize such a project the cost must be borne by the student. The need and the desire of the public that such training be available is readily seen in this instance: When people are willing to pay

from \$15 to \$25 to learn to drive correctly, think of the hundreds and even thousands in this one city who would welcome the opportunity to be taught correctly if they were but given the chance, free of charge, or at most, bear only part of the expense.

Such a program is costly and people ask, "But what can we do if we can't have a complete driver-training program? Is there nothing we can do?" Of course there is. Much can be accomplished by inside courses which are not costly. One instructor can handle 100 or more at a time. These courses, which we have given in Cleveland, have proved as valuable to drivers as to non-drivers. Experienced drivers welcome the opportunity to learn more about sound driving practices, laws and ordinances, the care and upkeep of the car, etc. These courses can be started through your PTA's, Women's clubs, luncheon groups, etc. Any civic-minded organization can obtain the services of a teacher and promote such a course or, better still, interest the local AAA club to work with you. It is true that individuals who have been taught in an indoor class have not actually been taught to drive, but they are individuals who are determined to learn. Regardless of who their teacher is or will be, they are going to be better drivers for the efforts put forth in the classroom.

I have been asked in the past if drivers who have been carefully and scientifically trained have better driving records than others. We are well on our way to prove that they certainly do have. The records of 854 individuals were taken from our files. These former students ranged in age from 16 to 75. Their driving experience was over a period of from one to two and a half years. The police department checked their records carefully for these names and found only five violations against them. Three were for light crashing and two for speeding. Our next task was to take from the state files, names of persons that matched as to age, sex, occupation, and driving experience the 854 taken from our files. These people had learned in some manner other than a scientifically planned course, and we wanted to determine whether trained drivers made better driving records than those who learned in a hit-and-miss fashion. To date 100 names have been matched, and out of the 100 names there have been found three with violations against them in the police department. One was for cutting in at a traffic light and driving without a license, another for an improper turn at an intersection, and the third for light crashing. If this sample is at all representative of the rest we are seeking, we can expect to find approximately 25 violations as against five found in the trained group.

## Reaching the Rural Driver and Pedestrian

By HERBERT B. SIMPSON

Executive Secretary, Utah Traffic Safety Council, Salt Lake City, Utah

Just because accidents occur in rural areas it is no indication that the operators involved necessarily reside there. From the number of people involved in urban accidents who reside in rural areas, it appears that all drivers and pedestrians must be reached if we are to show a material improvement.

The best way to attack this problem is by a state-wide safety program. The first step should be to secure improved accident reporting, particularly from rural areas. Accident reports must be analyzed to determine the type, location, time of occurrence, and residence of drivers and pedestrians involved. In addition to this, the habits and general characteristics of the residents of

the state should be studied to determine the most effective ways of reaching the public generally. For example, if it can be determined that a large percentage of the population are ardent church members this presents an ideal means of reaching the people. In like manner, if a certain community is engaged principally in agriculture, contacts can be made through farm clubs.

Every possible means of reaching the driver and pedestrian should be employed. Utah is attempting to reach the rural pedestrian and driver by its state-wide, standard safety program. Our organization includes a committee of state department heads known as the Governor's Traffic Safety Co-

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ordinating Committee, and the group known as the Utah Traffic Safety Council, composed entirely of private citizens. These two groups cooperate closely.

As a result, rural traffic deaths have decreased 15 per cent during the first six months of 1940, compared with the same period of 1939. During this same period rural pedestrian deaths declined 23 per cent.

About 70 per cent of Utah's population is grouped in a relatively small area in and surrounding its three principal cities. The balance of the state is rural, with scattered small cities of 5,000 population or less. While considerable effort has been put forth by state officials and the Council in assisting the cities in their safety program, we are dealing with the traffic problem on a state-wide basis, and endeavoring to reach all drivers and pedestrians.

#### Newspapers Cooperate

The papers of Salt Lake City have cooperated wholeheartedly with the state program. They have state-wide circulation and their policy of giving traffic safety a prominent place has been of great benefit. One paper carries a series of black and white flags to indicate the status of traffic deaths, not only in Salt Lake City, but in the heavily populated areas of the state. This creates community interest to "keep the white flag flying" in their community.

Instead of merely relating the fact that a serious accident has occurred, in every instance possible a diagrammatic picture is printed showing the details of the accident scene, the cause of the accident, and how it could have been prevented. Arrows indicate the direction of the cars, or the pedestrian involved.

These papers have also been instrumental in urging better accident reporting. In special instances of failure to report an accident, publicity has been given with the result that traffic officers are reporting promptly rather than have their inefficiency played up in the papers.

The fact that the leading papers of the state are devoting so much space to the traffic problem, often on front pages and by excellent editorials, has opened the eyes of the country press to this type of news. Now country papers are devoting more space to traffic safety. All of this is having an effect on the driving and walking habits. Local magazines have given publicity to our pro-

gram. For example, a magazine supported by the farm clubs devotes considerable space to traffic safety every month.

#### Radiograms Effective

In obtaining publicity we have not overlooked the radio, and have received excellent cooperation. While for some time we used public speakers for radio talks and sponsored other programs, it has been our experience that the most effective method is through the use of short messages such as radiograms that can be given from the studio when the opportunity presents itself. A series of these messages is furnished weekly to all stations in the state and have been put on the air daily without cost to the Council. Most of the stations use these in connection with the regular news broadcasts.

The Utah Traffic Safety Council issues a monthly mimeographed safety "News Bulletin." This is a 25-page booklet which outlines the progress of the program and contains statistics and all pertinent information relative to traffic accidents and prevention work. This is distributed to city and county officials, chairmen of safety committees of service and civic organizations, school superintendents, editors of newspapers, church groups, and members of the Safety Council. Much of this material has been copied by the country press and is also used by Council members and others as a background for safety talks, and by church and school groups.

Traffic safety circulars have been distributed. For example, through the cooperation of the Utah Liquor Control Commission, during the 1939 Christmas holidays each purchaser of a bottle of liquor received a leaflet bearing the following message:

*"Don't turn holiday cheer into gloom. Drive carefully!"*

*"Many serious accidents are caused by drinking drivers and pedestrians."*

This apparently was effective, as no fatal accidents involving liquor were experienced during the holiday season.

Another very effective contact was obtained through the cooperation of the Public Welfare Division. Safe Walking rules were mailed out with the relief checks. Inasmuch as this circular was thus placed in the hands of all persons on relief, a great portion of which were elderly non-drivers, the class most prone to pedestrian accidents,

it is difficult to overestimate the importance of this approach.

The State Road Commission has recently adopted the new standard for pavement marking of "No Passing" zones, and in co-operation with the Commission, the Council has circulated a pamphlet containing information with regard to the meaning of the new marking, and also containing important traffic safety rules. This has been distributed through filling stations and with oil company monthly statements; by church groups, and in other ways by which drivers can be reached.

#### Schools Included

This fall each school child is taking home to his parents a letter containing safe walking and driving advice. This letter is similar to the one used in Des Moines, but we are doing this on a state-wide basis, and every school child in the state is bringing this safety message home to dad and mother.

Another phase of the program was the development of a traffic safety course for elementary and secondary schools throughout the state. Two colleges have made available a teachers' training credit course in traffic safety, and we are slowly acquiring trained personnel to carry on this important work.

Safety Council members and highway patrolmen have given safety talks before elementary and high schools, and film strips and motion pictures have been given in the major high schools throughout the state. Particular emphasis has been placed on rural pedestrian problems in all school and other public gatherings.

The Mormon Church has rendered invaluable service in traffic safety education work. From 75 per cent to 90 per cent of the rural population are members of this church and a substantial number attend at least once a week.

Early this year the Presiding Bishop directed a letter on traffic safety to all Ward Bishops, asking them to take an active part in the program. This letter was read in every sub-division of every ward. One outstanding feature of the church is that once a month visiting teachers contact each home in the ward. These teachers have carried the safety message to the homes, both verbally and in printed form.

The Church holds a semi-annual confer-

ence in Salt Lake City, which is attended by representatives of most of the church sub-divisions, and at the close of each session of the conference, church leaders caution all in attendance to drive and walk with care.

Early this year the church cooperated with the principal outdoor advertising companies and erected 110 safety panels in rural localities, dealing primarily with the drinking driver.

#### Enforcement Plays Part

We have not overlooked the important item of enforcement which has a definite bearing on rural traffic problems. In addition to increased arrests, the State Highway Patrol has taken an active part in our campaign by warning pedestrians found to be violating safe-walking rules.

The Enforcement Committee of the Council has stimulated the training program for rural traffic officers and has conducted meetings in the larger counties, which were attended by judges, state patrolmen, sheriffs, city police, service club members, and citizens interested in traffic safety. Accident reporting, particularly from rural areas, has been greatly increased. In this connection, 5,000 accident reporting posters were prepared and distributed in local police headquarters, public buildings, and filling stations.

#### Driver Licensing Tightened

Prior to the existence of the Council, drivers' license examinations were conducted by the Patrol as part of their routine duty, but, as a result of the study by representatives of the National Safety Council and their effective cooperation and direction, this important function was turned over to a newly created division of the Motor Vehicle Department.

The National Safety Council and the American Association of Motor Vehicle Administrators conducted an intensive school for drivers' license examiners. A new filing and record system was adopted, as was the minimum standard examination. In addition, a driver's handbook, containing important driving rules and regulations, was prepared and distributed. The newly trained examiners conduct this rigid examination at all county seats at regular intervals. Drivers' license checks of blockades are conducted at rural locations. We found in

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many cases where rural drivers had been operating a vehicle for several years without a driver's license, and their attitude was such that a license was unnecessary as they had never before been asked to produce one. In addition to the regulatory effect of the blockades, the newspaper publicity carried on in conjunction with this activity has created in the minds of all citizens a higher value of their driver's license.

As a part of the new driver licensing program, an individual driver's record was installed and records of all arrests, warnings, and accidents are filed in each individual record. When any driver develops a bad record, the Motor Vehicle Department takes prompt action to call it to his attention. In many instances, a warning letter from the department has been all that was necessary, but so far this year, revocations and suspensions have increased over 100 per cent, compared with last year.

#### **Traffic Engineering**

A traffic engineering division has been set up and all locations having three or more traffic accidents during the past year have received special study. Many engineering improvements have been made where intense study warranted these revisions. The results of these engineering studies have been called to the attention of the Patrol when it was apparent that enforcement rather than engineering was needed at certain locations. These engineering improvements have consisted of the installation of adequate lights, reconstruction of hazardous intersections, channelization of important highways, and revisions in speed zones. Fifty miles of rural sidewalks have been constructed during the past year.

One hundred and forty railroad grade crossings were equipped with train actuated warning signals, and forty-one little used grade crossings were closed to vehicles.

While Utah is fortunate in that the greater portion of its laws are in conformance with the Uniform Code, there are many important matters of legislation which are being considered by the Council.

In attempting to reach the rural driver and pedestrian, several facts should be borne in mind. It should be remembered at all times that, although practically all of the people favor traffic safety programs and endorse them heartily, they invariably forget that they also need the protection afforded by the program. It is our opinion that the entire program must be directed with this thought in view, and activities must be carried out along all lines, and with such intensity, that it is impossible for drivers and pedestrians to escape the effect of at least one or more phases of the program.

Every effort must be made to secure and maintain the support of the press and radio; all schools must share their portion of the burden in safety educational work; and church, civic, service, and fraternal organizations must be made to realize that the responsibility is partly theirs and a portion of their work must be devoted to traffic safety. Rural traffic officers must be trained and the program of the Highway Patrol and the local officers must be correlated in a broad plan of selective enforcement. An engineering study must be made of all rural traffic accidents and suitable action taken by means of enforcement and education, as well as engineering.

## **The Problem of the Adult Pedestrian**

**By MORRIS M. NAUMOFF**

**Education Secretary, Better Traffic Committee, City of Pittsburgh, Penn.**

The pedestrian is not the "forgotten man" of traffic; he is the "sick" man of traffic whose equal rights have been scorned in favor of the motorist. Too many palliatives have been administered the pedestrian while his rich neighbor, the motorist, has been given every possible attention. The ills of the pedestrian have not been solved by the clinical observations of safety experts. The patient needs a complete study.

Basically, the problem of the adult pedestrian is one of understanding his actions, the reasons for them, isolating any future malignant growth, and setting about earnestly to cure the mental and physical ills.

#### **A Recurring Pattern**

The pedestrian pattern is a recurring one. Year after year the accident figures will bear out definite similarities in structure and

design. Plot these graphically and the trend will be almost the same for places of occurrence, hours, actions, days of the week and ages. The significance of these figures must awaken one to the need for more intensive studies.

The adult pedestrian must be considered in a far different light than the young pedestrian. The complexities of life are all too largely responsible for the over-weighted numbers of accidents in the older age groups. Perhaps certain factors may be brought to light which will give us a clearer insight and understanding of the adult pedestrian accident problem.

I believe we have made careful studies and analyses of the how, when and where factors of the problem; but I do not believe we have even begun to understand the why.

With the adult pedestrian there is the influence of "competing attentions" when he steps off the curb to cross the street. He may be engrossed in his business or personal problems and his street safety has been subjugated. There is another action committed intentionally or unintentionally, which might be called "social facilitation." That is, the pedestrian follows others who have started to cross the street in mid-block or against the red light, because they made the opening wedge for him. Stand at any intersection in the business district, whether it is signalized or not, and observe the number of people who step off the curb, hesitate for a moment while immediate traffic is rushing past; and then watch them gather courage and make a bold dash across the street.

Many adults cross streets under a "voluntary assumption of risk." They know fully well the hazards of street traffic; still, they cross where it is most convenient. For them the corner is too many steps removed from the center of the block when their destination may be only directly across the street.

Then, too, there is that group of adults who practically live in traffic. These are the business and professional people who are constantly on the same streets, encountering the same conditions of traffic day after day. They have acquired too great a familiarity with the volumes of traffic at certain points in the business section. They have developed an assumption of safety based upon repeated experiences and they

continue to follow their modes of crossing streets where, when and if they can. Here habits have been formed.

A few more examples of the crossing habits of people: a group of adults are genuinely confused by traffic in general. This is a minority class, consisting of the foreign element or very aged pedestrians. Then too, there are parents, women particularly, who, when shopping, drag their children across streets against the red light or in the middle of the block. There are many who dare to cross in congested areas in the same manner they do in their own neighborhood where traffic is lighter. There are others who cross without even looking to see the color of the light; and only after stepping into the street do they become concerned about oncoming traffic and signals.

The problem of the adult pedestrian is one of reconditioning his habit patterns in traffic. It obtains, then, that since he cannot be taught in the same manner as children, his safewalking habits must be made his everyday way of living in traffic.

#### Public Education

Public education achieves its desired effects when directed at pedestrians in a "point of need" manner. This means reaching the pedestrian at the time and place when and where such education is needed. Where the necessity exists to re-condition walking habits of adult pedestrians in the congested areas, media intended to correct those unsafe walking habits must be instituted. Where people cross against the red light and an officer is on duty, one of the best methods would be to instill in the officer's mind that he must safeguard the pedestrians, as well as to expedite traffic. It would be best to phrase for the officers throughout the area the words they are to use in cautioning or directing pedestrian traffic, thus creating a uniformity of usage, the repetition of which will be more impressed upon the people.

Another approach which can be used by the officers would be positive in direction and effect, such as pointing out to violators the examples of safewalking habits of others. Embarrassment by the officer should be avoided at all times, for smart-alecky remarks will do more to kill the intent than any other factor, since the public will soon

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look with disfavor upon the program. Safety messages are all the more effective if they have utility value; for example, calendars, book matches, and other advertising novelties which people will keep, rather than toss aside.

A general activity of safety consciousness can be brought about by having Boy Scouts distribute cards to erring pedestrians. The copy on these cards should be given the closest of attention either from the "reason why" approach or the "human interest" angles. Other copy themes can be common sense, loyalty to community, family dependency, economic, understanding of legal rights or legal aspects of violations resulting in accidents to pedestrians.

"Point of need" safety is also the painted message on sidewalks or on the streets at intersections. Posters at intersections and in mid-block also serve to arouse safety consciousness. Pedestrian safety or warning signs can be attached to poles throughout the business area. Sandwich board type of advertising signs on men mingling with pedestrian traffic is also a good idea. Humor can be used advantageously by dressing one of these men in a clown suit and having him pantomime the walking habits of people. A bell high up on a pole to be rung when a pedestrian jaywalks across the intersection will attract a great deal of attention.

Street cars and buses can serve their patrons in a way of pedestrian education by having safety cards at the doors, to remind people that they should wait on the sidewalk after alighting. Inside car cards can point out the dangers of crossing in front or in back of street cars or buses. On the street car loading platforms safety messages can be placed, calling attention to safe ways to leave the platform. Other forms of safety messages which can be used in a street car or bus advertisement are the outside dash signs. Street car snipes can be used on the windows. Printed leaflets can be inserted in the "TAKE ONE" holders usually found inside the cars.

We have not reached the stage as yet when safety messages, broadcast by radio, will reach the passengers on their way to and from work and throughout the entire day. Perhaps that day won't be far off.

The media I have mentioned thus far is

intended to reach the masses in general, rather than certain classes specifically. By no means have I attempted to cover the entire gamut of ideas which can be used; nor have I discussed the essentials of good newspaper and radio measures. Back of any idea is the proper method of convincing people of certain facts, logically presented in the terminology which they will accept. I refer to the proper wording of the copy and the use of display type that talks. Note how commercial advertising is so convincing because the idea is put across with as few well chosen words as possible.

### Selective Education

When we think of the adult pedestrian problem, let us bear in mind that the field of education is necessary in sections of the city other than congested business areas. Accident spot maps show that most pedestrians are being injured in residential districts. If the analysis discloses that the problem is chiefly one of engineering, then physical safeguards for pedestrians should be planned for and installed. In those districts particularly public education will serve to acquaint the people of the proper uses of those engineering facilities provided for them. Selective education must be employed after the pedestrian accident analysis has localized the district, actions, time of day, and other factors which point to the trouble. In the residential sections, the message must be taken into the home. Community newspapers can editorialize on the actions of pedestrians in specific districts after the facts have been obtained from the traffic engineering department. He can invite the people to express their views on pedestrian safety and measures for assuring greater safety. Perhaps enforcement of speed regulations is needed in those districts. Complaints or requests for safeguards are not all of the "crank" type, but serve as an indication that safety is on the minds of the people and they have the right to be heard and the right for such measures.

Other selective media for localized areas may be through community boards of trade, women's clubs, churches, workers for social agencies in those pedestrian accident areas, posters in neighborhood stores, and leaflets inserted in packages purchased at the stores or delivered to the home. Still other means must be used in a general way, such as billboards on the sides of neighborhood stores;

or, safety posters on poles at points where two or more pedestrians have been injured during the past year.

Getting a general safety message into homes can also be accomplished through the schools by having the teachers instruct the children as to the importance of the message and the fact that the message must be taken home to the parents. Signatures of the parents could be obtained to assure their having read the message. Handbills can be used in a general plan of distribution to these homes.

Home owners are more interested in pedestrian accident facts when they can be told how many people have been injured or killed on their particular street or district. We may take the lesson now in use in Wayne County, Michigan, by having police officers (this could be done easily by fledgling officers) call upon each householder in the rural regions. He should per-

sonalize his message. For example, he could obtain beforehand a directory listing of the residents on his streets (if this is done in a city) and, when the door is opened, he could address the woman as Mrs. Martin, and she would feel that the officer has a personal message to her; and he really does. After he has given his short speech, he can leave the leaflet, asking Mrs. Martin to discuss it with the members of her family that evening.

Educating adult pedestrians is a job which requires careful planning and execution. Instilling safety consciousness into adults can be accomplished through a continuous program of intensive activity of purposeful and selective education. Safety is a commodity today more vital to each individual than, perhaps, most commodities offered to the public for their consumption. Still, safety can and must be sold, and the public as a whole will buy safety because the premium is their life.

## WEDNESDAY NOON MEETING

October 9, 1940

### Luncheon-Business Meeting

*Presiding:* JUDGE HARRY H. PORTER, General Chairman, Street and Highway Traffic Section, National Safety Council.

General Chairman Porter explained that reports of the six study committees were being made at the various sessions and would be omitted at this meeting. Administrative Committees would, however, report.

George Warren was called upon to report for the National Committee on Traffic Law Enforcement, substituting for Arthur T. Vanderbilt, Chairman. Mr. Warren is Special Counsel for the committee. Chief Ray Ashworth of the San Antonio Police Department moved that the general meeting confirm the endorsement of the report, which had been made at the Wednesday morning session. The motion was carried.

Chairman Walter B. Martin of the Annual Congress Program Committee strongly urged that members of the section continue to cooperate with the incoming committee.

The Committee on Traffic Accident Records has worked with the National Committee on Uniform Traffic Accident Statistics and the form recommended by the Subcommittee on Forms is essentially the Standard. This report was made by Wilbur S. Smith, Chairman. The Committee recommended that plans for the preparation of a manual on uses of accident records be advanced during the coming year.

Chairman Roger L. Morrison of the Committee on Traffic Engineering reported that his committee has been established to promote closer association of traffic engineers and others responsible for traffic planning. One session has been held and another will be, he said.

It is desirable to make further studies of selective education, Chairman Carl J. Rut-

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land stated in reporting for the Committee on Public Education and Safety Organization.

Chairman Phillip B. Gilliam of the Committee on Traffic Court Judges and Prosecutors reported that twice as many judges were attending this Congress as in former years.

A report on the banquet for city and state police, as well as the group sessions for them, was made by Chairman Matthew Bolger of the Committee on City and State Police.

Chairman Walter D. Ladd of the Nominating Committee presented the slate of officers for the coming year and officers were elected, as listed elsewhere in this record.

Dr. Miller McClintock, Retiring Vice President for Public Safety, told the meeting in his talk on "Organized Traffic

Safety," that the Street and Highway Traffic Section has made a substantial contribution to the adjustment of rapidly changing traffic conditions. Dr. McClintock said the challenge of traffic safety has meant that all who were interested when the section was organized in 1929 are still interested and many who have become active since then participate in the affairs of the section. He paid tribute to the industrial members who foresaw the importance of promoting traffic safety and were willing to support it. They were cognizant of the fact that more than 50 per cent of the injuries and deaths of persons engaged in industries occur away from their work, he explained.

In reviewing the work of the six study committees, Dr. McClintock commended the activities, saying it has brought together information and experiences that have helped solve many traffic problems.

## WEDNESDAY AFTERNOON SESSION

October 9, 1940

### General Session

*Presiding:* JUDGE HARRY H. PORTER, General Chairman, Street and Highway Traffic Section, National Safety Council.

## Progress in Uniform Traffic Legislation

By LOUIS R. MORONY

Executive Director, American Association of Motor Vehicle Administrators, Washington, D. C.

(Editorial Note: Mr. Morony spoke extemporaneously. The following is a brief summary of his discussion.)

"In contemplating legislative activity you should first analyze the legislation you already have, the degree of success resulting from present legislation, and then determine whether or not new or additional legislation is imperative."

Mr. Morony emphasized the fact that groups are often tempted to agitate legislation because they feel that they should show some activity in that direction. He stressed the point that going to a legislature often was the last resort, and then he indicated the proper approach to bring about

an acceptance of new legislation from the legislature.

Mr. Morony stated: "motor vehicle legislative advisory committees, such as the one set up in California, are extremely helpful. They not only are in the position to make progress in a legislative program by assisting in bringing about the enactment of sound legislation, but they are equally helpful in preventing the enactment of obnoxious legislation."

"The Uniform Code," Mr. Morony pointed out, "should be kept in the background and used as a model and not something that might have a tendency to confuse those

not familiar with it because of its size. Officials charged with the administration and enforcement of motor vehicle laws should have some latitude, discretion, and author-

ity in adopting reasonable rules and regulations in order that their administration program will move along with national trends."

## Report of Committee on Night Traffic Hazards

By HARRY TUCKER

Professor of Highway Engineering, North Carolina State College, Raleigh, N. C.  
and Chairman, Committee on Night Traffic Hazards, National Safety Council

The following are the facts and recommendations for night traffic safety presented in the 1940 Report of the Committee on Night Traffic Hazards. The complete report is available in a pamphlet from the Council's Traffic Engineering Bureau.

The report was prepared by the Committee on Night Traffic Hazards to give public officials and other interested citizens a condensed summary of the night traffic accident problem and recommended methods of prevention of night collisions.

The Committee was organized in 1936 to study the many angles of the night traffic problem. With the cooperation of the National Safety Council's Statistical Bureau, data have been collected from all sections of the country. The accident experience has been divided between urban and rural and between pedestrian and non-pedestrian accidents. Special studies have been made regarding the intoxicated pedestrian and the intoxicated driver problem at night.

The effect of visibility on accidents has been investigated and numerous examples of accident records have been obtained comparing the accident experience before and after changing visibility conditions. This information is included in the report.

### Facts and Recommendations for Night Traffic Safety

1. Traffic hazards and accident severity begin to increase at an alarming rate at sundown. The fatal accident rate per mile of travel is three times as high at night as during the day. These facts present a major problem for state, county and city officials whose duty it is to provide an effective program for traffic safety at night as well as during the daytime.

2. From 1930 through 1939 daytime fatal accidents dropped 18 per cent but night fatal accidents increased 15 per cent. An increase

of 32 per cent in fatal rural night accidents accounted for the unfavorable trend. This points to the need for further study of the rural night accident problem.

3. Increased night travel on rural highways, combined with higher potential speeds of vehicles, has made night driving more hazardous under ordinary conditions. Engineering, education, legislation and enforcement must be initiated to aid in solving the rural night accident problem.

4. The use of intoxicants is an important factor in night accidents. Statistics indicate that pedestrians and drivers who have been drinking are about five times as frequent in fatal night accidents as in those occurring in daytime. Enforcement officials should remove intoxicated pedestrians, as well as drivers, from the hazards of traffic before they are injured or killed.

5. Lowered visibility seems to be the major difference in the hazards of night and day driving. It is necessary that drivers and pedestrians realize this and give more attention to their safety under these adverse conditions.

6. Pedestrian accidents, primarily adults, constitute a relatively high proportion of night accidents in urban areas. Half of the pedestrian deaths occur between 6 p.m. and midnight, while these six hours account for only one in three fatal non-pedestrian accidents. It appears that the pedestrian often takes for granted that he is being seen by the motorist when he can see the headlights of the automobile. Thus he walks confidently into the path of the motor vehicle unseen by the driver until it is too late to avoid an accident.

7. Most traffic signs along the highways in rural areas, and some signs in cities, are even more important to motorists at night than in the daytime. It is necessary, there-

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fore, that they be seen at night well in advance of the hazard. To increase their visibility they should be illuminated or reflectorized. In some cases, conditions require that they be larger than standard signs which are satisfactory for daylight conditions.

8. Since vehicle headlights are the main source of illumination for most highways, owners should maintain them in good condition for best visibility and comfort for themselves and other drivers. Motorists should always use the proper headlight beam. The upper or country beam should be used on rural highways whenever there are no vehicles approaching within 1,000 feet (about two average city blocks). The lower or traffic beam should be used when approaching other drivers and when driving on well-lighted highways or well-lighted city streets.

9. The maximum safe operating speeds of vehicles at night are considerably lower than for daytime conditions because of decreased visibility. The Uniform Vehicle Code of the National Conference on Street and Highway Safety recognizes this in recommending a differential between day and night speed limits. Additional reductions are recommended for drivers at night wherever necessary to conform with the conditions confronting them.

10. New drivers should be taught night driving techniques in their initial training after they have become acquainted with driving in daylight.

11. Reflector buttons and reflector markers are definite aids in delineating curves and designating hazards on highways. Their use is recommended on the outside of curves, on approaches to bridges, culverts, "T" intersections and on entire sections of important highways having numerous curves and other inherent hazards.

12. Striping of the center line and "No Passing Zones" is especially helpful to motorists at night. The painted lines often can be seen farther and easier than the pavement edge. More highways should be marked in accordance with the latest standard practices.

13. Traffic safety lighting continues to demonstrate its value for reducing certain types of accidents. It appears to be particularly effective in protecting pedestrians. A scientific analysis of night accidents should be made by city and state authorities to determine high night accident areas. When these have been located, their conditions should be studied to see whether physical changes in the street or highway are necessary and whether there is adequate lighting for traffic safety.

14. Scientific street lighting should be provided at least in those places where studies of accident records and spot maps show its need. Wherever proper street lighting might eliminate certain types of night accidents, such improvements should be considered. Where such a condition can be anticipated in new design and construction and when a light colored pavement is reconstructed with a darker surface, the lighting should be studied to see if it is adequate. Wherever new lighting is installed, it should be designed to provide adequate visibility for traffic.

15. Additional accident records *before* and *after* the installation or improvement of street and highway lighting are desirable for revealing further the types of accident patterns which yield most readily and consistently to lighting. Such data would aid city and state officials in treating existing night accident problems and forestalling similar ones in new construction.

16. Research on automobile headlamps should be continued to obtain the maximum amount of safety from them.

## THURSDAY AFTERNOON SESSION

October 10, 1940

### Group Session of City and State Police

*Presiding:* INSPECTOR E. JACK ERWIN, Traffic Division, Police Department, Toledo, O.

## Debate: Resolved That Pedestrians Are More Responsible for Pedestrian Accidents Than Are Motor Car Drivers

**Affirmative—DAVE SHERMAN**

Department of State, Lansing, Michigan

When you hear that 32,000 persons are killed, and a million injured in motor accidents annually, do not visualize merely the mile-a-minute driver of a car sideswiping a truck, but think equally of the citizen on foot. Traffic surveys show that pedestrians are often actually to blame for their own deaths or injuries.

The motor vehicle operator, in most states, is required to be licensed, to have fundamental knowledge of motor vehicle laws such as speed and traffic regulations, and of the things he must do under certain conditions. He must prove himself physically capable of operating a vehicle, must have proper eyesight, and a good mental coordination, which he must prove through written tests and actual demonstrations. He is then subject to restrictions on the highway: traffic lights, one-way streets, safety zones, parking rules, speed zones and numerous other safeguards. As a result the motor vehicle operator has been brought well under control.

But what of the pedestrian? You have seen him crossing streets diagonally, walking with his back to traffic and stepping from behind parked cars. A national survey reveals that, even where there are traffic lights in cities, three out of four pedestrians fail to obey the lights, while 98 per cent of the motorists obey them to the letter.

Actually three out of five of the pedestrians killed last year were crossing between intersections, and most of them were just three or four feet from the curb, indicating that they had stepped in the path of the approaching car without stopping to look or listen. They must come to realize that in failing to obey the ordinary traffic rules they are courting sudden death.

During the World War thousands of those examined for service were found to be color-ignorant. Not having studied or been taught colors they could not name them. My opinion is that the average pedestrian is car-ignorant. He does not know the speed at which a car operates, nor the distance it covers in a split second.

Pedestrians are ignorant of the rights of motorists. They haven't been taught traffic rules. Yet they can be taught, and as they become car-conscious, there will be a noticeable reduction in our fatalities.

You may ask me: "Can pedestrians be controlled?" We know that they can! Who would have believed that the recent tremendous reduction and present steady decrease in child fatalities could be accomplished through educating children? Yet, we find, as a result of school safety patrols, and safety education in the schools, child fatalities per year have been reduced 10 per cent. If this can be done with children it can and must be done with adults.

Properly marked intersections must be provided to discourage crossing elsewhere. Side-walk signs "cross-here"; traffic light with signals for pedestrians as well as those for motorists; full publicity—every medium that can be used to make people safety conscious, and, above all, stringent regulations regarding jay-walking must be employed. The use of educational features and an impartial enforcement of all traffic laws will result in making people additionally safety conscious.

Dr. Gallup, in his recent poll of the entire nation, revealed that 90 per cent of those interviewed were in favor of regulating pedestrian traffic. If the people want it, we are remiss in not taking some steps to insure such regulation.

Is it lack of legislation? The weakness of our Judges imposing penalties? The weakness of our legislators? Is it the weakness of our enforcement agents? It may not be, but the time has arrived when drastic and determined steps must be taken.

What happens where pedestrians are controlled? Tuscon, Atlanta, and Dallas, are some of the 65 cities that endeavor to regulate pedestrians. What do their records show? It was found that the number of Mexicans killed in Dallas was twice that of any other nationality. By means of signs in their own language, simple and easy to understand, and by enforcing the traffic rules

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to the letter, Mexican fatalities were cut 58 per cent in one year. What would that mean, gentlemen, if these rules were enforced on a nation-wide basis? Instead of 12,600 pedestrian deaths there would be less than 6,000, not as a result of regulating motorists, but of requiring pedestrians to observe ordinary rules of safety.

I would suggest a *pedestrian control week*, observed simultaneously in every

state sponsored by the American Association of Motor Vehicle Administrator in cooperation with the press, radio, American Legion, and other groups. You would have a local group as a nucleus so actively interested that, with your enforcement program, the campaign could not fail. Such a reduction in pedestrian deaths would result that the nation would be astounded.

### Negative—CARL JENKINS

Department of State, Lansing, Michigan

Everything which has been done in the cause of highway safety has been done from the viewpoint of the motorist. Engineers have provided him with underpasses, overpasses, divided roadways, center lines on highways, highway lighting and efficient signs and signals. The motorist has been taught to make use of these devices, and to obey the regulations, always with the idea that such use and such obedience will result in his safety.

As a pedestrian I have been left to my own devices, and forced to devise the simple philosophy that it is up to me to cross streets and highways as best I can. To help in my efforts I have had nothing but the abuse and scorn of the motorist upon whose sacred domain I have presumed to trespass. In short, I must consider myself the forgotten man of this mechanical age.

Consider if you will for a moment, the millions upon millions of dollars which have been spent for the construction of highways designed purely for the purpose of vehicular traffic, and contrast with this the pitifully small amount which has been used for pedestrian facilities. Consider the scope of the highway lighting program, and place against this the meager amount of public funds which has been devoted to the lighting of intersections where pedestrians are required to cross.

Remember too that we are a democracy of nearly 140,000,000 people, and that only 30,000,000 people own motor cars. I contend that, in a democracy, the rights of the majority are paramount, and that any legislation which tends to benefit the minority to the detriment of the majority is class legislation and cannot be tolerated.

I agree with my opponent's contention

that the administrators and legislators are the persons who must correct this situation. I propose, therefore, to bring certain specific charges against the motorist, and to suggest a program, which if adopted, will, in my opinion, bring about a radical reduction in the pedestrian accident rate.

I charge you, Mr. Motorist, with consistent, and habitual violation of the speed laws, despite the fact that speed too fast for local conditions is a leading cause of accidents. I charge that it is common practice to overdrive your headlights, and that it is ordinary for you to drive without that due regard for the rights and safety of others, which is a provision of all of our traffic laws. I charge too that it is your custom to violate the right of way granted to pedestrians, and that you ordinarily operate your motor vehicle paying little attention to children at play on the streets. I charge, in short, that your attitude is, that you are monarch of all you survey, and nothing can be permitted to interfere with your triumphal progress.

Having made these charges against the motorist, I propose that we present to this arrogant individual a bill of rights for the pedestrian. Experience has shown that an unpopular law cannot be enforced, and I suggest, therefore, that they have been provided for the motorist. I recommend the liberal use of the "pedestrian walk" signal which is so easily incorporated in any traffic signal system. I recommend also the adequate illumination of all pedestrian crossings, and the strict enforcement of parking regulations, particularly one requiring that parked vehicle be not less than 25 feet from an intersection.

Having provided these facilities, I recommend that you carry on for a limited period of time and educational campaign for the purpose of teaching the pedestrian to make use of them. After such campaign, it will be in order to undertake

enforcement of the pedestrian regulations, and I assure you that, if facilities are provided, and educational steps taken, any attempt at enforcement will be met with hearty cooperation on the part of pedestrians.

### Second Affirmative—JOHN BOWEN

Department of State, Lansing, Michigan

You, the pedestrian, have been called at once the "forgotten man" and the problem child of street and highway safety. Nobody loves you, because nobody wants to assume responsibility for you.

At least two thirds of your dead were adults, fit subjects for statutory regulation. That would seem to pull you out of the problem child category.

It is highly significant, too, that your mortality rate first started to climb at the same time that the delivered horsepower and potential speed of the medium priced automobile showed a marked upward trend. You failed to adapt yourself to a changing world by the cultivation of added safety habits. For your walking habits, you alone are responsible. You claim you are careful. Some enforcement authorities say you are incorrigible. Well, five of the larger cities have undertaken to test your vaunted carefulness: Milwaukee, Dallas, Cleveland, Providence and Kansas City. And as a result, in those cities, where enforcement activity was directed against you as well as against the automobile driver, 45 per cent were saved from self-destruction in one year.

The Gallup poll says that you want to be regulated. An increasing number of important cities is commencing to believe it, and—in one form or another—they are granting your own wish. Those cities are: Chicago, Los Angeles, San Francisco, Birmingham, Minneapolis, Rochester, Hartford, Wichita, Atlanta. Results in all those cities have been most gratifying, and human lives have been saved in consequence.

As a result of this pioneering experience, we now know a number of things about

you, Mr. Pedestrian, that we hitherto only suspected.

We know that in all urban areas, three out of five of your dead brethren crossed in the middle of the block.

Seattle has found out that you do not like to wait for the green light longer than 18 seconds; but you will, if you know that you must.

Denver has learned that you do not blow up when you are fined for jaywalking after you have been knocked down by an automobile; instead you pay up.

Connecticut and Washington, D. C., have proved that about 90 per cent of you who become mortality statistics never did appreciate the driver's point of view. They had never had driver's licenses. Now that hardly seems fair, Mr. Pedestrian. The motorist appreciates your point of view, because he, too, is at times a pedestrian. You will say, perhaps, that statutory regulation of your walking activities will only serve further to curtail your liberties in a world where the frontiers of liberty are already tautly circumscribed. But changing conditions make imperative new technics and new controls. Whether you like it or not, whether I like it or not, that way of life that the sociologist calls the inductive culture is now definitely on the up-grade; its spread is inevitable. And with its spread, there must come even to America a wider spread of police powers than the American people have heretofore ever known. That is not to say that we, as a nation, are headed towards regimentation. Any measure that is for the conservation of human life is not regimentation, it is humanitarianism.

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**Second Negative—STEVE WHITE**

**Department of State, Lansing, Michigan**

The question of the responsibility for pedestrian accidents lies very definitely with the motor car driver. Our opponents of the affirmative side have attempted to prove otherwise by the submission of some statistics gathered from a few cities throughout the country where experiments have recently been made in rigid pedestrian enforcement.

Contrary to what our opponents would have you believe—the people of this great nation do not stalk the public streets and highways 24 hours a day, seeking to hurl themselves beneath the wheels of some unsuspecting motorist.

We are all pedestrians by nature. In times of danger we can stop instantly; we can reverse from a forward motion; we can turn sharply without up-setting; we can jump, side-step and side-slip; we have maneuverability that no man-made machine can ever attain. Yet this maneuverability, marvelous as it is, has been unable to cope with the devastating speed and crushing weight of the Juggernaut of the public ways—the motor vehicle.

Our opponents have quoted some statistics on the experience of cities where rigid pedestrian control has been tried. We admit that the results show a remarkable decrease in pedestrian fatalities, but we maintain that is not the whole story. This same rigid pedestrian control pre-supposes a rigid control of drivers and we cannot have a rigid control of drivers until we impress upon them that the pedestrian also has a legal right to the public road, and that we intend to enforce the granting of the right of way to pedestrians when they are using the public road in a legal manner.

We have also heard from our opponents that pedestrians account for about 40 per cent of the nation's traffic fatalities. While the statement in itself is correct, it is, at the same time, highly misleading and subject to misinterpretation. From that statement it would seem that pedestrians were involved in almost half of the nation's traffic accidents. On the contrary—and this is the most damning evidence of all against the driver—pedestrians were involved in only 5 per cent of the total motor vehicle acci-

dents last year in the United States. I quote from the statistics of the National Safety Council which show that there were 5,700,000 motor vehicle accidents in the United States last year; pedestrians were involved in only 270,000. In other words, the pedestrian was able to escape this careless, thoughtless, uncontrolled driver of 95 per cent of the accidents that drivers had. It is a tribute to the alertness and skill of the pedestrian, but it shows that what might be just another accident between two drivers, with only slight property damage, is usually fatal when the pedestrian is involved. Surely we need no better proof than this as to where any accident-proneness lies.

In the majority of cases, accident statistics are obtained from the compulsory reporting of accidents by drivers. These driver reports, in most cases, give the cause of the accident from the driver's point of view, but the pedestrian gets no opportunity to state his views. However, taking these accident reports as they stand, and without giving the pedestrian a hearing in most of them, we find—and I again quote the figures of the National Safety Council—that nearly one-fourth of the pedestrian deaths in the nation last year involved pedestrians who were doing exactly what our opponents claim they do not—crossing properly at intersections. Many pedestrians were struck down as they walked or stood on the sidewalk.

Why did not our opponents tell you of the hours of the day during which the majority of pedestrian deaths occur? Because they know that this would be a further indictment of the motorist. I will tell you that 52 per cent of the pedestrian deaths occurred between 6:00 P. M. and 12 midnight—the dark hours. And despite the fact that there are far fewer pedestrians on the public highways during these hours than in daytime—drivers took a little more than half their toll during this time. The reason for this high frequency after dark is found in the experience of New Jersey during the first year of the compulsory inspection law. Almost one-half of the registered vehicles of the state were rejected on the first inspection because of mechanical defects, and

50 per cent of these defects consisted of faulty headlights.

Both of our opponents have mentioned in glowing terms the recent poll conducted by the American Institute of Public Opinion. The result is further proof of how rational the pedestrian is. The typical answer given by the average pedestrian was "I am against jay-walking. I suppose I do it myself, but if there were strict laws against it, I'd be a lot more careful." But this very rational attitude on the part of the pedestrian presupposes a rigid control of the driver, and until the driver is brought under control, a rigid pedestrian law will be unenforceable.

We have heard of the pedestrian who steps from behind a parked car and is struck. With our parking rules adhered to more in the breach than in the observance—the vehicle from behind which the pedestrian walked has many times been parked on the wrong side of the street, or double parked, or quite possibly parked in a way that obstructed a crosswalk. Yet, because

a pedestrian walked from behind it, he is charged with attempted suicide, and the driver of the illegally parked car does not enter the picture.

Our opponents demand to know what the *pedestrian* knows about stopping distances and the physical laws of motion. I demand to know what *the average driver* knows about stopping distances. By far, the great majority of drivers arrested for speeding, frankly admit, ignorance of their speed. They were not looking at the speedometer!

Despite the fact that the driver with a few drinks is more of a menace on the road than is the inebriated driver, in many cases, in order to get a conviction for drunken driving, it is necessary to prove that the defendant was unable to stand on his feet. Ability to stand unsupported sometimes seems proof of competence.

These facts that I have presented can lead to only one conclusion! That the *motorist* is responsible for the vast majority of pedestrian accidents!

## Practical Pedestrian Enforcement in States

By CAPTAIN T. N. BOATE

Chief, Traffic Division, Pennsylvania Motor Police, Harrisburg, Penn.

It should be understood at the outset that "enforcement" does not necessarily mean arrest and punishment for some violation of the law. The more sensible interpretation of this term, especially as applied to the pedestrian and his relation to the moving vehicle, is that of obedience to requirements requisite to the adequate protection of the person travelling afoot.

Solution of this overwhelming problem by pedestrian enforcement, which may be classed as, direct police action against an offender, education in all of its ramifications, and highway construction and design, has been blocked by age-old principles involving the psychological factor of "right of way." It is argued that people travelled on foot over highways as a matter of right, long before the advent of the automobile. Travel by this means is still both necessary and desirable. Consequently, there is a natural inclination by the pedestrian to move about entirely free of restraint, resenting and disobeying, either willfully or as a matter of indifference, all rules of conduct promulgated for his safety.

With this kind of a background the factors comprising our problem seem to be:

1. Rapid increase of truck and automobile traffic by the millions.
2. Increased speed of motor vehicles in both urban and rural areas.
3. Gradual acclimation of the pedestrian to the automobile which, in addition to a natural resentment of this encroachment on his rights, is slowly resulting in a careless disregard of the potential danger of exposure to motor traffic.

For relief from the devastating consequences resulting from this condition the police are looked to for a major role. Are police forces generally prepared to meet this problem? Have they met the prevailing conditions, as the principal agency for protection of the public, squarely? And, finally, have they done something about it that has produced results? The record speaks for itself. While there have been great and productive efforts put forth, by police forces throughout the nation, frankly, there is an abundance of room for improvement. So,

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in this brief discussion, let us look to our weaknesses and see what can be done for improvement.

It has been my observation that police forces in the role of street and highway traffic regulators lack coordination. Further, there is a marked tendency to seek the shelter of comparison by pointing the finger at other municipalities with records as bad, or worse, than your own. Battles have never been won by finding excuses for reverses, or, as we have heard so often lately, retreating to prepared positions. These things only tend to complicate the issue. Let us face with resolution the problem existing in each of our jurisdictions and insist upon the state taking the initiative by properly preparing and making available a sound plan of action which, when tried and proven, shall not be deviated from, excepting for improvement gleaned from experience, until our objective of proper pedestrian regulation has been achieved.

#### A Cooperative Plan

My conception of such a plan revolves around cooperative efforts and sound basic planning in which every city and state will immediately undertake a comprehensive program of pedestrian accident prevention. With the motor vehicle accident fatality experience being 50 per cent and upwards pedestrian, the highway safety program must be largely centered around this all important factor. We are told that, in general, the pedestrian problem is more acute in cities than in rural areas. This, however, by no means lessens the responsibility of the state police force to maintain an adequate plan for pedestrian protection and control. A long range statewide program should include:

**Leadership.** The state police should assume the initiative by advocating a more comprehensive pedestrian protective program.

**Statistics.** Devise and maintain a system of gathering accident case history quickly. Information designated to form the basis for police action, as in all other lines of activity, must be not only accurate but fresh. The remedy indicated by analysis of statistical data must be applied quickly to be effective.

**Accident Analysis.** Make a thorough analysis of all motor vehicle accident fatalities and distribute such information to police forces throughout the state. Such an analysis should completely localize the information made available. Local police officials

may be interested in what the other fellow is doing but they are more particularly concerned with their own problems.

**Coordination of State and City Police Forces.** In the solution of the pedestrian problem, coordination of all police forces is an absolute prerequisite to success. This essential cooperative effort is not, however, always immediately forthcoming. Under such conditions, success is sometimes obtained by enlisting the aid of motor clubs and other organizations interested in highway safety, to prevail upon local authorities to cooperate by providing increased concentration on pedestrian protection and general traffic law enforcement.

**Selective Patrol.** To utilize accident information fully as a basis for highway patrol activity, it is necessary to study carefully the accident experience on any given highway and first arrive at the number of hours of daily coverage required to provide what may be termed "ideal police coverage." This having been done, assignment of officers to cover such highway by patrol in four or eight hour shifts as a permanent detail will bring the most satisfactory results. Under this system responsibility for proper policing of sections of highway found to have a high accident density may be delegated to particular officers. Since it is plain that such officers have been given the responsibility of accident prevention on their patrol, they will put forth their best efforts. This is better than the common practice of assigning an officer to a different patrol each day.

**Selective Enforcement.** In general, the rural pedestrian problem involves four principal conditions: The intoxicated pedestrian; the pedestrian who walks with traffic; the pedestrian walking along highways during hours of darkness without a light and wearing dark clothing; and school children walking along the highway while en route to and from schools. The rural police officer may afford proper protection for such pedestrians by taking into custody persons found to be walking along highways while intoxicated and to detain them until sober in the interest of their own safety, to urge all persons to walk toward traffic when walking along a public highway, to educate pedestrians walking on highways during hours of darkness and to be present in the vicinity of schools during hours when children are enroute to and from their homes. In this connection it would not seem far amiss for the police offi-

cer to visit homes on patrol and drop in on school assemblies for the purpose of pointing out, specifically, existing hazards in the immediate neighborhood and to discuss those things which are important for pedestrians to know.

**Legislation.** To give proper effect to the above matters of enforcement it is considered advisable to obtain legislation prohibiting the walking on or along highways by persons under the influence of intoxicating liquors. This condition may, of course, be proceeded against without specific authority in the vehicle code. It is believed, however, that the mere fact such a prohibition is contained in the traffic laws curtailment would be effective, to some extent at least, without enforcement. Likewise the manner of walking on highways and other requirements for pedestrians should also be specifically covered by traffic laws if definite action is expected to be obtained uniformly throughout the state. Legislation of this nature is often objected to on grounds of regimentation, arguments being advanced that pedestrians should be given precedence over vehicular traffic and that their ancient right of free movement should not be interfered with. This feeling on the part of some people is well illustrated by the age group accident fatality record from which we find that the pedestrian over 50 years of age is frequently the victim of motor vehicle accidents. Thus, states which have not already done so will unquestionably on this basis eventually adopt legislation along these lines and it is believed that the sooner this is effected the more quickly our program for pedestrians will reach a state where a substantial decrease in the death toll will be reached.

**Engineering.** We have found that the police can effectively co-operate with the traffic engineering division of the department of highways by being constantly on the alert and making available the result of studies of highway conditions and bringing about the erection of warning signs, designation of pedestrian crosswalks and illumination of sections of highways having a high pedestrian traffic density and where otherwise found to be most needed. In this respect it is believed that states which include in their uniform sign system a sign directing pedestrians to walk against traffic have effectively controlled this phase of pedestrian regulation on rural highways.

**Publicity.** On the theory that the accident problem is essentially a local one, it is believed that studies made of traffic conditions for the purpose of effecting a reduction in the accident density should also be dealt with as a local problem in making news releases. Studies of this nature confined to county areas have proved to be of wide public interest and readily accepted by local newspapers. When a traffic officer is assigned to study conditions in any particular area the purpose of such study should be immediately publicized, as well as the results and recommendations. This will make the public aware of the hazards on highways in the immediate vicinity of their residences and should have much to do with bringing about increased caution when driving on highways found to be unusually hazardous.

**Accident Facts.** The police cannot effectively participate in a highway accident prevention program unless they have complete information on the current experience from which the "how, when, where and why" of accidents that are happening may be determined. In this respect monthly or yearly reports of accident concentration are helpful in the control of highway patrol coverage and formulation of selective enforcement policies if such information is reasonably well localized or restricted to areas covered by police substations. This is true because accident experience of this nature, embracing as it does some semblances of regularity, traffic control and regulations may be planned in advance by the police to meet such conditions. On the other hand, to combat effectively changing conditions of a hazardous nature, detailed information immediately available is absolutely necessary as a prerequisite to applying the proper remedy in time to prevent the development of a condition, which has already resulted in one or two fatalities, from becoming a major disaster.

The need for a rapid and more complete reporting of accidents has been met and solved by some police forces, through the medium of a system of reporting within the police force. This embraces a semi-weekly or weekly check-up on key sources of information to obtain essential accident information for immediate transmittal to a central collecting agency. Here the accidents are analyzed by a staff of experienced officers.

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who, in addition to being qualified to fully utilize information furnished, have access to all available information on existing conditions. They are, therefore, in a position to pass on the relative importance of data received.

The success of this system rests with the ability of the police force to obtain all of the information available on accidents by frequent contact with every possible source of information, such as police forces, sheriffs, coroners, agencies for gathering vital statistics, states' attorneys and newspapers.

This form of procedure, even if confined to a study of accident fatalities only, places the state in a position to report on accident fatalities quickly and accurately. We know this has not always been true in the past. It also provides a means for prevention of accidents by: Better police coverage of danger spots, which cannot be anticipated by a study of accident trends, but which can now be met because of the speed and completeness with which accident information is furnished, and increased educational value of publicity on accident facts.

## Practical Pedestrian Enforcement in Cities

By INSPECTOR B. R. CALDWELL

Administrative Division, Los Angeles Police Department, Los Angeles, Cal.

Discussion of this subject seems to fall into two parts: What we *have* in the way of pedestrian enforcement, and what we *should have*, as determined in part from a recent survey made of our "walking dead."

We have, in Los Angeles, a paradoxical situation. It is alleged on the one hand that we enjoy a reputation for pedestrian traffic law observance. Yet, an outlandish and inexcusable number of walkers are killed each year—with little abatement in sight. A brief history of two main factors in this observance may explain the paradox. One factor is the pedestrian obedience of regulatory devices. The other is the observance by motorists of the pedestrians' midblock cross-walk privileges, in our central traffic district.

As long ago as 1921, an ordinance became effective requiring traffic signal observance by the pedestrian. Los Angeles did not make the mistake of attempting immediate application of such a provision without some preparation. A thorough painstaking publicity campaign was conducted. A strong appeal was made to public sportsmanship, together with reference to possible ridicule. Every human factor was given consideration. Then, when the effective date for the legislation came, the publicity was intensified. Offenders found their pictures in the morning papers depicting them in some ungraceful or dangerous situation; some classic examples of idiotic facial expressions, ridiculous, absurd and undignified postures, and stupid walking habits were

printed. Amusing cartoons were published of the unsafe practices and the personalities involved. Thus the public was shamed, cajoled and jollied into reception of a restriction which might very easily have caused rebellion. There was almost immediate and universal compliance with the new regulation.

### A Bad Experience

A neighboring city recently attempted to enforce a jaywalking ordinance which had been in existence since 1926. No warning was given and no preparation was made. The unfortunate officials of that city soon had a "sit-down" strike on their hands! Pedestrians sat in the middle of the streets and defied motorists and officers to do anything about it! Those cited gave fictitious names and addresses, and police efforts came to naught.

In Los Angeles, however, after the first success, the full effect of the new measures was guaranteed by constant vigilance coupled with enforcement. Intersection officers are frequently reminded of this phase of traffic control. Now, when a pedestrian proceeds across an intersection against the signal, he meets with a shriek from a police whistle; a warning signal from the officer; scowls and horn blasts from the motorists and surprised stares from other pedestrians.

One result has been that during 1939, it was found necessary to arrest but 73 persons for such violations. Those arrests were for the most part by citations. It is sincerely believed that enforcement of this kind is

doomed to instant failure in the absence of carefully laid plans for developing a favorable public opinion or sentiment or consensus. The public must be led gradually to accept the enforcement and the reasons for that enforcement must be made readily apparent.

The second factor in pedestrian control in Los Angeles exists principally in the central traffic district. The blocks of the north and south streets running through this district measure about 660 feet long. It was deemed unreasonable to expect the walker to proceed to the intersection from midblock, whenever he wished to cross the street. Recognizing a human factor, mid-block crosswalks were established and publicity was directed chiefly to the motorist respecting his duties at such locations. The walkers were not ignored, however. An appeal was made to them not to arbitrarily monopolize this new convenience at the expense of the drivers. It is at present refreshing to observe motorists almost un-failingly stop to permit those on foot to cross. So it is that during the time when police officers were guarding the downtown intersections, we find that the death rate was negligible. But let us look briefly at the other side of our paradox.

During 1939, about three out of five (58.6 per cent) of our traffic fatalities were pedestrians, following a national trend. Of those 286 walkers, we found that almost a third were killed within a two and one-half mile radius of Seventh and Broadway, the accepted center of the principal traffic district. This area comprised less than 20 square miles, about 4 per cent of the total area of Los Angeles! Yet, this same area in this imaginary two and one-half mile circle embraces the greatest concentration of signal control devices and foot traffic officers in the whole community. Most of the deaths occurred, however, after dark when the officers were no longer on duty and many of the signal systems had been shut down.

To go on with some of the devices employed to reduce pedestrian hazards. One hundred and ten pedestrian tunnels have been constructed in the past few years, yet on one street with a particularly bad auto-pedestrian experience, it was found that the tunnel was not used. The location was at the crest of a curved, paved double hill near a grade school. The youngsters were surviving because they used the tunnel. The

adult victims did not. Almost 100 per cent of those killed were feeble, and dressed in the darkest clothing.

In another area having a bad experience, we found many of those struck were drunk and had emanated from bars in the vicinity. Action, taken under the alcohol beverage control act against the bartenders as well as against the drunken pedestrian, was found unusually effective.

Another excellent plan consisted of mailing a safety card to all those receiving aged aid assistance. Sixty-five thousand such appeals were mailed, all to persons 65 years of age and over.

A weekly radio program is conducted in the manner of an open forum whereby listener participation is encouraged. A considerable portion is utilized in discussing the pedestrian problem.

A new appreciation of traffic in relation to police work is taught to our "In-Service" training classes in which two per cent of the sworn personnel attends weekly. Results here have been more than satisfactory.

Where there is no carry-over or officer guidance, or where there is a prevalence of signal disobedience, an old but effective device is used. A roving four-man squad of foot officers patrols key intersections issuing citations and warnings and discouraging unsafe habits of both the pedestrian and the driver.

Some years ago, and up to last year, a mobile sound car patrolled those areas with poor pedestrian observance, calling attention of all within hearing to some violator.

Weekly releases of safety suggestions, tips, and relevant traffic statistics are made to some 300 newspapers and radio editors throughout the county.

#### "What We Should Have"

Now as to what we *should* have in the way of pedestrian enforcement. At the outset, I suspect we must all confess that we have been "shooting in the dark" in this matter. We tell each other it is serious, wag our heads ominously and proceed to "pass the buck." It strikes me that we need to know a great deal more about our pedestrian and his habits than we now know. We have already amassed a great fund of information about the driver, but little has been discovered about the man on foot. A

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beginning in this direction has been made in Los Angeles.

National records indicate that the first few steps taken by the pedestrian into the street are the most dangerous, yet our recent survey indicates that he had reached an average of better than 23 feet from the curb before being struck down. This occurred on a street with an average width of 56.5 feet. This makes us wonder about self-serving reports by drivers to the effect that the victim loomed up in front of them suddenly from behind a parked car! We found further that we had a composite pedestrian about 52 years of age crossing or walking after dark on a composite street paved with asphaltic cement or asphalt in 87 per cent of the cases; the kind of pavement which has a very low light reflection factor; lighting was uniformly poor after dark. He was, in 96 per cent of the cases, wearing dark or medium dark clothing. In a large proportion of the cases, he was killed in his own neighborhood, where he should have been familiar with all the potential hazards. In nearly three out of five cases, he was struck at an intersection, and in a business district. In but 8.7 per cent of the cases did he have a driver's license. In 97 per cent of the cases the weather was clear. In 74 per cent of the cases he was struck after dark.

With these and many other suspected factors in mind what might we conclude as to enforcement possibilities in the future?

The average Los Angeles shopper comes into the central traffic district and obeys signals and motorists yield the right of way to him when he wishes to cross in mid-block. The same shopper returns to his own neighborhood and proceeds across an intersection with the assurance that his right of way will be yielded by the motorists. They did so when he was downtown—why not here?

There is a carry-over of this understanding and action into the outlying areas. The driver, when approaching an intersection seems to expect to be allowed a free passage. Having seen pedestrians use crosswalks in other areas, he does not expect to find a walker suddenly in front of him in the middle of the block. A recent check of average speeds in the above-mentioned two and one-half mile area shows that there is a variation of from 13.5 miles per hour to about 22 miles per hour. This would seem

to indicate that it is not speed alone which is killing our pedestrians. Furthermore, it would not seem altogether feasible to use numerous officers for speed enforcement in this area where speed was not so great a factor.

Examination of the reports shows that violation of the pedestrian right of way is most often the principal factor. This jibes very closely with the study of the points of impact which showed that the pedestrian was, in three out of five cases, in or near the center of the street. With this thought in mind, a check was made of citation experience. It was found, as is so often the case, that most of the enforcement was for driving through stop signs, running stop signals, and speed. Running through a boulevard stop, for example, was responsible for a very small percentage of collisions in 1939. Compared with the number of convictions for such a violation we found a ridiculous enforcement index.

#### Driver Responsibility

I recommend that more attention be given the matter of yielding the right of way to pedestrians. We found that our officers write an average of 40 citations per week for such violations, whereas a decent index would indicate the necessity for at least 200 or 300 per week. I contend that simply to raise the over-all enforcement index without regard for the fatal violation is evading the issue and our responsibility. After all, we must admit that the pedestrian does lack that essential judgment of approach speeds; he very often has not had much or any driving experience; he is not familiar with driver problems and limitations; he does not compensate for his own limitations. Therefore, it is up to us to afford him some measure of safety by more stringently controlling the drivers at those fatal points indicated.

Next, high collision frequency after dark shows the need for more men at that time. Many traffic officers at present assigned during the day to intersections and to the enforcement of parking regulations could be reassigned to four-man roving patrols to attend to the hazardous left-turn movements, failure to give hand signals, and right of way violations.

A third recommendation would be more extensive use of mobile sound units to aid

the above-mentioned foot patrols at strategic points.

A fourth recommendation would be to utilize more fully the possibilities of regular radio car patrols. They could be assigned to patrol, in full view, those streets carrying heavy traffic during peak hours.

A fifth recommendation would be to publish and distribute a well designed pamphlet to every resident in each geographical area, calling attention to pedestrian hazards and driver responsibilities. These could be distributed by the radio car officers between calls over a period of weeks, or by service groups from high schools located in the above areas.

A sixth device would be a rather long-view program involving adequate street lighting. This of course is not a police problem, but by directing significant information into the proper channels, departments can do much toward ameliorating our highway "blackouts." Much money is spent to make roads smooth and to remove many hazards due to curves, but a mere pittance is expended to enable highway users to see a clear way ahead. Much of the former objection to expensive lighting installations has come because the major part of the costs would accrue to property fronting the highways so affected. Studies show, however, that car-mileage on these fatal streets is extremely high, and that the users are not necessarily indigenous to the district. Where such installations have been made in Los Angeles, there was a drop in collisions of 78 per cent, and a 92 per cent drop in fatalities.

A seventh recommendation relates to

fingerprinting and licensing of pedestrians as a device to make them more aware of their responsibilities, and to make enforcement more effective. Harking back to the unfortunate experience of the neighboring city in their pedestrian program, such a plan would preclude giving fictitious names, and would serve many other enforcement purposes.

The eighth recommendation is to encourage more detailed analysis of our pedestrian experience. We should know more about where the pedestrian came from. What kind of traffic regulation training did he have prior to being struck? Did he come from a small town or large metropolitan city? It might even be significant to discover his work and play habits; his physical agility; his mental condition; his occupation; his economic status and other factors tending to preoccupation and inattention.

In conclusion I should like to present the matter of popular misconceptions and propaganda disseminated by well-meaning but perhaps ill-advised authorities. We have found many persons who believe that vehicles can "stop on a dime," that certain tires are more effective than others, that certain brakes are superior, and other glowing references to miraculous performances. Abiding faith of the pedestrian in these alleged abilities is, we can't help but believe, a factor in their sometimes fatal false sense of security. Certainly it is no satisfaction to the victim to have proven someone a fantastic liar. Police authorities can assist in debunking many such popular misconceptions in the public mind.

## Information Wanted

The concluding feature of the city and state police group sessions was conducted by Professor J. L. Lingo, Director of Public Safety Institute, Purdue University.

The program consisted of two-minute answers to practical enforcement questions by a board of officials comprised of the following:

H. W. Johnson, Superintendent of the Traffic and Safety Division, Kansas City Police Department.

Lieut. Franklin M. Kreml, Director of

the Safety Division of the International Association of Chiefs of Police.

Inspector B. R. Caldwell, Administration Division, Police Department, Los Angeles, California.

Daniel G. Reynolds, Director of Public Safety, Miami, Florida.

Lieut. Kreml was asked "Should all accidents, even the most minor when there is no damage, no injury, and apparently no serious violation be reported? This question asked with regard to time lost by officer of

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accident bureau recording such accidents when no apparent useful information can be obtained from such reports."

Lieut. Kreml answered "Ideally, all accidents where there is damage or injury, regardless of the degree of severity, should be reported. As a practical matter, realization of this idea is of course impossible but effort should be made to secure the most thorough reporting and investigation of accidents. Certainly many minor accidents which would thus be reported would not aid much in revealing need for various types of accident prevention work, but it is unsound to draw the reporting line at any minimum severity level. Severity is not the basic criterion of the importance or significance of the accident and drawing such a line tends to discourage the reporting of many accidents even above the minimum level. It is thus good insurance in the interest of thorough accident reporting to take any minor reports, even though they may have little value or significance, so that the greatest possible volume of accidents will be reported."

Director Reynolds was asked "Should not the arrest and conviction of a drunken pedestrian, when he is obviously jeopardizing himself, be considered a traffic arrest and conviction and be included when calculating the enforcement index?"

Director Reynolds answered "Of course in calculating the enforcement index, it is standard practice to count moving violations only but it would be possible for a drunken pedestrian to be a hazard without moving; that is, he could be lying down in the street."

Inspector Caldwell was asked the question "What are your suggestions for a radio safety program? Do you think three minutes or fifteen minutes is more effective?"

Inspector Caldwell reminded the group that safety programs on the radio are in competition with other types of programs. He advised: "Try to use device on air which will stimulate listeners to some kind of action, such as writing, telephoning, or telegraphing; try to obtain time on large station at a favorable hour; avoid inane platitudes; make script spontaneous, natural, reasonable and avoid abstractions; supply known measurements, actions and operations; avoid time conflict with popular comic program; avoid

dramatic programs unless fully equipped for production in competition with best on the air; use interviews sparingly; inject human element by using names of people writing for information, safety material, or reporting some condition."

Inspector Caldwell listed the following programs which are used by the Los Angeles Police Department:

1. "Traffic School of the Air"—educational; questions and answers on traffic law; discussion of road rules, etc.

2. "Step On the Gas!"—interviews with racing drivers; their lives and ideas on traffic law and safe-driving practices.

3. "Traffic Interviews"—talks with well-known radio, movie and civic personalities.

4. "Traffic Mix-Up of the Mis Family"—the average American family in traffic; strong human interest; dramatic.

5. "What's the Answer?"—Another quiz program, using traffic questions for material and commercial organization drivers as competitors.

6. "Voice of Safety"—listener queries read and answered; short dramatizations of local traffic incidents.

7. "Spot Announcements"—One minute announcements sent to stations just before some outstanding date, holiday, or public event. (Christmas, Armistice Day, Labor Day, etc.)

8. "Traffic Tribunal"—Listeners' questions, complaints, suggestions and requests read and answered over air. Serves as clearing house for "pet-peeves," hazardous locations and conditions. Latter referred to proper agency for action. Copies of local laws on traffic offered free to anyone taking trouble to write.

Inspector Caldwell added: "The objectives of police agencies engaged in radio activity seems to be two-fold. One, to increase the amount of attention devoted by average listeners to traffic problems; and two, to 'sell' police service. In general, any device which will serve to achieve those objectives should be valuable where facilities exist for such activity. Listeners may not remember specific items discussed on such radio programs but they do tend to retain a favorable impression toward a progressive, continuous program of traffic safety."

"Since the same amount of care and research must be given the program which emanates from a small station as that from a large one, every effort should be made to establish a contact with major key network outlets. This same principle applies with respect to the time of day and the day of the week. These factors, of course, vary in different localities. Daytime programs might better be directed toward the women of the community; while evening broadcasts might be more general in appeal.

"Audience participation is perhaps the most valuable device. If your program stimulates listeners to ask questions by mail; to send requests for pamphlets, posters, copies of laws, etc., you have been able to overcome a natural inertia among listeners. If audiences go so far as to make written responses, that very activity on their part encourages still further cooperation."

In commenting on the length of program that he would recommend, Inspector Caldwell said: "Our opinion is that the 15 minute program would be more effective in the long run. We have a feeling that the average listener will receive more retainable information in that length of time; longer explanations of traffic problems can be outlined; a greater appeal to reason made on basis of scientific measurements and operations.

"The shorter or 'spot' announcement type of program demands expert writing. They must have an emotional 'punch' often impossible from a practical standpoint at least as far as police personnel is concerned. The effect is more fleeting and unless repeated day after day, a given concept might fall short of its objective. Further, control is not always possible; that is, when 'spots' are submitted to stations, there is no guarantee as to when they will be used. On the other hand, if a large key station would 'plug' your announcement day after day immediately following a very popular news broadcast or 'strip' program, the shorter type of program would conceivably be much more effective than the longer informational type. Another factor is that 'spot' announcement time has a high commercial value and most stations have all available time sold out, at least at favorable times of day or night.

"All in all, then, considering opportunity

and demand and considering available police time devotable to such long-view educational work, we must conclude that the longer type of program is more effective."

Lieut. Kreml was handed the question: "Should every violator of any regulation be summoned or arrested?" He answered: "In theory, every violator of any traffic regulation should be summoned or arrested. In practical enforcement, however, policies modifying this theory to some extent are both necessary and desirable. In the first place, the principle of selective enforcement, generally recognized as highly desirable, arbitrarily requires a certain degree of concentration on leading violations at the times and places of their most frequent commission in connection with traffic accidents to the partial exclusion of other less serious aspects of the violation problem. Secondly, some degree of tolerance above the letter of the law is frequently desirable in the interest of making enforcement adequately reasonable and permitting officers to be certain of the commission of the violation. Thirdly, it is also a sound policy where enforcement has not in the past been very strict to gradually tighten up control, rather than to suddenly switch to a policy of adhering to the letter of the law. Finally, experience has shown that many borderline and minor offenses can be effectively dealt with through the use of warnings. For these reasons, it may be better, as a practical matter, and the purposes of enforcement are often served adequately by policies which depart somewhat from the theoretical principle of letter-of-the-law enforcement."

Director Reynolds received the question: "Do you advocate re-examination of drivers at periods, say every three years? Why? If so, what period do you suggest?"

He answered "Yes, mainly to have some control for the aged drivers. We all realize that drivers in the upper age groups can lose their hearing or eyesight in a short time. In order to obtain a start on this re-examination of drivers it is suggested that they be re-examined every three years. Another suggestion and one that we are trying out in Miami is that a driver after he reaches a certain age must be examined every year when he applies for renewal of license. If this applied against all the age groups, a majority of our citizens might think this too harsh so we are trying it only against the older drivers."

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Lieut. Kreml was asked if he felt that the same basic enforcement methods are equally effective in both city and state police work. He said, "Generally speaking, the same basic enforcement methods are equally effective in both city and state police work, although some variation in detail and execution of enforcement activities is often necessary. For example, the same degree of specialization of traffic law enforcement patrol work is not possible in a state police department where every man must do practically every type of police work. In city departments, a special group of traffic patrol officers can be created. This requires some variation in selective enforcement planning and execution. However, with respect to such general matters as enforcement policies, tactics of patrol apprehension and securing of evidence, the general principle of selective enforcement, etc., the same enforcement methods will apply. It is a matter of slight variation as between cities and states, with the same general principles and objectives in mind."

Inspector Caldwell was asked a very controversial question, "To what extent should police traffic cars be marked? What about white cars?"

Inspector Caldwell: "Police traffic cars, if used for the primary purpose of traffic law enforcement, should be marked in a full distinctive manner. The word 'distinctive' should not be confused with the word 'conspicuous' although a conspicuously marked car for traffic enforcement would not be objectionable."

"It is desirable, at times, to have inconspicuous or non-distinctive marked automobiles employed in traffic patrol for definite and specific purposes, not entirely related to traffic enforcement regulations. Where the purpose of the latter is primary, any means used to call attention to the use of the automobile is advisable. In some states, both officers and their motor equipment used primarily for traffic law enforcement are required by law to be distinctive in appearance, and here there is no choice. In many places where enforcement appeared to be unusually lax, it was discovered that uniformed patrol officers, in plain, unadorned automobiles, were permitting all manner of violations in their actual presence. Later, when patrol officers were patrolling in distinctively colored cars, this form of neglect

was so apparent that official action could not be neglected.

"It was also learned that former habits of snatching a few minutes of sleep on a quiet side street or visiting for an unusual length of time in questionable places, could not be done without exposure. This, alone was a decided improvement in Los Angeles and is felt to be justified; sufficiently so as to encourage making nearly all patrol cars distinctive."

"The chief value of distinctive colored cars is largely psychological and Part 2 of this question can be answered in this respect. The full psychological value is achieved only when the impression is created that a far greater number of machines are on patrol than are actually available. White cars are considered excellent in this respect. In one city where less than thirty well marked automobiles were being utilized for traffic patrol, an inquiry was directed to several organizations by a member of an official City Board, regarding their estimate of the number of distinctive colored automobiles on patrol, and the answers ranged from 75 to 500."

"Action may be taken by officers in well marked automobiles and all passing drivers are conscious of the event. Where the same action is taken by officers in an inconspicuous car, it will probably escape notice. Concentration of the distinctive type of vehicles for test purposes on certain streets has resulted in extreme favor of the well marked vehicle. In cities with a tremendous area, it is believed the need for distinctive colored automobiles is even greater than in those cities with a concentrated area."

"In some places a reduction in the crime rate has followed marking autos quickly recognizable as a police vehicle. One reason being the ready volunteering of essential information by the public."

Lieut. Kreml: "I don't believe any arbitrary answer can be given on the question of the desirable degree of conspicuousness in traffic police cars. The idea of very conspicuous cars is supported by the principle that the presence of police has in itself a deterrent effect on violators, and that the more conspicuous the car is, the more readily drivers will recognize its presence. However, this deterrent effect is necessarily proportional in effectiveness to the number of patrol units and the consequent frequency

with which drivers are under supervision. If, as is generally true today, there are in an area so few patrol cars that the average motorist is rarely under direct police supervision, there is serious question as to the value of the deterrent created by the presence of the police.

Lieut. Kreml added: "Certainly it would be desirable to have enough patrol units to prevent violations without the necessity of a large volume of arrests, but since this is not generally possible today, we must, as a practical matter, recognize that some more effective deterrent than the mere presence of the officer must be created and this is possible only with a less conspicuous car than one which is all white or otherwise similarly made conspicuous to an extreme degree. At the same time, it is desirable that police cars be so marked as to be recognizable at close range, so that there may be no question as to the identity of officers when stopping a car.

"Persons seeing a police car at close range

should be able to recognize it and thus be impressed with the fact that there is patrol supervision. Therefore, I believe it desirable that a compromise be followed in marking police cars by marking them so that they are neither extremely conspicuous nor extremely inconspicuous. This is usually best accomplished by lettering or other devices on the sides of the car."

Lieut. Kreml was asked, if in his opinion, Chicago's use of neon signs on cars was practical. He answered: "I believe the foregoing comments provide an adequate answer. A car thus marked may be regarded in the class of quite conspicuous police vehicles and the practice is justified only if sufficient number of cars are available to keep traffic under almost constant supervision."

Inspector Caldwell was asked for his opinion and he said "I believe Chicago's use of neon signs is entirely practical, if meant to describe the car as an official police vehicle."

## THURSDAY MORNING SESSION

October 10, 1940

### Group Session of Traffic Court Judges and Prosecutors

Presiding: JUDGE JOHN GUTKNECHT, Municipal Court, Chicago.

### Relation of the Pedestrian and the Driver

By JUDGE BEN S. DAVISON

Corporation Court, Houston, Texas

There must be a complete understanding and spirit of cooperation between the pedestrian and the driver, if there is to be a reduction in the heavy toll taken each year in auto-pedestrian accidents.

Why do people jaywalk? Because they think they can save 30 seconds, and because they think they are smart enough to take care of themselves. Other people may get hurt crossing between intersections, but not they!

There's your answer to why pedestrians are killed and injured being out in a traffic stream where they have no right to be, and

where they know they have no right to be. It is not as though all these people were ignorant natives from the wilds of an African jungle who had never seen an automobile before. If they were, there might be some excuse for them. The majority of them are city-dwellers, and all of them, whether from town or country, know the habits and rules and behavior of motor cars.

I hold no brief for either motorist or pedestrian. Where either is wrong, I shall there place the blame. We do have accidents, entirely too many of them, between cars and pedestrians in which drivers are to

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blame. But isn't it a fact that we have a tendency, through mass thinking, to blame all the automobiles for all such mishaps? A million readers of a million newspapers shiver with horror as they read a news item of another pedestrian being killed on a city street, and practically every one of them automatically pictures the driver of the car as a Mephistopheles with a pair of horns and a forked tail driving his Chariot of Disaster.

As a judge, I know better. In the first place, virtually no motorist wilfully runs down a pedestrian. In the second place, the average driver observes the rules of the road. Somewhere there are usually contributing factors on the pedestrian's part which throw a portion of his own actions into the making of an accident.

### Some Heedless Walkers

For instance, in spite of repeated warning, cautions, admonitions, urges and beseechments by the authorities, by the press, by the radio to cross crossings safely—and to remain on the sidewalk until the green light flashes, there are still hundreds of thousands of our highly intelligent citizens who teeter-totter on the edges of the curb or stand boldly on the street surface itself practically daring a motorist making a right or left hand turn to touch them!

Here is distinctly a defiance of both safety and the law. It is decidedly immoral to taunt another person into creating an accident, or through obstructive opposition, cause a perfectly law-abiding motorist to swerve or stop suddenly, endangering his own safety and that of drivers behind him. Yet pedestrians do these things, and then wonder how on earth they wind up in the hospital.

### No White-wash Brush

I don't want to preach one-sidedly against the pedestrian, and bearing aloft a white-wash brush for the motorist. But when out of 108 pedestrians who broke the law and crossed between intersections in 1939, nine were killed and 99 were injured, surely there are two sides to this question of auto-pedestrian fatalities.

The individual hears of this case and learns of that, he reads about this one, and

that one, but he does not sit all day long hearing the evidence and the facts, as do we judges. So I feel I am privileged to picture from them to you as I get them—cases after cases and incident after incident.

But it doesn't do any good to tell the whole world about these facts and figures unless we do something about it. What can we do? We often think we have reached the limit in our campaign of education, and then we look at the record and find 32,000 automobile deaths a year staring us in the face.

### Child Records Excellent

Occasionally I believe we stress too much the duty of the automobilist and not enough, the duty of the pedestrian. We are beginning to do pretty nicely in our school system, and I am rather proud to say modestly in Houston we have gone a long way towards cutting down accidents to school children. But how are we going to reach the grown ups?

These people must be taught somehow. Who is going to do it, and how? Frankly, I do not believe that we have yet found the technique which fits, we have not driven the facts home hard enough and firmly enough to catch the popular attention.

### Increase the Tempo

Am I treading on dangerous ground if I suggest that the press, the radio and public speakers become a little more violent with these statistics? Not for a day, not for a week, but year after year.

There are, of course, coincidental activities which must go on. The timing of traffic lights is important. Certainly all streets in a big city don't carry the same loads—certainly at easily located spots there is need for shorter and longer waits between light-changes. But these we must put in the hands of competent traffic engineers who know their business. There are hundreds of things which ought to be done, and are being done to make the city streets safe for pedestrians. And still, my arguments show, I think, we must go farther than this—we simply must teach the adult pedestrian as well as the child in the schoolroom, and the motorist.

## Are Traffic Court Cases Different?

By JUDGE LeROY DAWSON

Municipal Court, Los Angeles, Calif.

(Editorial Note: The following is a brief summary.)

Theoretically, traffic court cases are not different, but practically they are very different. They are different because you can't treat the average violator of traffic laws as a criminal. The average violator believes that his past good record should be taken into account, and that he should therefore be treated leniently. Of course, even though this may be the first recorded violation for a defendant, the judge can be reasonably sure that there have been many violations previously for which no arrests were made.

Described at length the fight against ticket fixing in Los Angeles. It was won in relatively brief time with a firm and unwavering policy.

The worst trouble for traffic judges comes from the better elements in the community. The typical attitude in court is "why do you take the word of a common ordinary policeman against that of an honest citizen (or businessman, etc.)?" It is at times difficult

to choose between the word of the policeman and the defendant, and it is true that the judge must check up on the policemen or they will go hog-wild. Nevertheless, the most adamant citizens are apt to be the most in error concerning the layout of streets at the scene of the arrest and other facts pertinent to the alleged violation.

Drivers should be zoned rather than highways. Some people's minds don't work faster than 15 miles per hour.

The judge must handle each case psychologically—must reach the individual and determine his attitude, and then apply the best cure for the faulty attitude. Each violation, whether or not it caused an accident, must be assumed as potentially lethal. The defendant before the court must be assumed as allergic to the safety education current in the community. Only the important cases should be brought to the court, and then enforcement should *really* apply. Slogan for traffic judges: "Take Your Time, Or I Will."

## The Meaning of Speed Laws

By JUDGE H. E. HARB

Municipal Court, Little Rock, Ark.

Under the "Uniform Act Regulating Traffic on Highways," the speed of vehicles is regulated upon a basis of sound discretion, considering the existing conditions which affect safety at the time and place.

The basis upon which the driver shall regulate his speed, and upon which the courts shall adjudge the legality of his speed, is what is known as the "basic-speed rule," stated in section 51 of the Uniform Act: "No person shall drive a vehicle on a highway at a speed greater than is reasonable and prudent under the conditions then existing."

That pronouncement of the Uniform Act is practically a restatement of the familiar rule of civil law as to due care. Upon first consideration, the rule might appear too uncertain in its terms to support a criminal

charge of speeding, on the theory that the driver could never know definitely whether he is complying with the speed law until a court or jury should pass upon the evidence. And in the earlier cases on that question, appellate courts of three of the states held that such a statute was too uncertain for a criminal statute. But the weight of authority early established that such a speed rule furnishes a valid basis for criminal charges of speeding, and it is interesting to remember that some of the states, where automobile traffic was the heaviest and where the legislatures and courts would be expected soonest to arrive at effective traffic regulation, upheld the view that similar statutes were proper bases for criminal prosecutions.

In Arkansas, the legislature has amended the Uniform Act by prescribing absolute

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maximum speeds beyond which it is unlawful to drive under any circumstances: 60 miles per hour for all motor vehicles, 55 for passenger busses and half-ton trucks, 45 for trucks carrying up to five tons and having brakes on all wheels, and so on. But these maximum lawful speeds are lawful only when, under the basic speed rule, they are "reasonable and prudent under the conditions then existing." And it may be mentioned that these maximum speed limitations appear to be reasonable for Arkansas in view of the varied topography of our state and the particular type of traffic on our highways. However, the Uniform Act itself contains no absolute maximum limitations upon speed except that under the basic rule they must be reasonable and prudent.

#### **Prima Facie Limits**

Then, as a more nearly definite guide for motorists, officers, and courts, the Uniform Act establishes what it calls "prima facie speed limits."

This does not change the familiar rules of criminal law in regard to presumption of innocence, reasonable doubt, and burden of proof. It does, however, make it necessary for the driver to produce evidence of the reasonableness and prudence of his speed when he has exceeded the prima facie limit.

These prima facie limits within municipalities may, however, be reduced by the municipalities, with the approval of the State Highway Commission, at such intersections on the highway as the municipalities may determine advisable, and the prima facie limits at such intersections are the speed limits which are posted on highway signs there. And municipalities may increase

such prima facie limits on highways such as through highways, but even there the municipalities may not increase such limits to more than 45 miles per hour.

The prima facie limits do not relieve the driver, of course, of the duty to retard his speed for intersections, curves, hill-tops, dangerous road conditions or pedestrians or vehicles using the highway, when circumstances require him so to retard.

Where bridges and other elevated structures are posted with signs stating the maximum speeds allowable, proof of excessive speeds on such structures is conclusive evidence of unlawful speeding.

"Authorized emergency vehicles," such as fire equipment, police cars, and ambulances, are exempted from application of the prima facie limit rule when they are sounding their sirens, bells, or exhaust whistles, but the drivers are not thereby relieved of the duty to drive with due care for the safety of other persons and property.

The Act also takes note of the fact that exceedingly low rates of speed may also be dangerous, and it prohibits driving "at such a slow speed as to impede or block the normal and reasonable movement of traffic" except where circumstances require such reduced speed.

The summons or a notice to appear which the officer serves upon a driver accused of violating the speed statute is directed to specify the speed at which the driver is charged to have driven and also the prima facie speed limits applicable to the locality.

The Uniform Act specifically provides that the prima facie speed limit shall not affect the burden of proving negligence in civil cases.

## **THURSDAY MORNING SESSION**

October 10, 1940

### **Group Session on Public Education and Traffic Engineering**

*Presiding:* ROY S. MARSHALL, Vice-President, Seattle Traffic and Safety Council, Seattle, Wash.

## Use of Statistics in Public Safety Education

By DONALD G. VAUGHAN

Engineer, Aetna Casualty and Surety Company, Hartford, Conn.

Statistical sources are divided into two general classifications: general accident statistics and data obtained from specific studies.

General accident statistics would include "Accident Facts" published by the National Safety Council, various state motor vehicle department reports, police department reports, data compiled by the Interstate Commerce Commission Bureau of Motor Carriers, vital statistics as compiled by various health departments and the United States Bureau of Census, "Automobile Facts and Figures" as published by the Automobile Manufacturers Association and similar reports.

General accident statistics are compiled for larger areas, entire states or the entire country. They are more general in their classifications and cannot be used to obtain needed physical improvements. In order to obtain the specific remedies we must go further. What then can we do with this mass of data as accumulated in such publications as "Accident Facts"? That is an answer I have been seeking for several years. I have seen the time and effort that goes into compiling this data the National Safety Council finally presents to us in this booklet. I have wondered whether the expenditure of time and effort is worth while. This has been and still is a questionable subject. For instance, in each community of 100,000 population or over, at least one person spends the greater part of his time accumulating this material. Last year there were 93 such cities that reported. This means that in these larger cities there are at least 93 people engaged the greater part of the year in preparing material. To this can be added all of the work carried on in the smaller communities and in the state departments or other sources of these accident figures.

It means a tremendous amount of work. How much of this is wasted because we cannot or do not do anything about it? For instance, if you should look at Page 91 of the 1940 "Accident Facts" you will notice that it contains direction analysis. That is, the number of drivers going right, left, straight through, etc. It is interesting in-

formation but we do nothing about it. Look at the next pages. Pedestrian Action. What do we do about this? Practically nothing. The next Page 93 shows Highway Characteristics. They are interesting but nothing that we can correct without obtaining further specific information about the particular highways involved. Still this matter is all accumulated for us at a tremendous expense.

You may ask, "Should we do away with this?" I would emphatically say "No." We must know what is happening, how we are doing and where we are going. That is what this record gives us and it also allows us to compare the record with that of previous years. It also lets us know what our record is compared with that of similar communities.

This material could be changed so as to make it more useful; secondly and most important, more use could be made of the information after it is obtained.

Let us take up the first point. Could some of these classifications be changed so that they would be more useful? I believe they can. It would not be much of a loss if some of them were eliminated. Changes have been made in the past few years but this form will have to be continually changed to keep up with our changing traffic conditions and our changing needs for various forms of accident data. Every committee that contemplates such changes has to balance the value gained by such rearrangement against the loss of not being able to make comparisons with previous years. It is very easy, however, for such committees to add details that apparently are desirable and to fail to consider the burden of detail that is being built up for some one else to attempt to handle.

Another thing that we must remember is that there are many inaccuracies in this type of data. Most of the information is based on reports of operators. You know how a driver is always right. His accident report construes the facts so that he is right according to the report. This all goes into the accumulative data. Much misinformation balances out, but in some of these cases the

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information obtained in the classification is not accurate.

More and more must we consider the tremendous amount of time and effort that goes into these accident facts. More and more must we endeavor to simplify the gathering of these so as to eliminate insofar as possible inaccuracies and classifications that are used very little. This will then release the people who are working on them so that they can put more time on the specific studies which are more immediately productive of beneficial results.

I was once actively interested in the compiling of this material and did some of the analyzing personally. I felt that the effort expended far exceeded the returns. Since then a number of changes for the better have been made in the forms used for obtaining this information. I still, however, hear complaints that it is a lot of work with little in return. That is why I am convinced that further improvement can be accomplished in simplifying the form.

My second point was that more use could be made of the information after it is obtained. Everyone can go a lot further in the uses made of this material and this will eventually bring the returns everyone has been seeking.

Soon after sending the monthly summary to the National Safety Council, most cities give the newspapers a story on this summary. The data can be mimeographed in whole or in part and circulated to interested agencies such as police officials, school principals, local traffic authorities, parent-teachers associations, etc.

A week after the monthly summary has been published, a second story can be obtained by studying the results and comparing them with those of the previous month, the same month last year, or some similar period.

From this comparison one single item can be obtained such as an unusual increase in pedestrian accidents or a remarkable decrease in bicycle accidents. A story developed around such a comparison is of news value and will receive space in the local papers. This procedure will assure at least two newspaper stories each month.

Radio stations will make use of some of this information in their safety programs or spot announcements.

If there is a speakers' bureau and it is active in furnishing speakers for club or association meetings, these compilations should be furnished the speakers.

Statistics or accident tables in themselves are very uninteresting and are not read or assimilated by the general public. These records, therefore, should be given the publicity man's touch. They should be given eye appeal, if that is the correct term.

Local organizations interested in safety should give considerable thought to the interesting presentation of statistics. How else can you let the general public know your problems?

It is very easy to accumulate interesting and usable material in the information obtained from specific studies. This would include traffic counts, driver and pedestrian obedience studies, collision and condition diagrams, etc. Usually the remedy for a bad situation is found as a result of such studies.

I believe this material if properly used is of extreme importance in finding the most serious accident locations and in applying the most sensible remedies. It is also of use in showing logical reasons for turning down certain requests that are not of enough importance in comparison to the whole to warrant immediate correction.

Recently state highway departments have used vehicle volume counts in allotting expenditures for new road building programs. They have been able to combat political or financial influence by showing the public the logic of making improvements on the highways having the higher vehicle volume and the higher accident frequency.

I have endeavored to gather a few ways of presenting this material that might be of interest to you. On the other hand, you may know of other material that you consider better than that which I show you. You may, however, see some way of presenting data that has not already occurred to you. I believe we should all be seeking new ways of presenting this same old material. Only through such new methods of presentation are we going to reach our drivers and pedestrians.

In starting a revised safety committee and in cooperation with the National Conservation Bureau, we developed a series of charts for a loose-leaf booklet. Here we accomplished a two-fold purpose. First we acquainted the new members with the up-

to-date accident situation and refreshed the memories of our older members. Secondly, we provided these people with excellent material for use in talks when they were called on to give such at our various clubs, etc. Many of our committee members were city officials and these charts presented the accident story to them. Each member was provided with such a book. It being in loose-leaf form, the committee member could keep all his committee material in the book and we at headquarters could furnish him with additional charts if they were needed. We had fourteen pages of charts and tables as follows:

1. Economic loss and prevention expenditures.
2. Pedestrian and motorist fatalities.
3. Pedestrian-residence spot map.
4. Hour of day study of pedestrian accidents.
5. Pedestrian night accidents spot map.
6. Summary of pedestrian fatalities.
7. Chart of fatalities and personal injuries.
8. Driver residence spot map.
9. Chart of personal injuries.
10. List of worst intersections.
11. Spot map of worst intersections.
12. Spot map of worst intersections the previous year.
13. List of worst streets.
14. Five-year spot map of fatalities.

From time to time we furnished additional data such as sheets on "Getting Results" as published by the National Conservation Bureau, studies of certain intersections giving collision diagrams, report on

our measurement of the proposed traffic light installation and other similar material.

Another item we are trying is a one-page sheet each month to interest the officials, committee members, newspapers, etc. We are using this to give the meat of the accident data to date and also to prod officials into action.

Small booklets or leaflets are of extreme value, especially where they can be cheaply printed, and given a large circulation. We recently issued 30,000 of these. Other communities have issued similar leaflets. Accident data is taken from the summaries and made the basis or theme of such leaflets.

Larger charts can be maintained and used to illustrate accident trends or need for improvement in certain areas. Spot maps will show where education and enforcement should be concentrated.

Reports on special studies can be given special attention. Recently we made a study of court cases. We wanted something done about enforcement but needed a report to prove our case. For three months we studied the situation.

Posters both inside and outside should be developed from the accident data.

All possible use should be made of this material in education of the public and in selling public officials on the importance of needed improvements. Without these accident facts you cannot hope to present your case. On the other hand, the gathering of statistics should not become too cumbersome. Only those classifications which will be used later should be accumulated.

## How a State Department Can Help Local Communities

By JOHN L. TOWERS

Assistant Traffic Engineer, Illinois Division of Highways, Springfield, Ill.

There are several reasons why a department with statewide organization is in a particularly good position to render aid to local communities:

1. **Knowledge of Traffic Conditions.** Whether the department in question is a Highway Department or Motor Vehicle Administration Department, or other, the background of knowledge gained from such work is a vital aid in applying remedies in individual situations. This is augmented

when the department handles state traffic administration and accident reporting.

2. **Scope of Organization.** Statewide organization assures more uniform application of engineering and educational measures.

3. **Type of Personnel.** Because of experience and special training in traffic administration, which is not available in cities without a traffic engineer, technical service can be rendered to municipalities; also to

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counties. However, the type of service rendered to local communities should depend upon the personnel assigned to this activity, both as to size and qualifications.

These reasons indicate that there is not only an opportunity but a responsibility for effective help to local communities; a responsibility as great as for any other of the welfare services.

Some of the aid which can be given to political subdivisions may involve matters under the jurisdiction of the department. In such cases collaboration with local officials promotes interest and an insight into the solution of traffic problems. Much of the help which it is possible to give, however, involves matters entirely under the jurisdiction of local officials. Here the approach must be purely that of an interested and informed friend and every appearance of infringement of authority avoided. In Illinois we have endeavored to give help only to promote local interest in doing the work. Nothing should be undertaken which promotes dependence upon a state agency for performing a local service.

One very useful tool for the promotion of all traffic safety activities in municipalities has been the National Traffic Safety Contest. Enrollment in this by eligible cities gives state representatives an opportunity to promote and assist in the activities upon which this contest is judged. City officials more readily engage in such activities when they are objectively set up by an impartial agency such as the National Safety Council.

The results of enrolling 100 per cent of the eligible cities in Illinois in this Contest and then cooperating with the cities to promote their standing in the contest is evidenced by the awards made. Cities under 100,000 population, where the influence of state representatives is felt most, secured nine out of the 42 places awarded to cities in this population group in the last five years. If awards were apportioned according to population, we would have had probably two or three.

#### Education

1. **Promotion of local safety councils.** In cities where interest in traffic safety has been aroused and previous work done by department representatives so that acquaintance with, and confidence of the local people has been gained, local safety councils can be promoted with success. A properly organized safety council consisting of quali-

fied men is decidedly the best agency for education of the local public. After its formation continued assistance should be given. Connecticut varies this procedure by having the Highway Department budget a portion of its funds to finance a State Safety Commission. The State Safety Commission then helps organize and service local safety committees or councils. I am informed several other state safety organizations function in a similar manner.

2. **Educational exhibits.** At state and county fairs, city safety shows and automobile shows, worthwhile exhibits can be displayed. This can be done without cooperation of local groups but is more effective when done with such cooperation.

3. **Maintenance of Police Safety Squad.** A small but efficient detail of men can, among other activities, handle requests by local groups for talks and picture shows.

4. **Driver Training Courses.** The promotion of driver education and training courses in the secondary schools is one of the most important activities which can be undertaken by a state organization. However, such a program should only be undertaken with a full knowledge of the work involved and the type of personnel needed. In Illinois we have been fortunate in having been able to start courses in over 600 of the 1,000 high schools. Our program has offered the following services to the schools:

- (a) Supply text material at cost of printing.
- (b) Arrange for special lectures.
- (c) Schedule Safety Squad Officers to show pictures, lecture, and assist with road demonstrations.
- (d) Supply test materials.
- (e) Borrow dual control cars from automobile dealers.
- (f) Supply certificates of award.
- (g) Conduct road tests in connection with state drivers' license examination.

5. **Teachers conferences and courses.** A need arising from the traffic safety courses has been the presentation to teachers from each community of the techniques of teaching the subject matter involved. Toward this end a series of one-day conferences have been held in various parts of the state for teachers and school administrators. Also, courses have been conducted at the five

State Teachers Colleges. This year, the Center for Safety Education of New York University conducted a two-week credit course at the University of Illinois.

**6. Traffic Safety Contest Reports.** Discussion of this subject probably falls more logically under educational activities than any other, since in the end the value of the report is educational. As mentioned previously, we feel that the National Traffic Safety Contest is a useful instrumentality for the promotion of all traffic safety activities, since the annual contest report furnishes a thorough inventory of such activities and shows up the weak spots in the safety program.

Each year our engineers assist the cities in making out these reports. When the analyses of the reports are prepared by the National Safety Council we review these with the local safety committee or city officials so that deficiencies in the safety program may be thoroughly understood.

#### Enforcement

**1. State Motor Vehicle Act.** A state motor vehicle act is of primary importance to the state as a whole, but a State Act Regulating Traffic on Highways based on Act V of the Uniform Vehicle Code is helpful to local communities in two respects. First, the Act requires the publication of a Manual of Uniform Traffic Control Devices which serves as a guide to communities in the installation of such devices. Incidentally, it assures statewide uniformity in the application of traffic control devices. Secondly, the Uniform Act can be made the basis for drafting a Model Municipal Traffic Ordinance for adoption by municipalities. Such an ordinance can be made much more specific in its recommendations than the more general Model. Department engineers have assisted a considerable number of Illinois cities in adopting an up to date traffic ordinance largely because they had available the ordinance we prepared for statewide adoption, which contains provisions of self-evident value even to those officials unfamiliar with traffic administration. This ordinance provides for the following: Compulsory accident reporting, traffic engineering and administration, traffic commission, bicycle registration, equipment and conduct and pedestrian control.

**2. Promotion of Traffic Police Training.** Police departments are gradually real-

izing that, to handle the many phases of traffic control work, more than casual observation and instruction in the subject are needed. For this reason, Department representatives have been able to stimulate interest among the police so officers representing 60 Illinois cities have attended the Northwestern University Traffic Safety Institute.

**3. Promotion and Assisting with Police Schools.** In addition to giving concentrated, specialized training to a few men in the traffic department, it is possible to bring to the entire police staff lectures on general phases of traffic control. Municipalities occasionally have "police schools" consisting of a week or two of lectures by authorities on various phases of crime detection and control.

**4. Traffic Administration Counsel.** Even after officers have had training, inertia in the police department may make it difficult for the men to develop the type of program about which they have learned. In numerous cases, the state representative finds it necessary to continue assistance in various matters after officers have had the training. These include installation of accident reporting systems, tabulation of accident records, study of accident prone locations, selective enforcement programs, collision and condition diagrams, parking studies, and so forth. Not only our engineers but our Safety Squad Officers render aid to local police. Our officers gain more confidence than engineers in questions relating to enforcement, and local police feel they are talking with men who understand their problems. All of the safety squad have completed special courses at Northwestern University Traffic Safety Institute, and are qualified to give counsel to city police departments. To put the police work on a satisfactory basis, it is recommended that the Chief of the force or some other administrative officer be trained first. Unless this is done, if our experience is any criterion, a great deal of promotional work is necessary to sell the administration on the need for conducting the program.

**5. Vehicle Inspection.** Since early in 1937, our Department has maintained a vehicle inspection lane for use throughout the state during the summer months. Although several purposes have been served by this equipment, its chief advantage has been the education of the public in the cities. The use of the lane has not been confined to

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communities with a good safety program, but wherever a safety program exists we have endeavored to tie up with it and give the local group an opportunity to introduce it as a feature of their program.

**6. Traffic Dispatching Service.** During the summer months, the State Police, through the facilities of one of the large broadcasting companies, have broadcast information about traffic conditions from hour to hour over busy week ends. These broadcasts tell the motorists the traffic conditions on the more important thoroughfares and urge the motorists to take less congested roads. This, of course, is a big help to local police departments.

### Engineering

**1. Traffic Engineering Studies.** As mentioned before, the Illinois Division of Highways assists authorities in making many engineering studies on streets entirely under local jurisdiction. These are made usually to give moral support to officers who have had some special training and are trying to carry out a local program. Studies made for cities on streets under local jurisdiction have included collision diagrams and condition diagrams at high accident locations and analyses for application of corrective measures; speed and volume checks; parking studies; complete analysis of city traffic light systems; street lighting studies; and so on. Most engineering studies are conducted on state routes, but where feasible, city officials are kept informed of the progress of studies, the technique used, and the conclusions arrived at because of the educational value this has along traffic engineering lines. Thus, to officials who have been accustomed to formulate remedial measures on the basis of casual observation and snap judgment, we are able to demonstrate the value of a scientific approach to traffic control and the need for making a correction only after thorough study has shown warrant for the change.

**2. Aid to Counties.** I am informed that New Jersey has made a detailed analysis of the accident experience for each of the 23 counties in the state. Each analysis contains about 100 mimeographed pages and also includes conclusions and recommendations.

When an analysis is completed, the officials of each community in the county are called together for a round table discussion of the report.

**3. Promotion of the Use of Traffic Engineers.** One of the outstanding weaknesses in many statewide programs has been the failure to arouse sufficient interest among city officials to adopt traffic engineering techniques in dealing with the traffic problem. It has seemed difficult for us to convince city administrations, and this includes a number of City Engineering Departments, that it is just as important to use proven engineering techniques in the operation of their streets as it is to design, construct, and maintain them on an engineering basis. Because of the missionary work done by State Traffic Engineers in the cities in extending help of various kinds, the need for specialized help in solving traffic difficulties is gradually being seen.

There are a number of agencies which furnish good counsel to municipalities which do not have a traffic engineer and do it without charge. Some of these are motor clubs, insurance organizations, the National Safety Council, National Conservation Bureau, and the Highway Department. But such help as these agencies can give must be periodic and cannot include the day to day contact with situations which is needed for proper and timely solution. In spite of all possible help from the outside, each city with any kind of traffic problem should have a traffic engineer or assign the duties of the office to the engineering department.

**4. Training for Traffic Engineers:** During the past summer we canvassed men engaged in traffic work, including city engineers, city traffic engineers, and county superintendents of highways to see what their attitude would be toward attending a four-day lecture and demonstration course at the State university. A surprising amount of interest was shown.

The subjects to be covered are: Intersection design and redesign; traffic surveys including volume, speed, parking, origin and destination, etc.; application of signs, signals, markings, and islands; timing traffic signals; and street lighting.

## THURSDAY AFTERNOON SESSION

October 10, 1940

Joint Session with Commercial Vehicle and  
Transit Sections

Presiding: E. E. GROVER, Director of Safety and Claims, The Columbus and Southern Ohio Electric Co., Columbus, O., and General Chairman, Transit Section, National Safety Council.

## Street Traffic Conditions and Mass Transportation Safety

By GEORGE BARTON

Traffic Engineer, Chicago Motor Club, Chicago, Ill.

I think I express accurately the average motorist's viewpoint in saying that he cordially dislikes the street car and bus. I believe this is a shortsighted policy because mass transportation and private motorists have much in common.

Mass transportation accidents fall into three general groupings; one, accidents peculiar to transit—such as derailments; two, accidents to passengers; three, typical traffic accidents. This latter group, constituting over half of transit's accident problem, has no characteristic peculiar to transit. They are just ordinary right angle or rear-end collisions, sideswipes, head-on collisions with turning vehicles, and so on. Some result from improper behavior by the motorist, some are evidence of error by the transit operator, while others may be attributable to the physical conditions on the street.

If 50 per cent of mass transportation accidents are just ordinary traffic accidents, then both transit and motorists can profit from activities which will eliminate street traffic hazards. This work also will favorably affect transit's other accidents, particularly of the passenger type. I learned a large percentage of passenger accidents occur with the sudden accelerations or decelerations necessary to avoid conflicts. Further, many of the passenger accidents injuries result from the sudden impact when the mass transportation vehicle itself actually comes in contact with other street-users. Therefore, it appears that mass transportation safety is directly related to street traffic conditions.

It is commonly accepted that accidents in street traffic are one evidence of street traffic

inefficiency and this holds true for buses and street cars.

May we agree then, in considering this question of mass transportation safety, not to confine our attention to safety matters alone, but to look a little deeper with traffic efficiency as our concern? In considering concrete cases, I believe I can most readily demonstrate how similar are the interests of mass transportation and street traffic.

It appears to me that there are four general classes of treatment which make for improved traffic flow for both mass transportation and private motor vehicles. In each classification there is work to be done both by the mass transportation authorities and street traffic authorities.

## Classes of Improvements

The first class of improvements are those that can be obtained most easily and with virtually no expenditure of money. Two obvious steps that immediately demand attention are enforcement and education to improve driver behavior. Well administered driver license laws work toward this same end. There also are many simple and practical engineering treatments. For example, double parking is one of the greatest obstacles to efficient transit operation, as well as to general street traffic operation. Would not both transit and motorists benefit if the engineers planned an equitable, enforceable parking time limit? On many crowded streets where a free lane for moving traffic is not available between the street car and the autos parked at the curb, it would be profitable to the general public to eliminate parking at least in the rush hours.

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When no parking zones are established to provide for bus stops, it is not the bus patron alone who profits. In cases within my experience the few parking spaces sacrificed by the motorist are a good investment in traffic fluidity. Instead of buses blocking moving lanes as they load and unload, the motorist has a chance to move. Another source of annoyance to all of us is the constrictions resulting when vehicles park opposite safety zones, causing motorists to be delayed, who, in turn, hold up street car movements. A better coordination of traffic signals obviously will permit free movement by both automobiles and mass transportation vehicles. If needlessly restrictive signs can be abolished, both will profit. Simple treatments like pavement markings are of decided aid to both. Stop-clearance lines speed street car loading and encourage pedestrian safety. The same is true with marked crosswalks. Street car clearance lines encourage timid drivers to pass when it is safe for them to do so.

This list of work for street traffic authorities includes the ordinary functions carried on today in virtually all our cities. Have we reached perfection in sign and signal work, street marking, parking control, and the like? Most assuredly not, and additional attention to these matters will jointly benefit transit and private street traffic.

While the public authorities are doing this work, there is something transit authorities can contribute. First, they can select and train personnel, just as private car drivers require selection, training and control. Second, just as enforcement is required to regulate the behavior of many motorists, so also additional regulation of transit personnel may prove desirable. Third, could not more transportation agencies look toward the inherent safety of their vehicles just as public traffic authorities are seeking to improve the mechanical efficiency of automobiles through such means as compulsory inspection? I personally have seen many a bus turning across traffic lanes, without adequate mirrors to permit the driver to see where he was going. Buses may lack turn signals. If bus operations call for one of these cumbersome vehicles to cut right across several traffic lanes, isn't it only fair that they be equipped with signals which will tell the unsuspecting motorist what is about to happen?

There are needless inefficiencies of transit

operation, or at least so it seems to me. For example, an unexpected street car stop located in the center of an unusually long block was the site of several pedestrian accidents. When the stop was abolished, the pedestrian accidents ceased, and efficiency was improved.

#### Second Class of Improvements

The next classification of improvements are those requiring a little more time or a little more money. What is it that traffic authorities can do in this connection?

*Make equitable provisions for transit:* In one case within my knowledge an entire street through a business district was being redesigned without any thought for bus routes, loading and transfer points, or terminals.

*Simple street widening:* On many narrow streets a free lane for motor traffic can be provided merely by setting back curbs a few feet at a very reasonable construction cost.

*Provide channelization:* Both vehicular and transit traffic will be speeded up and safeguarded by channelization projects which fill up confusing street space, confine traffic to apparent and definite lanes, and permit more expeditious signalization.

*Install loading platforms:* Raised platforms, properly lighted and perhaps fenced, assist in the expeditious loading and unloading of street cars, and avoid the necessity for the motorist to wait until this lengthy process is completed.

*Develop off-street storage:* The creation of off-street terminal facilities for automobiles in concentrated business areas will reduce traffic delays and confusion for transit and motorists alike.

My ignorance of mass transportation problems makes me hesitate to suggest changes in transit systems; yet to me it seems obvious that transit should consider modernizations comparable to those just suggested for street traffic.

*Off-street terminals:* Just as street space needed for moving traffic may be provided through storing automobiles off the public streets, similarly traffic flow can be enhanced if terminals for street cars and buses were more commonly provided on private property rather than in the public streets.

*Revised operations:* A certain amount of "loafing" to meet schedules may be unavoid-

able for both street cars and buses. For my part I believe I have seen this overdone. Better scheduling then suggests itself as being desirable to eliminate exasperating delays, even if it is necessary to make track adjustments to gain that end. A second type of operating inefficiency occasionally seen is the manner in which transit vehicles turn into or across the public streets. In one instance, buses made three left turns around a small triangular shaped block, seriously impeding the traffic when the same service could have been rendered with three right turns if the track layout had been changed. Or as another example, I could point to widened streets on which the carlines are far off-center endangering street car and auto passengers alike.

### Third Classification

A third classification of activities designed to further street traffic efficiency may be defined as simple planning. The primary objective of this simple planning should be the segregation of mass transportation movements from street traffic. These two classes of street users, like oil and water, mix with difficulty. For example, a major incompatibility is desired speed of operation. A street car making stops at block after block at best averages a low speed, while the through traffic seeks to maintain a speed two or three times as great. Further, mass transportation by its very nature seeks to serve congested business centers with their pedestrians, parking, loading and unloading, and the like. Such streets as these should never be contemplated as through traffic arteries.

Plans for segregation such as may be considered by public agencies include—

*Construction of by-pass routes:* In towns large and small, through highways are being taken from the retail district and sent through the edge of the town or are skirting it entirely.

*Development of by-pass streets:* In many

cities, section and half-section line streets through years of developments have become business and traction streets, while being the only continuous streets across town, they are likewise forced to carry high speed motor traffic as well. Through constructive planning, parallel streets may be opened up or made continuous so that they will attract motor travel, leaving the old long established street free from through traffic.

Similarly, there seem to me to be parallel activities.

*Seek a sound balance between mass transportation and motor vehicle use:* Even as a representative of the private motorist, it is necessary for me to give recognition to the fact that mass transportation agencies can, if they wish, attract patronage from the ranks of the private motorist. Certainly the traveling habits of the daily worker can be influenced by the type of service rendered by transit. When transit offers faster, quieter, more frequent and cleaner service, some of our traffic problems may solve themselves.

*Eliminate duplicating services:* Transit authorities will admit that here and there needless duplication of service is rendered by street car and bus lines. In one case within my own knowledge an excellent potential one-way street system two and four blocks from a major car line was needlessly invaded by buses driving some motorists back on to the car line street.

### Fourth Classification

Little need be said here regarding my fourth classification in which I have placed long range traffic and transit planning. It may be some day that our transit and traffic problems may be solved—and the conflicts and accidents ended—when our cities are redesigned with street systems of modern design, or with multi-level streets through which traffic is segregated, and when transit is improved with modern units operating through modern structures.

## Improved Street Lighting and Accidents

By KIRK M. REID

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This paper is a supplement to that portion of the report of the Committee on Night Traffic Hazards which presents examples of recent night-accident reductions

through improved street lighting. These data, together with those previously reported, show that one-third, one-half, or often more, of the night accidents are pre-

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ented where good visibility is provided. In urban streets, and on those portions of highways with high night-accident experience, the cost of providing good visibility by modern street and highway lighting has been found to be less than one-third the losses from the accidents its prevents.

The Program Committee requested that this paper include special attention to the influence of illumination upon four classes of accidents. Generous assistance was received from Hawley Simpson, S. P. Andrews, E. J. Kreh, L. J. Schrenk, E. J. Reeder, and R. G. Jasper.

*1. Visibility as affecting intersection accidents, particularly vehicular accidents of the sideswipe and headon types.*

The report of the Committee on Night Traffic Hazards presents three examples of intersection accident experience before and after lighting improvements were made.

At three Chicago intersections, inadequate illumination was replaced by sodium-vapor lighting. In the 12 months preceding the installation there were 34 personal injury accidents and 61 property damage accidents at these intersections. In the 12 months following there were 12 personal injury accidents and 28 property damage accidents—a reduction of 58 per cent.

The lighting was modernized at 155 intersections in Saginaw, Michigan. Previously, 46.3 per cent of all accidents at those locations occurred during darkness. Subsequently, the night accidents dropped to 34.6 per cent of the total.

Sodium lighting was installed at 25 Los Angeles intersections. Comparing equal "before and after" periods, night fatalities dropped from 12 to none and night injuries from 128 to 15.

In none of the above instances could an analysis of the accidents by types be obtained.

*2. Visibility as affecting pedestrian accidents, particularly when boarding or alighting from buses and street cars.*

An analysis of traffic fatalities by types has been made in Detroit on 31 miles of heavily traveled thoroughfares. Pedestrian fatalities dropped from 36 to 14 per year when the street lighting was modernized. At the same time, fatalities of drivers and occupants of automobiles dropped from 13 to 4. While the ratio of reduction was higher for car occupants, it is noteworthy

that the most lives were saved among pedestrians.

On a street car line in Indianapolis passenger-type accidents occurred at a somewhat higher rate per passenger carried at night than by day. No information was available on the nature of the accidents nor on the adequacy of the street lighting.

Pending more detailed studies, the report of the Committee on Night Traffic Hazards summarizes the conclusion: "Traffic safety lighting continues to demonstrate its value for reducing certain types of accidents. It appears to be particularly effective in protecting pedestrians."

*3. Visibility as affecting falls of passengers boarding or alighting from buses and street cars.*

No data could be found having sufficient bearing upon this topic to warrant inclusion.

*4. Visibility as affecting collision accidents involving buses and street cars.*

A two-year analysis was made of the collision accidents per trip on the Indianapolis car line previously mentioned. The night accident frequency per trip was found to be 8 per cent greater than that by day. A similar study in Elizabeth, N. J., covering all transit operations, likewise showed an 8 per cent higher accident frequency per trip at night. The combined records of 18 bus companies, on the other hand, showed 21 per cent fewer collision accidents per trip at night. Another study, covering street cars only, showed a curve of vehicular collisions which followed closely the curve of number of cars in operation; in fact, the two curves cross four times over the 24-hour period.

From these scanty data, one would conclude that good or bad street lighting has little effect upon accident frequency in transit operation. Hawley Simpson has warned, however, that very minor as well as serious accidents were included in most of the data, and a different picture might develop if the accidents were classified by severity.

Such classification was found possible in only one case; the street car study just mentioned in which the curve of accident frequency followed closely the curve of cars in operation. It was found that the night severity was 40 per cent greater than that by day, based upon cost of claims. In spite of this increased accident severity at night,

operators of buses and street cars may properly be complimented by using better than average care after dark, because the over-all traffic accident severity at night is 60 per cent greater than that by day.

S. P. Andrews, Chairman of the Engineering Committee, Transit Section, reports that his Committee recognizes the incompleteness of most of the transit accident data now available, and is now laying the groundwork for more detailed studies. It would therefore be appropriate to review the information which is needed for comprehensive studies on visibility as affecting transit accidents.

From the standpoint of traffic engineering, most of the "before and after" studies have lacked important details on all three of the major items—the accidents, the traffic conditions, and the lighting. Still less often have collision diagrams been used to depict the accident experience and to facilitate complete analysis. Only an occasional investigator has included figures on traffic volume or has expressed the data in terms of accidents per vehicle miles or per pedestrian crossing.

The information on the lighting has perhaps been most deficient. The usual practice is simply to refer to the accident experience under "old and new" lighting, or "before and after" lighting improvement. Such general verification that better visibility reduces night traffic accidents is, of course, helpful to those broadly responsible for traffic-safety programs. But more definite information is needed.

The need of more quantitative information on lighting in relation to accidents is recognized by the Illuminating Engineering Society's Committee on Street and Highway Lighting. That Committee also recognizes the importance of making safety lighting recommendations more definite and more usable.

Now the Committee is completing a new publication, "Recommended Standards of Street Lighting" which will supersede the Code. The recommendations for each street classification are in terms of the average and minimum lumens per square foot, or foot-candles, delivered to the pavement and to the sidewalks. That is, the premium is properly placed on lighting equipment which distributes effectively a greater proportion of the light over the street and sidewalks.

Safety lighting specification in terms of minimum and average foot-candles, while a substantial step forward, is not considered to be the ultimate basis. The degree of safe seeing is also affected by such factors as the reflection characteristics of the pavement and the amount of glare. "Recommended Practice" states: "Since a primary purpose of street lighting is to provide safe seeing for motorists and pedestrians, the specification of street lighting eventually may be in terms of visibility. Researches now in progress may afford a basis for such specification."

The Institute of Traffic Engineers Special Committee on Street Lighting recommends that study and research in evaluating lighting effectiveness and specification be continued with a view of obtaining additional quantitative information for more definitely rating or evaluating various street lighting systems from the standpoint of visibility and its relation to traffic accidents and traffic facility.

The researches mentioned above have shown that visibility for night traffic safety, as provided by street and highway lighting, depends upon three principal factors: (1) The brightness of the pavement at points along and across the street, measured at the near-grazing angles at which motorists and pedestrians view a roadway; (2) The brightness of representative obstacles at points on and near the pavement; (3) The veiling brightness or glare from the lighting system and other sources on or near the roadway.

Under former techniques the above brightness of pavement and obstacle could be measured and the veiling brightness could be computed. Such determinations required long hours of field work by an experienced test crew late at night, followed by lengthy and involved computations. Such techniques, though practicable, were so laborious that they were seldom used.

A new instrument, called the Street Lighting Evaluator, now permits quick and accurate measurements of these three factors. With the cooperation of traffic engineers, it should be possible to correlate measured values of visibility with detailed accident experience under typical conditions of street and traffic. Specification of traffic safety lighting could then be placed on a definite and fully rational basis.

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## Report of the Committee on Winter Driving Hazards

By RALPH A. MOYER

Associate Professor of Highway Engineering, Iowa State College, Ames, Ia.,  
and Chairman of the Committee

The following is the Summary and Recommendations of the 1940 Report of the Committee on Winter Driving Hazards. The complete report is available in pamphlet form from the Council's Traffic Engineering Bureau.

The complete Report presents the following information gathered in its year and one-half of research: (1) the winter accident problem; (2) results of the Lake Cadillac skidding and traction tests; (3) the special accident hazards of winter motor vehicle driving; (4) the effect of climate and topography on these hazards; (5) mechanical equipment and driving practices recommended to drivers for safe winter driving; (6) knowledge of drivers concerning winter hazards; (7) winter highway maintenance for safety; and (8) the elements of a sound system of winter road conditions reporting.

### Summary and Recommendations

1. Accident death rates as related to motor vehicle travel are highest in the winter in all sections of the country. Winter death rates are about 40 per cent higher than summer rates in the northern half of the country, and about 20 per cent in the southern half. The two major causes of this winter accident problem are winter conditions of snow and ice, and longer hours of darkness.

2. One of the major winter hazards is inadequate traction on snowy and icy roads. Inadequate traction, coupled with speed too fast for road conditions and with other improper driving practices such as lack of winter equipment and faulty braking, frequently results in skidding. The proportion of accidents involving skidding is only about one per cent on dry roads, but is as high as 27 per cent on wet roads and 50 per cent on snowy-icy roads.

3. The most striking fact revealed by the Lake Cadillac skidding and traction tests was the surprisingly wide range of performance with bare tires on smooth ice. Braking distances from 20 miles per hour averaged 110 feet on dry, sticky ice at near-zero temperatures, and 228 feet on wet ice at thawing temperatures with the sun shin-

ing. Similarly, times of acceleration from 10 to 20 miles per hour varied from 6 to 19 seconds and maximum speeds on circles of 100-foot radius from 20 to 10 miles per hour, on dry and wet ice respectively. Average winter day-time temperatures commonly approach thawing, at which time the wetter ice conditions prevail.

4. Although tires with good treads are preferred to smooth tires on dry and wet roads, performance with new tires is no better than with smooth tires on snowy and icy surfaces. Motorists should not, therefore, rely upon tread design for anti-skid protection on these surfaces. Tires of special mud or lug designs, however, have advantages on loose snow, although having no advantages on smooth ice or packed snow that is icy.

5. The common practices of lowering tire pressure and increasing the load over rear wheels to increase traction on slippery surfaces are not recommended. The resulting increase in traction for stopping is slight, and this is more than off-set by reduction of safe speed on curves.

6. The use of tire chains is the most practical means of self-help for increasing traction on snowy and icy roads. On rear wheels they decrease braking distances and increase rates of acceleration from 20 to 60 per cent on dry and wet ice respectively, as compared with bare tire performance—the variation in improvement being due largely to the wide range of bare tire performance on dry and wet ice, while performance with chains is fairly uniform at all temperatures. Braking distances from 20 miles per hour on ice varied from 75 to 125 feet, and times of acceleration from 10 to 20 miles per hour from 4 to 7 seconds. New chains on all wheels further reduce braking distances about 30 per cent below those with new chains on rear wheels only. On icy curves, however, speeds with chains should be no higher than without, because chains on rear wheels only do not add to control against skids.

7. The spreading of treated abrasives on snowy and icy roads makes driving safer.

Braking and acceleration performance is from 30 to 65 per cent better than on bare ice—this variation also being due primarily to the wide range of performance with bare tires on dry and wet ice, since performance with treated abrasives is uniform at all temperatures down to about zero degrees Fahrenheit. Braking distances from 20 miles per hour with treated abrasives averaged 75 feet, and times of acceleration from 10 to 20 miles per hour averaged 4 seconds. With untreated abrasives performance is from 10 to 55 per cent better than on bare ice; braking distances from 20 miles per hour averaged 100 feet and times of acceleration from 10 to 20 miles per hour averaged 5 seconds.

8. The other most serious hazard of winter driving is reduced visibility. This is caused, first of all, by longer hours of darkness, with the night accident problem seasonally more extended in northern than in southern states. Snow and sleet storms and accumulation of frost on windows seriously reduce visibility. Drifted snow may hide culvert headwalls and other obstructions. Motorists should maintain adequate visibility for winter driving through proper conditioning and maintenance of equipment, by keeping outside surfaces of windshields and windows free of snow and ice, and by preventing formation of fog and frost on inside surfaces through condensation of moisture inside the vehicle.

9. Safe driving requires much more skill and caution in winter than in any other season. Speeds must be reduced on wet, snowy and icy roads because of the lower traction and the impossibility of sudden maneuvers in emergency situations. To drive with equal safety on packed snow, speeds with chains on rear wheels must

be about 25 per cent, and with bare tires about 45 per cent, lower than on dry pavement. For equal safety on smooth ice, speeds with chains or with abrasives must be about one-half, and with bare tires about one-third, of speeds on dry pavement.

10. Highway departments should strive for "bare pavement maintenance" during the winter season. This can generally be accomplished by prompt and complete snow removal. Where it is not possible to prevent the formation of ice, the spreading of abrasives treated with sodium or calcium chloride is recommended. This treatment embeds the abrasive particles in the snow or ice, and improves vehicular performance about 30 per cent over that possible with untreated abrasives.

11. It is recommended that state highway officials establish standards for the proper illumination of snowplows and other maintenance equipment, to give drivers adequate and uniform warning of such hazards. Standards should also be established for marking of culvert headwalls, guard-rails, and other low obstructions that may be covered by drifted snow.

12. State highway departments should develop effective systems of winter road condition reporting, so that drivers will be sufficiently warned of storm and road conditions. This information should be made readily available through all publicity media, and should be accurate and dependable. Safety instructions dealing with road or weather conditions should be combined with the reports. State highway departments should also strive for uniformity in the meaning of their reports to the public, so that drivers in inter-state travel can properly interpret the reports in the several states.

## FRIDAY MORNING SESSION

October 11, 1940

### Joint Session with Child Education and Transit Sections

For a full report of this session, please turn to the Child Education Section,  
on page 165 of this volume.

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