

TRANSACTIONS

31st NATIONAL SAFETY CONGRESS



**Street and Highway Traffic, Commercial Vehicle,
Transit, Child Education, Home and Farm Safety
Sessions**

CHICAGO

October 27-29, 1942

National Safety Council, Inc.

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The Transactions of the 31st National Safety Congress and Exposition of the National Safety Council are published in two volumes. Volume I contains the General Subject and Industrial Section sessions, Volume II the Public Safety, Child Education, Home and Farm Safety sessions.

Volume I is distributed to all members of the Council, Volume II to members particularly interested in the sessions it contains.

The Transactions are a record of the proceedings of the Congress, condensed and edited here for reference purposes. They are therefore an abridged version of the papers and discussions. The original manuscripts, some of which have drawings and charts not reproduced here, are available 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 are contrary to the Council's policies. However, it cannot accept responsibility for views expressed, either in the papers presented or in this record of them.

Extra copies of the Transactions may be obtained at the following rates: Volume I, one to ten copies at \$2.00 each; 11 or more copies at \$1.75 each. Volume II, additional copies, 75 cents each.

THE NATIONAL SAFETY COUNCIL, Inc.
20 N. Wacker Drive, Chicago, Ill.

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Using the Transactions

The two volumes of Transactions published each year are a source of supply for safety ideas, for safety methods, and for safety material. Used effectively, the Transactions volumes can become the safety man's "Five-Foot Shelf"—an encyclopedia of established methods as well as of the most successful experiment.

The safety engineer, the progressive industrialist, and students of safety will find these volumes valuable for reference. They contain the best knowledge and the long experience of the men and women who appeared before the 31st Annual Safety Congress.

For easy use the material has been arranged and identified; first, by the major headings of the *Table of Contents* on page 2, and by the comprehensive *Index* at the back of the book. In the body of the book each group of meetings is printed in the same order in which they appeared in the daily time schedule of the original program.

The detailed alphabetical *Index* quickly locates specific safety material. It lists items in three ways: (a) by subjects discussed, i. e., cyclists, household appliances, military convoys, traffic "dim outs"; (b) by speakers, in the case of formal papers. Speakers' names are printed in italics; (c) by the division or group, as Child Safety, Home Safety, Farm Safety.

Solve accident problems. Traffic officers, judges, highway construction men are faced with unprecedented problems caused by the mushrooming of war plants and the attendant traffic congestion. Not the least of their troubles is the control and discipline of war worker-drivers and drivers in service uniform.

Arousing interest in safety in the schools and in homes and farms becomes easier after reading the experiences of the speakers at the Child Education, Farm Safety and Home Safety sessions. Several meetings concern curriculum problems; others farm machinery hazards; and still others household equipment, civilian defense, and off-the-job accidents.

Speech-making materials are abundant for the traffic engineer or the school or city official who is scheduled to talk on accident prevention, either in his own community or at conventions of his own profession. The Transactions contain excellent examples of safety talks as well as authorities and quotations for local press releases, poster and bulletin boards.

Safety promotion plans always profit by new and novel ideas. Speakers at the Congresses offer rich source material for the promotion of safety on highways, in homes and in schools.

Outstanding safety leaders are powerful influences in the promotion of the national safety movement. As officers or members of the Council's sections or as public officials they can be helpful in organizing individual safety programs.

National Safety Council services and the national safety program will be better understood through frequent use of the Transactions. A survey of the material contained in this volume will give a better comprehension of the growing power of the safety movement and a better understanding of the ways in which this power is made effective.

The Council's Program

The National Safety Council, a non-profit, cooperative association, aims at the elimination of accidents. It therefore advocates the following program of safety activities:

Creating interest in safety. People try to prevent accidents only when they are convinced that (a) accidents threaten personal happiness, industrial efficiency and economic security; (b) accidents have definite, ascertainable causes; (c) accidents can be prevented.

Finding accident causes. Accident causes are not the same in any two plants, in any two cities, in any two schools. They are not the same from one time to another. Every organization must study the causes of accidents in its own group so that prevention efforts will be effectively directed.

Maintaining interest in safety. It is the task of the newspaper, the radio, the magazine, the school, the public speaker and every other educational influence to keep reminding the worker, the driver, the pedestrian, the housewife and the school child that freedom from accidents is purchased by self-discipline plus active cooperation in the national program of accident prevention.

Engineering improvement. Many accidents occur because equipment is faulty. The punch press is unguarded, the automobile brakes are worn, the stairway is crudely built, the stop sign is obscured. We must insist that the things we buy—whether a stepladder or a stop sign, a handsaw or a blast furnace—be safe things. And we must be willing if necessary to pay a higher price because of this built-in safety factor, realizing that it is true economy to do so.

Training for safety. Many accidents occur because the person involved never has been

taught how to do the job in the safe way. Therefore people must be taught how to live safely. This teaching and training is a joint responsibility of industry, of schools and colleges, of governmental groups, of parents in the home, and of safety organizations.

Supervision for safety. We need good foremen in industry, alert patrol boys in our schools, diligent police officers on our streets, thoughtful parents in our homes. Supervision can greatly minimize the chances of accident, even when people attempt knowingly to take risks.

Legislation for safety. Sound legislation on traffic, on industrial matters, on public transportation, on home construction and maintenance, and on many aspects of personal conduct provides a standard to which a large majority of people are willing to conform. It also provides a basis for requiring the conformity of a small minority.

Safety organization. Every organization, regardless of its principal purposes, can and should find some place for safety in its program of activities. Accident prevention should have a large place in the activities of trade associations, chambers of commerce, service clubs, welfare organizations, educational associations and local and state governments.

Leadership. This program of activities can be effective only with the interest and cooperation of everyone—men, women and children. The National Safety Council provides national leadership through which the safety efforts of all our people may be coordinated and made effective. The Council offers fullest cooperation to all individuals, industries, organizations, communities and agencies whose purposes are in accord with its own.

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TUESDAY MORNING SESSION

October 27, 1942

**JOINT SESSION WITH TRANSIT SECTION AND INSTITUTE OF
TRAFFIC ENGINEERS**

Presiding:—CARL J. RUTLAND, Chairman, Citizens Traffic Commission, Dallas, Texas

Traffic Accidents and the War Program

By NED H. DEARBORN

Executive Vice-President, National Safety Council

CHAIRMAN RUTLAND: The first speaker on this program is Mr. Ned Dearborn, who many of you know, love and have had association with in years past. Mr. Dearborn was named Executive Vice-President and Managing Director of the National Safety Council last July. Prior to that date and since 1934, Mr. Dearborn was Dean of the Division of General Education of New York University. He has been Vice-President for Education for the National Safety Council for two years and for the past year he was Chairman of the Council's special Financial Support Committee.

He brings to the Council a broad background of administrative experience including close contact with accident prevention and safety. He is responsible for the development, four years ago, of the Center for Safety Education at New York University. Mr. Dearborn.

MR. NED H. DEARBORN: Mr. Chairman, Ladies and Gentlemen: There is one virtue in my remarks this morning. I am supposed to speak some place else at 10:15 and therefore you may be assured that this won't be a long speech.

I am delighted, of course, to be invited to speak to you people and I have only two or three things that I want to emphasize. I realize that in emphasizing them I am merely emphasizing something that you people have been working at constantly.

In the management of the affairs of the nation there are problems that confront us every day, problems that have confronted

the commonwealth of nations known as the United States of America since the inception of our country, and that is the amount of power and control to be vested in the Federal Government, the amount of power and control to be vested in State Governments and in local communities and in the responsibilities to be placed upon individuals.

Balance of Power

That may seem like an old story, but it is a story that we ought to keep constantly in mind—a story of those problems. There have been differences of opinion about it from the very beginning. There still are differences of opinion. We have maintained a balance in this country of power among federal, state and local communities that seems, to me at least, to be a very healthful kind of balance. It doesn't matter whether we are dealing with the traffic problem or any other important problem of American life.

There are certain matters of principle and policy that are applicable to the nation as a whole. There are some that are peculiarly state problems and there are some that are peculiarly community problems. What we need to do is clearly to define the differences in our thinking on specialized problems.

If we happen to be a federal employee, we should not get the idea that everything should come out of Washington. If we happen to be a state employee, we should not think that everything should come out of the state capital and if we are community minded we should not think that the individual should

be overlooked, either. I will come to that point just a little bit later.

When it comes to this enormous traffic problem in the United States—132 million people over three million square miles of territory—I can very well see how we could justifiably ask for complete control by the federal government of those traffic problems. Rather, I think we should turn to the states and to the communities and ask them to work out their local problems. If there is federal coordination necessary, then the state should work together with the federal agencies in the solution of those traffic problems. If we don't do something like that you may be sure there will be attempts made to centralize the control of traffic as in other cases, too, of American life, and I just think that that is an impractical thing.

Federal Coordination

We need federal direction so far as coordination is concerned, particularly in wartime, when the movement of troops and materials is so important, but coordination does not mean complete control and complete responsibility for the enforcement of the regulations. As a practical matter, I don't see how we can have a federal force large enough or well enough equipped to handle alone the traffic problems throughout the extent of this tremendous country of ours.

For that reason, I am pleading for coordination of effort to the advantage of the federal government with leadership from the federal government in this particular period of emergency, and I am also pleading for a maintenance of the autonomy of control, which seems to me to be perfectly sound, with the several states. I am pleading, also, for the responsibility of communities within a state working with the state leadership in carrying out the regulations and rules that have to be formulated for the easy and fast movement of troops and materials in wartime.

The whole theme of this part of my comment is "community responsibility" as a part of the state and "state responsibility" as a part of the federal problem.

Individual Responsibility

Now we come to the second phase of this question of responsibility—the individual re-

sponsibility. I have an illustration from the experience of the National Safety Council, as we are trying to work out this war program, that I think will make the point clear. We have a good many leaders in safety throughout the country. There are public officials who are intensely interested in safety in one phase or another, both state and federal and local. There are private agencies that are interested in it. There are local community councils that must carry the burden of responsibility, and yet, with all the leadership that we have in public and private life in the field of safety, that safety is limited in its operations, is limited in its effectiveness unless there is general support by the people for the programs that they are advocating and advancing.

That just happens to be thoroughly consistent with our theory of a democratic life and the freedoms that we have built up for individuals of this country; and along with those freedoms which entail prerogatives and advantages and rights we have an equally long list, an important list, of duties, responsibilities or obligations. We must therefore arouse the people of this country to the importance of the safety problem. In the field of traffic it means that the people of this country must understand why we have rules and regulations. Assuming that those rules and regulations are fair and that they are equitable and that they do the job that has to be done, then the people, with the knowledge of that importance, will give support to the leadership.

Furthermore, there is always danger of leadership getting tired after so many years of struggle without support. To go back to the other side of the argument, if we have that kind of support, then we get more leaders as time goes on. And so it becomes your responsibility, and mine, all of us who are interested in this question of traffic safety, to carry on constantly a program of education that will enable the people of this country to grasp the seriousness of our traffic problems and to assume their individual share of responsibility in carrying out the rules and regulations that are required.

The War Emergency

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Council program in this national emergency, dealing with the traffic problem. First, we are concentrating on the protection of the war worker. There are nearly as many of these people being killed in traffic this year as last, and nearly as many workers killed in traffic as at work.

Last year there were forty thousand—forty thousand people killed in traffic accidents. This year there will be thirty thousand killed and another one hundred and five thousand injured in traffic accidents.

If that loss were not spread over 365 days and over three-quarter million miles of territory, it would be an appalling thing and a dramatic thing that would cause the people of this country to rise up and do everything possible to stop it.

It has its effect on the workers in the plants. It has its effect on the production of food stuffs for our army and for our production workers and for our civilian population and for our allies throughout the world. It has its effect, a direct effect, upon production. Thirty thousand people that we just can't afford to lose are lost through accidents that, for the most part, are preventable.

Conservation

A second phase of emphasis in the National Safety Council's program is conservation in traffic, with reference to vehicles, with reference to tires and with reference to roads. I will give you a single example from the field of school bus transportation. There are about four million school children in this country transported by bus. If I remember the figures correctly there were 93,000 school buses. You can't replace those school buses, and you know that they are needed elsewhere, too and you know that they are being demanded and requisitioned for other uses.

Everything is being done that can be done to keep those vehicles in the maximum possible use. Instead of two or three buses each making one trip in many places, now one bus makes two or three trips in the morning and at the end of the school day. Furthermore, buses, in addition to the use that is being made of them for the transportation of school children, are being used for the transportation of war workers.

We can't possibly be interested in accident

prevention and traffic without taking into consideration the question of conservation of tires, and the conservation of roads.

We are interested in helping on the "swap-rides" and "staggered hours" programs. Special emphasis has been placed upon traffic accident prevention during this emergency period to date. We are also aware of the fact that the familiar ways to conserve manpower and equipment through traffic accident prevention still persist and are as good as they ever were. I refer to uniform laws, assuming that the laws are equitable and satisfactory.

I refer, also, to good accident records, to good engineering, to good policing, to good driver licensing, to good educational programs for school children and the public. Those things are going on even in wartime. All we do in wartime is place new emphasis, the kind that I have mentioned or similar ones, as the problems arise and then we are doing the job in a war emergency.

War Production Fund

The third part of the comment is more general in character and relates to our war production fund program. I assume that some of you at any rate know about that, but just in case there might be a few who don't, we have a Committee known as "The War Production Fund to Conserve Manpower." It is headed by Mr. W. A. Irvin, who has with him several hundred of the leading industrialists of this country. That Committee is engaged in the raising of funds which will augment the normal funds of the National Safety Council in expanding and intensifying its program. That campaign is under way and meeting with great success.

One of the principal things that we have agreed upon as a sound fundamental policy of the National Safety Council in developing this war program is cooperation with other agencies, both public and private, throughout the country. No one could pause for a moment in the consideration of this organization of ours and conclude that it could do the job alone. It doesn't matter whether we have our normal income, which is about a million dollars, plus the five million of the war production fund, if they get that amount. We still won't have enough money

to do it alone. If we had fifty million dollars we couldn't do it alone; and what is even more important, if we had all the money that was necessary to do it, it wouldn't be right for one organization to do it alone, because in a country organized on the political theory that ours is, cooperation and coordination of effort should constantly be the goal toward which all of us are working in our various organizations.

So we are deliberately trying to enlist the active support and cooperation of every kind of agency throughout the country in this drive. We are offering our cooperation with all kinds of agencies, both governmental and private. For example, I point to the Highway Traffic Advisory Committee in Washington with its various sub-divisions (throughout the country) among the various states. It is therefore primarily, it seems to me, our job first to undertake to stimulate wherever we can, through agencies both public and private, work on their part which will hit the localities where these organizations are. If we have anything in the way of technical advice or materials we should provide that and if there is any other agency, both public and private, which we can work with, that is what we should do and that is what we are doing.

"War" Localities

In the second place, we are concentrating our efforts on the communities where the largest concentrations of war workers and military people are located. It is pretty nearly useless, with any sum of money, to try to do the same thing with the same intensity all over the country at the same time. In a wartime it seems logical that we should select those areas where the war production and military forces of the country are concentrated in largest numbers.

As an example of one of the spots, we point to the work that our Division of Public Safety, under the leadership of Sidney Williams, has done with the Rock Island Arsenal in studying the problems of traffic. We have had splendid response and cooperation with the authorities there and it is a perfectly good example of how two groups of people can work closely together and get good results in a hurry.

Off-the-Job Accidents

A third kind of thing that we are doing is concentrating our attention upon off-the-job accidents. Taking the country as a whole the number of off-the-job accidents as represented in deaths in relation to plant accidents is about three to two, so we have a special program fairly well advanced now in the attack on off-the-job accidents. We are asking industry to assume additional responsibility—I mean responsibility beyond plant accident programs—into the off-the-job accident programs through the extension, if necessary, of their safety personnel. We are asking organized labor in these plants to assist in the off-the-job accident program. They should be taking an intelligent and responsible part in the plant accident program, but in addition to that they are peculiarly well fitted to work in the off-the-job accident prevention program which is centered, largely, in traffic accidents and home accidents.

Grade Crossings

In the fourth place we are developing a program of grade crossing accident prevention. We know how serious that is. It is serious in terms not only of the people that are involved but serious in the delay in transportation of people and materials.

A delay in transportation of materials within our own borders might mean missing a connection in a place where there was to be a transfer of those goods and materials to a ship and the materials might be delayed—necessary materials, essential equipment, essential tools of the war.

Public Information

A fifth thing that I would call your attention to is the special emphasis that we are now placing in our program on public information. We have organized a Division of Public Information. It will be adequately staffed. It is almost adequately staffed now with the cooperation of the newspapers and magazines throughout the country, with the radio people and the motion picture people throughout the country. We are going to send out to the people of this country information about the problems of safety, of accident prevention, the economic and social and

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war values that are entailed in such a program as that.

We get that cooperation. The newspaper people are liberal in giving us stories, news stories, special editorials and special feature articles. The magazines are equally cooperative in giving us editorials and special articles. Magazines like *Colliers* and the *Saturday Evening Post*, to cite two that reach millions of people, help us. Trade journals have been especially helpful in this particular respect. The radio people have come forward with marvelous cooperation in connection with the war production fund we have been trying to get. We have had free time on the air for fifteen or sixteen weeks over WJZ, The Blue Network, on the "Men, Machines and Victory" program of the War Production Fund.

For this Congress alone we have had twenty radio broadcasts. Seven or eight of those are network broadcasts. We aren't paying for those things. There isn't money enough in the coffers of this organization or any likelihood of there being money enough to pay for that time (they are giving us).

We are working out with Paramount Pictures a "short" which will be an educational short for the public. While we are paying a small amount of money, it is by no means the total amount that the production costs.

Furthermore, that particular organization is responsible for the distribution of that film, and they have a potential weekly audience of 17 million people through their own agencies.

We have had for a number of years, and still have, the active cooperation of the Automobile Safety Foundation in a special grant dealing with traffic problems and the closest tie-up with the officials of that organization. We are working with the Automobile Club of America. There is one particular Division there, which works with Mr. Williams of our Public Safety Program very closely.

The war requires our utmost effort and attention as individuals and as communities. All I am trying to do this morning is to emphasize that responsibility that is yours and mine, yours in leadership where you are, to enlist that kind of country-wide support in carrying out good traffic programs which are good in peacetime but more important than ever in wartime. If that job is well done not only will it make its important contribution to the war effort but it will have developed a consciousness on the part of the American people that will enable you people in your respective offices of responsibility to carry on a traffic program in peacetime that will redound to your everlasting credit and contribute tremendously to the national welfare.

CHAIRMAN RUTLAND: Thank you, Mr. Dearborn. You have thrown out a challenge to this Section. We shall try to measure up to it.

I think it is a responsibility which we should welcome. It will give us an opportunity to show the increased value of the traffic safety movement even in wartime. Perhaps our comprehensive program as carried on in peacetime has to be changed a bit due to the economy, in highway departments, in city councils and in state departments and legislatures, but we should take advantage of this opportunity to do a better sales job than we have done in the past in selling our mayors, our city councils, our state departments and legislators of the need for this type of program at this time.

In order that you may be impressed and become more familiar with some of these problems, these changed traffic conditions which have been brought about as a result of the war, we are to have a panel discussion on the subject of "Highway Traffic in Wartime." This is a panel discussion to be presided over by our good friend, Leslie J. Sorenson, City Traffic Engineer of Chicago, Illinois and Vice-Chairman for Public Safety of the National Safety Council. You have known Mr. Sorenson for a number of years through his splendid contribution to public safety.

On this panel we have distinguished guests whom I shall name. I shall not take the time to give to you all of their qualifications and pay tribute to their leadership and achieve-

ments which they have made. I think you know of these. First, as a member of this panel, is Mr. Don F. Stiver, Superintendent of the Indiana State Police, Indianapolis, Indiana. Mr. U. Grant Mickle, Traffic Engineer for the City of Detroit and President of the Institute of Traffic Engineers; Mr. J. Trueman Thompson, Director of the Highway Traffic Advisory Committee to the War Department in Washington; Mr. Frederick C. Horner, Chief of the Highway Division, Transport Corps, Service of Supply, United States Army. Mr. Horner comes to this position having served as Assistant to the Chairman of General Motors Corporation.

At this time I will introduce Mr. Sorenson who will assemble the panel and outline to you his and your participation. Mr. Sorenson.

MR. LESLIE J. SORENSON: Thank you, Mr. Chairman. Ladies and Gentlemen: We all know that we can't win this war without production of war materials and the assembling and training of manpower. We can do neither of those things without a hundred per cent efficient transportation system. It is the key to the assembling of the materials and manpower to preserve our freedom.

I don't know of a time in the history of our country when transportation meant so much. Neither do I have to tell you of the changes that began last year in the defense program of our country. After Pearl Harbor those changes became more radical. Street capacities and highway capacities that had served unpopulated areas suddenly became the access roads for the accumulation of war production and the assembling of the armed forces.

It wasn't possible of course, and we all recognized that, to locate these vital industries and these war assembly points of the armed forces on our boulevards and on our primary road systems. They had to be located where facilities for the production of materials and their location to the raw materials for putting it into the finished form was available.

Many thousands of miles of fine highways which in peacetime serve the pleasure and sometimes the business traffic of the nation have been relegated to arteries of secondary importance, and some of our secondary and unimproved streets and highways, have be-

come the important access roads to these vital centers.

I have asked the panel to outline, briefly, some of the subjects which have been listed on your program. First, in order of their listing, is the conservation of manpower, tires and vehicles, and certainly, if anyone can talk on that subject, it is Don Stiver.

MR. DON F. STIVER: Members of the Panel, Ladies and Gentlemen:

The impending program of gasoline rationing and speed limitation approved by the national committee headed by Bernard Baruch has dramatically engraved upon the public mind the urgency of our need for the conservation of tires and vehicles, and other agencies have impressed upon us the need for manpower. The Baruch committee was appointed to bring voices of authority into a chaotic picture which few of us several years ago ever thought would come to pass.

To review briefly some of the salient facts, I shall quote some of the figures doubtless you have heard numerous times. I cannot refrain from reiterating them as the foundation of our problem.

The manpower needs in the nation for the next year are purely conjectural, but so far as I understand them, Selective Service will be expected to provide the army with approximately six or seven million more men to bring its total strength somewhere around ten million men. This is about one fourteenth the population of the United States. Everyone seems to have their favorite ratio of the number of civilians required to support a man at the front, but if the popularly accepted ratio of fourteen civilians for every soldier is approximately correct it would mean that by that time, every civilian must be engaged in war work to the last man and woman. (These figures do not include the estimated three million persons which the navy, marines and coast guard expect to procure sometime within the next year or two.) The personnel drain will be terrific and far exceed anything we have hitherto experienced. I anticipate that long before the ten million members of the armed services have been procured, the War Manpower Commission will have been forced to take drastic steps to fill industrial jobs and agricultural occupations. This is of course contingent upon the necessity for

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continued and vigorous prosecution of the war.

We know that when automobile tires were frozen by the Office of Price Administration there were approximately eight million new tires in the hands of dealers. There were tires on some 27,940,000 passenger cars either in the hands of private owners or frozen in the hands of dealers or government agents.

There was an unknown number of used tires, and a discovered volume of scrap rubber amounting to about four and a half million pounds. There was a little crude rubber but we were told that everybody wanted it, the military would get it, and we civilians had small hopes of procuring it. The stock of tires has been doled out by ration boards one at a time. Unfortunately certain sizes will be run out, while other, less popularly used, may continue to be uncalled for. We know that for civilians we shall have few additional new tires until after the war, and that our major hope for prolonging their lives, rests in conservation measures, and in the hope of recapping, at least for essential needs, held out by the Baruch committee in its reports.

Conservation Measures

For some months now the conservation measures for reducing tire and car mileage on passenger cars has been under the direction of the Highway Traffic Advisory Committee to the War Department at the request of the Office of Defense Transportation. Inasmuch as another person will report on this program, I shall not outline the measures taken. A presidential proclamation requesting speeds not above 40 miles an hour was another voluntary step. Men deeply involved in transportation problems realized that this would not be a sufficient answer. We have felt for months that gasoline rationing was inevitable and that speed reduction would probably have to be compulsory. This has been proven true, and we are now on the verge of these final concrete steps to make every last ounce of rubber roll for the longest possible time on the road to victory.

While we are conscious of the need for conserving vehicles, the primary bottleneck in transportation is still rubber. The chances are very good that most automobiles will wear out one or more of their last four tires

before the car itself becomes unusable for mechanical reasons.

According to eminent authorities, in October, 1941, almost four million cars were 10 or more years old, and almost 45 per cent of the cars in operation were over five years of age. Although these vehicles will now be operated considerably below their previous annual mileage, it will not be possible to keep a goodly number of them in serviceable condition. The normal expectancy in the rate of passenger car scrapping has been two million cars annually, but will be reduced to probably one million a year. Thus in five years we might expect to lose five million vehicles from old age, reducing our total available cars to about twenty-one to twenty-two million automobiles. In the hands of dealers we had approximately 940,000 new and used cars when new cars were frozen. At the most, in five years time, we can have about 22,000,000 cars in varying degrees of operating condition, from the standpoint of vehicle wear.

According to reliable estimates, not less than 20,000,000 automobiles are required to preserve essential civilian mobility at its minimum level. Thus as far as the scrapping of automobiles is concerned we are not absolutely up against the wall.

However, one automobile in the hands of private owners, with only three good tires, is almost as bad as no automobile at all. Even though with heavy reduction in the annual average mileage of passenger cars, Brookings Institution has estimated that the number of cars in operating condition with usable tires would fall below the danger mark of twenty million sometime before the end of 1943. Possibly this deadline of operation can be delayed with an expanded program of synthetic rubber production for the recapping of civilian tires. Recapped tires are not long-lived however, particularly at the higher speeds, and will only take care of our basic needs and no more.

Cars Essential

We are behind the eight ball in these matters and fortunately we are beginning to realize it more fully and meet it more drastically. We can state simply and in a few sentences what we cannot afford to do with these precious materials. Traffic accidents

are no longer individual tragedies or the luxury of a prosperous, fast moving independent nation. Every one of them is a blow at the security and welfare of every one of us. The manpower cannot be replaced, the damaged tires are useless except for scrap, and the vehicles may likewise find their end on the scrap pile. Interestingly enough, damaged tires and automobiles at least can be salvaged for scrap. A dead man is no good to anybody or anything. We cannot afford extensive pleasure driving. We cannot afford speed, or reckless driving, practices we have battled for so many years. We shall have to walk to the grocery instead of riding around the corner. We shall have to learn to live at home and like it.

From the standpoint of public officials the highway engineer will have to take what the good government grants him and do the best he can to relieve congestion and promote safety around defense centers. State police officials must drain their troopers from long stretches of empty highways, concentrate their traffic men around highways carrying war workers and military personnel and emphasize apprehensions for drunken driving and speeding. Educators must continue to make safety an integral part of all their teaching.

The Baruch committee has told us that our proper conservation of tires and vehicles will mean the difference between certain defeat and the hope of victory. We will be facing increasing demands for rubber and steel from ever diminishing supplies. It's not a happy thought and calls for strong measures.

It's an odd commentary upon human nature that a world war should provide a greater impetus for saving lives on the home front than peace seemed to bring about. Now that we have been attacked by outside forces we must declare a truce on our accident war with each other. Perhaps with the lessons of this war, the breathing spell in traffic which it will provide, and a grim determination to extend these principles of conservation into the future we may be able to make the accident truce a permanent one.

MR. SORENSON: Thank you, Don.

The second item in the listed program is really the conclusion of the panel and we are going to go on to item Number 3 which is the

"Effect of war conditions on traffic volumes." We are fortunate in having a man to outline that problem for us who is not only City Traffic Engineer of the City of Detroit, which is one of the first large war production areas, but also a man who has been President of the Institute of Traffic Engineers and who has been reelected again for his second term last night. I know he can give us a broad conception because conditions certainly do vary, not only in communities, not only in states, but in the whole nation.

Grant Mickle.

MR. D. GRANT MICKLE: Thank you, Mr. Sorenson.

The trend of traffic since 1936 has been affected materially by the production of automobiles. The production of automobiles since '36 has broken all previous records, and that in turn has resulted in vehicular traffic volumes which, in 1941, were almost double those of 1936 everywhere in the country. That in turn has brought about a marked increase in the number of traffic engineers in the various cities throughout the country as the result of higher traffic volumes, congestion, accidents and so on.

Then, just prior to our entrance into the war and when America was serving as the arsenal for the rest of the countries who were actually engaged in combat, we saw the development of massive plants for the production of airplanes and tanks and other implements of war in areas which we had never even thought of as having industrial concentrations. Those concentrations of industries brought on problems not only in the urban areas but in the suburban and rural areas.

In the urban areas, for example, we saw a shift of traffic from a point of view of time. People were working 24 hours a day rather than an 8 hour or a 10 hour shift. We saw concentrations in the night hours when we had poor visibility conditions beyond anything we had experienced before in most of these cities.

Area Concentrations

Concentrations in areas not originally designed for industrial operation brought on the need for additional traffic signals. People

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were following entirely new routes. Workers were going on streets and highways never designed for traffic volumes that they were now experiencing. That meant that we had to think of the establishment of through arteries, the installation of more traffic signals, lane markings and all the other things that are done to improve the regulations and safety of traffic. New speed limits had to be developed. Routes not designed for high speed traffic but for leisurely Sunday afternoon driving were now carrying high volumes of high speed traffic and people were attempting to drive over these routes at unreasonable and unsafe speeds.

That meant revision of the speed regulations, and in addition to that we had the old problem of regulating the parking not only so that parking facilities could be made available for the war workers but protection had to be given to the adjacent property holders so access to their property could be made available in spite of the large volumes of people who were parking around these war plants.

Many of the war plants were developed without adequate parking space. Many of them were expanded and the parking areas that had previously been used in the smaller plants had now been turned into additional manufacturing facilities. What parking that had previously existed was just wiped out.

In the suburban areas every day became a Sunday. Traffic volumes, as I mentioned before, were maintaining high levels all around the clock, seven days a week, bringing on problems of enforcement as well as of physical control that had never been existent before; and the other problems which I have outlined more fully, of speed and accidents and so on.

And in the rural areas, the same thing existed. I covered some of them in saying that volumes and speeds and so on, on poorly planned highways—that is, poorly planned from the standpoint of this new industrial load—were now carrying tremendous volumes of traffic at speeds never contemplated.

Then, since Pearl Harbor, we not only had the same problems, but we had them intensified two- and three-fold because our production effort was expanded at a very rapid rate. However, about two months before Pearl

Harbor and before this country got into the war, the profession of traffic engineering began to recognize the seriousness of the production problems and the transportation of materials and men to production centers. They instituted their program for war production transportation which envisioned the need for staggering hours, the establishment of preferential routes, and the conservation of vehicles and tires.

We are interested in knowing to what extent we are conserving the tires and vehicles that we have, through a sharing of rides or swapping of rides. Then we are interested in the volumes of traffic and we are interested in speed.

Car Occupancy

Car occupancy for the last five or six years in most communities has seldom been over 1.6 or 1.7 persons per car. We were a nation of individualists. We wanted to ride alone and every artery was filled with automobiles carrying only one or two persons, resulting in an average of 1.7 or 1.6 per car. Today, if we are going to get by the transportation crisis as a result of no more automobiles, no more tires, we must have that car occupancy up to around 3.5 or 4 persons per car. It is interesting to note that in a number of localities where swap-riding programs have been under way for some little time that we are beginning to get that 1.6 figure up to volumes of 2.1 and 2.5 and in some instances, 3.8. I think we heard yesterday in one of our meetings that in one locality that they had actually gone over 4 persons per car.

Then, in connection with traffic volumes, as I said previously the volumes in '41, before we had the restrictions on car usage and gasoline, were almost double those of 1936. In the sections of the country where they have already had gasoline rationing, reports are that volumes, since gasoline rationing, have dropped between 24 per cent and 36 per cent under the 1941 volumes. But if we consider that those drops in volume even to the extent of 35 per cent under '41 brings us down to something nearer the 1936 volumes, and then you refer to the accident and also the congestion problem you see that even with gasoline rationing we are still going to have a lot of problems to lick.

We are not going to have streets that will have no vehicles or no people in them. We are going to have a traffic problem and we will certainly have a lot of work to do. The rural problem probably will not be severe. Volumes there may drop as high as 65 per cent or 75 per cent, as they already have in some of the vacation areas.

So, just to review, it doesn't appear that with gasoline rationing, with raising the car occupancy and with the reduction in speed limits, that the problem is going to automatically be solved for us. We still have serious problems of enforcement. We will have serious problems of control, not having materials and manpower to do the job that we had previously, and all of us must be on the alert to see to it that our manpower and our vehicles and equipment are kept rolling efficiently and safely.

MR. SORENSON: Thank you, Grant.

In my opening remarks I spoke of the importance of transportation to the war effort. That was recognized by the War Department more than a year ago and was typified in the request by the War Department on Chief McDonald of the United States Public Roads Administration to form an instrument to delve into the traffic problems which they knew would arise all over the nation. A man was drafted to head up that organization. He accepted the draft and he is here to tell us about that organization.

Dr. Trueman Thompson of the Highway Traffic Advisory Committee to the War Department.

DR. THOMPSON: The Highway Traffic Advisory Committee to the War Department is not a new organization, although my participation in it dates from about the 8th of last April. It was originally set up by the Secretary of War in order to perform several important functions, which he could anticipate would be of increasing importance. He must know where every commercial motor vehicle in the United States is, what its carrying capacity is, what condition it is in, who owns it, where is the garage in which it is kept, what is the telephone number of the garage and so forth.

Accordingly, acting on those instructions, beginning about August, 1941, a truck and

bus inventory was carried on under the auspices of this Committee for that purpose. In addition to that he required his increasing army of motorized equipment to move over the highways with the minimum of friction with civilian traffic. That was another test that was assigned to us. The drivers of those motor vehicles must be people who are competent to drive. Arrangements had to be made in order that camp Commanders in making those driver assignments would know whether a man was a good driver or a bad driver from his civilian driver record in his home state.

Those were the sort of problems that up till Pearl Harbor were entrusted to this Committee. The functions were carried out through Committees in each one of the states consisting of those people who could do that sort of job, such as the Commissioners of Motor Vehicles, the heads of the Police Departments and the Commissioners or heads of the Highway Departments. They are known as State Highway Traffic Advisory Committees.

After Pearl Harbor

Immediately after Pearl Harbor it became apparent that the Secretary's responsibility and that our responsibility would increase tremendously, and since that time we have had an increasing number of problems handed to us by the young man, Fred Horner, here, through whose Division of Highway Transport in the War Department we operate. We carry on surveys of various kinds and have carried on many of those in industrial areas, finding out the people that work in plants, how they get to work, how many cars are owned and driven by the driver-owners, and what their seating capacity is so that we can load them up.

The facilitation of the streets and highways system in the neighborhood of those plants is a part of our responsibility and it is a part of the responsibility of you traffic engineers to see to it that movements are facilitated to the utmost. In addition to that, we carry on other kinds of special surveys.

We have recently made one on the recap and retread situation throughout the United States. We move all sorts of special equipment. I can't say just what it was but re-

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cently an experimental piece of equipment of tremendous value, irreplaceable in its nature, had to be moved a long distance through about eight states. It was necessary for these State Committees to hop to it and see that that piece of equipment was moved and to see to it that the piece could move in the first instance, that the routes were selected so that it could get through the bridges and so forth.

Possible Enemy Action

Another phase of the work for the War Department has to do with the officers who are assigned by the War Department to the Office of Civilian Defense. This category of problems has to do with what happens when the enemy gets busy or may get busy. If a bombing occurs in New York City, it is necessary to do two things. One, to get people, particularly wounded people and other refugees, out of that area and to get medical supplies, troops, equipment, food and heaven knows what into that area. For that purpose we act in an advisory capacity to those officers of the OCD, the army officers, in routing the traffic so that it may pass around a damaged bridge or damaged highway facility.

Another function which we have had to carry out at the request of the Office of Defense Transportation has to do with private passenger car conservation. In order to do that, the State Committees had to have tools to work with, and through the kind effort of Mr. Eastman and ourselves and the State Committees and the Mayors and the Governors, a total of some 1600 Committees in little towns and in big towns have been set up and they are now functioning under the jurisdiction of the city authorities and particularly under the Chairmanship of what is known as a Local Administrator.

Local Administrators

He is to have, I am sure, an expanding and an increasing importance in his locality. His job originally was merely to try to see that the city engineering forces and the city Police Department did everything possible to facilitate movement through rearrangement of one way streets, turns, traffic signals, stop signs and so forth and to carry on this staggered hour program and the share-the-car movement. In addition to all those things, now I

believe we are going to find it necessary to call on them for a great many other duties.

There are a great many changes that have taken place within the past few weeks in Washington due to the Jeffers appointment and due to the preceding Baruch Committee report. I am not at liberty to say just what those changes will mean as far as this Committee is concerned, but I am sure that it means more work for the Committee. Every day seems to mean that, and I believe that the State Committees will have an increasing function to perform, and the same goes for the local administrators.

I was interested in hearing Grant Mickle say something about the car index, the rider index or the car occupancy figures. I must confess that I am disturbed about the lethargy with which that program seems to have met in a very great many places and perhaps the majority of places, at least among the unorganized white-collared workers. As he said, the car occupancy figure throughout the nation in normal times is about 1.6 or 1.7. There are still places where it is just exactly that, and where increases have occurred, the curve goes up very slowly. I am of the opinion that it cannot be said that the car occupancy figure throughout the United States averages as much as 2. It possibly does. If so, it will not be more than 2.

In contrast to that, in dozens and dozens of plants where these Labor-Management Committees or these Transportation Committees are at work, the index figure is way up to 4.5, 4.6 and I would say that for that group of people, country-wide, it certainly averages 3.

Gas Rationing

The most recent thing which is going to happen to us—I should say to you because it has already happened to me as I live in the East—is gasoline rationing and in order to affect the machinery for bringing about these car-sharing groups as rapidly as possible, directives are now being prepared in Washington by the OPA, the OCD and our own organization. They are parallel directives which are going out within the next day or two to the State Committees and we have found it desirable to make free use of the Office of Civilian Defense, particularly with these un-

organized groups of people.

You must realize that they are attached to the Defense Councils, Publicity Bureaus, Speakers Bureaus and so on. They have a machine for getting volunteers, for messengers, for typists, and they have Block Wardens. They actually plan to go from door to door and encourage this thing on a personalized basis and so I ask that these State Committee men that are present here and many of the Local Committee men who are also present, to make the fullest use of those facilities.

These OCD people don't want to be transportation people, and they realize that they are not transportation people. They want to put their stand-by service at your disposal. The OPA has been ordered, mind you, to extend gasoline rationing which is so closely linked with car-sharing throughout the country, and it intends to use these car-sharing arrangements or at least the car-pools, when they are formed. They are hopeful that between now and the 22nd of November or indeed between now and the 9th of November when the registration must take place that the maximum possible number of these car pools will be formed so that those people who have to form a car pool in advance of getting gasoline relief will be able to get it.

MR. SORENSON: Thank you, Dr. Thompson. I am sure we see, now, the wisdom of the government and the War Department in taking the action so early when we recognize the tremendous job which the Highway Traffic Advisory Committee to the War Department has before them.

I know we all recognize to a certain degree the tremendous job, the tremendous problem of moving the materials and the equipment of the armed forces, and the transporting of those millions of men who constitute the armed forces, but I doubt if any of us recognize the full extent of the problem, so we are very fortunate in having the man who is charged with that work, Frederick C. Horner, Chief of the Highway Division, Transportation Corps, Service of Supply, United States Army, talk to us.

MR. FREDERICK C. HORNER: Mr. Chairman, Ladies and Gentlemen: The Highway Division of the Transportation Corps has the problem of the movement of war material and persons using all the highways,

all the facilities of the country with the exception of organic vehicles, which are those owned and operated by the Army.

The Highway Division of the War Department was originally established in March, 1942, as a part of the Transportation Service of the Services of Supply. In May, 1942, the Highway Division was included as a part of the newly established Transportation Corps. It is one of the five Divisions of the Transportation Corps, the others being Rail, Water, Traffic Control, and Transit Storage; all are under the jurisdiction of the Chief of Transportation.

The objective of the Highway Division is to assure the War Department that necessary motor transportation and highway facilities and services are provided for the movement of persons and material with which the War Department is directly or indirectly concerned. This interest includes the movement of war materials by truck, the movement of war workers by mass transit and passenger car, and the maintenance of adequate highway facilities to provide for these movements. The jurisdiction of this Division, however, does not include the so-called organic motor transport operations of the Army itself.

The direct interests of the War Department include the provision of motor equipment and highway facilities at Army installations, including posts, camps, and stations; and likewise, the provision of adequate commercial motor transport service at ports of embarkation and debarkation.

Matters in which the War Department is indirectly concerned involve the entire private and commercial motor transport system of the country in its relation to the movement of war goods and war workers, and the maintenance of transportation essential to the civilian economy. In other words, since the operations of the Army are dependent upon the fulfillment of war production contracts, it is necessarily an important concern of the War Department that the goods are produced and delivered, and that there is no breakdown in the essential operations of the whole civilian economy behind the war effort.

These interests of the War Department are designated as indirect, because actually the responsibility for transportation is vested in other Federal agencies than the War Depart-

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ment, chiefly the Office of Defense Transportation, the War Production Board, and the Office of Price Administration. It is accordingly the function of the Highway Division to be constantly informed as to the policies established by these Federal agencies to assure that actions taken will be in conformity with War Department objectives. Likewise, it is our duty to recommend the adoption of such transportation policies as we are convinced will further the interests of the War Department.

Highway Division Organization

The organization of the Highway Division includes branches dealing with the transportation of persons, transportation of material, field operations, and highways and movement of traffic over the highways. No doubt the movement of persons in transportation functions would be of most interest to this panel, since these functions involve the problem of moving workers by mass transportation facilities and the private automobile.

The Highway Division has been active in recommending a realistic attitude with respect to the conservation of equipment, the elimination of non-essential vehicle use, and the maximum utilization of existing passenger car and transit equipment. It has participated in the attempt to obtain clarification of the rubber situation and to obtain favorable action on nationwide gasoline rationing and other necessary conservation measures. It has kept in close touch with the ODT, the OPA, the WPB, and the Highway Traffic Advisory Committee to the War Department, the last-named of these organizations aiding us wherever possible in the field. As one of the most serious with which the country is confronted, particular attention has been and will continue to be devoted to the worker transportation problem at war plants holding War Department contracts.

In conclusion, the function of the Highway Division with respect to the problems with which this panel is concerned might be summed up by saying that we in the Transportation Corps are determined that measures be taken which will assure the continued movement of workers between their homes and places of work. It is our belief that this can and must be done for the most part with existing vehicles; and it is our

platform that in view of the rubber shortage and other critical material shortages, we must plan to put our motor transport system on a wartime basis now, in order that we will be assured continued availability of such service throughout the war for all essential purposes.

MR. SORENSON: Thank you, Mr. Horner.

You city or state men or county men had the location of a vital war production plant in your area, the selection of which was deemed most advisable, perhaps, by the Defense Plant Corporation or the Army and you are having trouble with access to that plant both in material and war workers. Several things that you would have to do are, first, to make the maximum use of existing facilities.

One of those maximum uses involves traffic engineering. I am going to ask Grant Mickle what he would do to insure the maximum use of the existing facilities by traffic engineering.

MR. MICKLE: I'd try to find out if something might be done in the way of staggering the hours of that plant as well as adjacent plants so that we might get a little more around-the-clock use of the facilities that we have. I think I might look into the matter of whether it was in an urban or suburban area. I'd look into the parking control to see if we could obtain more lanes for movement. I'd look into the signal timing and into the preferential streets to see whether we had all of the through arteries that we needed to serve that area.

I'd want to know something about where our people were coming from, what the origin of all of these workers at that plant might be so that we could work out a route system which would bring them to their place of employment with the greatest ease and the greatest safety.

MEMBER: We have a problem of the tremendous increase of population due to the ship building program of the Kaiser organization and other war plants. I would like to know if there is any definite program, new ideas on the staggering of hours and by what authority a Local Administrator can work, or what his authority is? How far can he go in putting in a staggered hour program?

The Local Administrator is told that a conservation program must be done, but he is given no authority and I doubt, frankly, that he has any standing to enforce anything.

I'd like to know by what authority, what law, and by how much he will be backed up? If so, when and how?

MR. SORENSON: I think that is one for you, Dr. Thompson.

DR. THOMPSON: A very similar question was asked Mr. Richardson, who represented the Office of Defense Transportation. You will recall that he said that up until now this staggering-hour program as well as the car-sharing thing and all of the conservation methods, as a matter of fact, have been on an entirely voluntary basis. The Local Administrators, therefore, have no more authority at the present moment than is conveyed upon them by their city authorities when the announcement is made.

In a deplorably few instances, the City Councils have assumed the attitude that they had the power to convey authority to the Local Administrator and that he could issue necessary orders, but that is certainly generally not the case. In at least two states apparently the Legislators have given to the Governors and the Governors, in turn, to the Transportation Committee of the State, the power to order those kinds of arrangements. Within the last couple of weeks Mr. Conlon, the Chairman of the Public Utilities Commission in New Jersey, under a Governmental proclamation, ordered the staggering of hours of certain groups of people.

I cannot help but feel, and this is a personal reflection and observation, that as time goes on we will pass from that voluntary phase to the compulsory phase. I cannot help but observe that that is already in the process of taking place. We see it in gasoline and tire rationing regulations and that is one of the things that I hinted at when I said that the Local Administrators would have an increasingly important task.

MR. WILLIAMS: I'd like to say from our experience in Providence, for the gentlemen who asked how far you can go, you have got to have a strong pair of legs to travel up and down stairways and you have to go in and cry and pray and do everything that you can, and if you do it that way you

don't have to pass a law and you can get it done. If you button it up right it won't unbutton. I think the trouble is that the fellows are afraid to take their coats off and go out and work.

MEMBER: In Gary The United States Steel Company has the Public Relations man representing 35,000 workers on our committee. We also get the help of the C. I. O. and the A. F. of L. When we got through the traffic engineers were sent up there and those boys were sold.

The local street car company had been working for years to get a staggering hour program in there. Well, I guess we scared them a little bit. We used everything we could get and nothing was left undone. We made a little tune using "Yes, we have no bananas" using "rubber" instead, and before we got through with that they changed the hours for 3,000 workers. There wasn't any force, there wasn't any law necessary at all.

DR. THOMPSON: There are an exceedingly small number of situations such as the gentleman from Portland mentioned. I would say that somewhere in the neighborhood of 75 to 100 cities in the United States either with full or partial staggered hour programs are in operation and I know of perhaps a half dozen places in which serious resistance has developed. The picture is not a gloomy one and I don't want to have this audience left with the impression that even on the voluntary basis this thing is an impossible task.

MEMBER: I am from Kansas and we have used two methods that are valuable. The first one is a hundred and forty passenger bus in which we save plenty of space. The second and best step is the building of barracks where the workers can live and work right there. That is the real answer in our opinion in the Southwest.

MR. HORNER: May I ask you what type of vehicle that is, that 140 passenger job?

MEMBER: A single unit built by the Santa Fe Trailways. One has been working about 30 days. We'll have a couple more in a little while.

MR. HORNER: You advocate building that type of equipment and building barracks?

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MEMBER: Yes.

MR. HORNER: To what extent do you think you can build barracks?

MEMBER: They are building them now. They will accommodate 9,000, the ones they are building now. They now accommodate about 2500.

MR. HORNER: And you are having no trouble getting workers to live in them?

MEMBER: They haven't had up till now.

MR. SORENSON: Any other question?

MEMBER: May I ask Mr. Thompson whether the Advisory Committee, in order to secure uniformity of effort and coordination of effort, has given to these Local Advisory Committees authority and uniform instructions as to how they should set about their job. In Louisiana and particularly New Orleans the traffic problem with reference to industrial plants is sad. Very little has been done with roads, highways, signal lights and so on, and from a standpoint of planning, although we have had some success with staggering of hours in the industrial districts. Because our Advisory Committee does not seem to be very active, I was wondering whether an authoritative plan had been handed each one of these Advisory Committees so that they will work with some degree of uniformity all over the country.

DR. THOMPSON: Well, Mr. Weiss, suggested material concerning the facilities of street traffic has been sent to each one of these State Committees. It is impossible for me and my little staff to keep in direct contact with each one of these administrators. We have to feed material through the State Committees to the Local Administrators and a great number of State Committees have issued their own manuals of instructions with our concurrence. They are supposed to advise and keep advised these Local Administrators.

However, in the absence of such a thing as complete cooperation of a State Committee, it seems to me that there should be in a city the size of New Orleans enough native engineering talent and knowledge and experience to solve your problems there. After all it is New Orleans' problem. If the workers don't get to work in New Orleans, New Orleans is the one that is going to suffer.

MR. SORENSON: We still find that we are trying to put a quart into a pint container. We must have more roads. Dr. Thompson, how do we go about securing additional facilities for this situation?

DR. THOMPSON: Well, Mr. Sorenson, my answer will be predicated on the assumption that everything possible has been done, and it will be colored by the grave lack of manpower and materials with which to build access roads.

I should like, also, to offer a short prelude to my answer that the Public Roads Administration, Federal, is the agency to which has been entrusted the job of administering the federal funds which go into these access roads and the job of passing on the plans for those roads in cooperation with the State Highway Department.

Local people could call the Local Administrator and his Traffic Committee would make a study of the situation, possibly with the help of the State Highway Department. Each State Highway Department has attached to it what is known as a Highway Planning Survey, an organization which is financed out of the federal funds. They have trained, experienced personnel who are accustomed to making surveys of the situation. My suggestion would be that the Local Administrator or the city should call on the state highway engineers who will in every procedure know what the situation is.

MR. SORENSON: Mr. Horner, if we could prove by facts that we needed this addition to the access roads, would your office aid in the securing of priorities for materials?

MR. HORNER: Naturally, the Highway Division of the Transport Corps will fight at the drop of the hat to have the roads maintained and have access roads built that are absolutely necessary to the war effort.

MR. SORENSON: Well, I anticipate, Mr. Horner, that you are going to get some real requests.

MR. HORNER: They'd better hold water though.

MR. SORENSON: I think that remark is very apropos. The trouble has been, perhaps, largely our own fault in the submission of our data to Washington, whether it has been

in the WPB for priorities or whether it has been to the State for materials for access roads and funds. If you tell your story completely, if you submit facts and figures and data that is pertinent to the request you are making, I feel that we will have very little difficulty in getting priorities.

I think, also, that many of us perhaps have felt that we will ask for 100 per cent and be satisfied with 50 per cent. I think it is the wrong idea. I don't think any request ought to be made to any of the federal agencies, particularly the WPB, unless there is an absolute need for every inch that we are asking.

MR. WILLIAMS: Mr. Sorenson, I'd like to refer to this question of staff. When the Local Administrator and whatever help he has has prepared some sort of a plan for staggered hours or group riding, what help can he expect from the State Committee and the State Highway Department in the way of staff to help him carry out this program?

The OPA promised us, a community with group riding programs, twenty NYA clerks to help tabulate the material. We asked if we could have one of the members of the Highway Planning Survey from the State to come out with us and get this staggered hour program ahead a little bit. Well, they asked for a little more money so this man could spend some time with us and I got a letter saying that, "We can't permit that at the present time. What are you doing about the rest of your program?"

Frankly, my answer was, "Keep your money until the postwar period and you will have it ready for the next war."

MR. SORENSON: Dr. Thompson, could you say anything on the loan of manpower from the State organization? How are they equipped, in most instances?

DR. THOMPSON: It varies tremendously. Some of the State organizations are flush with money and men and not relying entirely upon the Highway Department, but in other state agencies we have been unable to get adequate help to go around and visit with these local people, these Local Administrators, and to travel throughout the state, promoting.

In California there are a number of men

lent to the State Committee, I believe primarily by the Highway Department. In Pennsylvania the guidance and the help seems to come very largely from the Department of Commerce. In Virginia I attended a meeting a short time ago, in Richmond, where General Anderson, who is the Chairman of the State Committee there and head of the Highway Department, had a representative from each one of the safety services, each one of the State Departments who could speak for that Department and he called the roll and said: "I want one man from you. Can you give it?" He knew the situation.

"Yes. That will be forthcoming."

"I want two men from you."

"Well, I can give three men."

The first thing he knew was that he had about 22 men whom he could use to promote this program.

These men travel around and carry out the messages of the State Committee to the Local Administrators in addition to the technical assistance which in many instances has been provided by the State Highway Departments and the Highway Planning Surveys.

MR. SORENSON: Supplementing what Dr. Thompson has said and along the line of my earlier remarks, I think we have been too apt to look for help before we have exhausted every possibility of our own sources for that help.

I don't like to mention our city but it is an example of what I mean. We have always been able to use a certain amount of WPA labor in the past for some of the large traffic volume checks which we have taken and right now, with this change of transportation, we recognize the need for keeping up on the trend and finding out just what is happening on our street system. It wasn't possible to get WPA any more but we did get the Boy Scouts and in one day we had 1600 or 1632 of those boys out, boys of the older class, who did a fine job of traffic volume counting.

MR. WILLIAMS: I am thinking not so much of making volume counts. Let's say we have got those done. The boys are no good to go into a plant and help the plant transportation officer who has been set up to do this job and who is much better to do

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the job of producing gauges than for doing the transportation job. Maybe the National Advisory Committee could help us out in this matter.

For instance, I have just asked the Mayor of the City of Providence to provide us with some money from the Civilian Defense Council fund. It is only a small amount, but a letter came saying that this is a local job and the work must be done there to get results as well as to make surveys and "would you do your best to see that adequate funds are provided?"

That would help us over the hurdle. It is one thing for a man to come into a city and work and then to say, "I'd like to have some money to do something." After a while they recognize him as a friend around the community and they pass it off, but on the other hand, someone else on the outside is in position of authority and could possibly send the letter in and that would help us over the hurdle.

MR. SORENSON: Any other questions?

MR. WEISS: Has the State Advisory Committee any specific appropriation of federal funds to go on with this work of planning?

DR. THOMPSON: The Highway Planning Surveys, Mr. Weiss, of which I spoke, are a part of the Highway Department. Federal aid money goes into each one of the states. The prevailing pattern is that it is matched by the state. That money is used in a variety of ways. Most people think of it as being used in the construction of highways in normal times. It is also used for the maintenance of those highways, and it is also used for the maintenance of this Highway Planning Survey.

Recently the Congress of the United States appropriated 25 million dollars—it was known as SNA money—which was for access roads. One and one-half per cent of each state's share of that 25 million dollars was set aside for these Highway Planning Surveys and specifically earmarked so that it could only be used in carrying out the program of the Highway Traffic Advisory Committee of the State, so that there is money available. Unfortunately, it isn't large and we are giving serious thought to the enlargement of those monies.

MR. SORENSON: With that we close the panel and turn the meeting back to the Chairman.

CHAIRMAN RUTLAND: Thank you, Mr. Sorenson, and to you gentlemen on the panel who have interpreted these questions that have been presented.

The Chairman would like to make this additional comment on the discussion. On these men, here, throughout the room and other related agencies throughout the country falls the responsibility of doing this job. It is a tremendously important job. A great deal of public education must be carried on, utilizing the facilities of the press, screen, and radio.

In the next several months we shall see conditions in this country that we have never seen before. Tires are wearing out fast. We are going to see a heavy load dumped on mass transportation agencies. Already I think the increase in carrying capacity has been such that it has reached 30 per cent over the same period of time last year.

I think it is the desire of the ODT and other agencies in Washington that mass transportation assume as heavy a degree of this load as it is possible for it to take. As we in our work continue to use the facilities of educational agencies to get people to use mass transportation, we are going to find the general comment: "Well, that is right down the street car company's alley." They make that statement, perhaps thinking that it is a project to get more business for the transportation company.

We must realize that in the average bus carrying, seated and standing, some 60 or 70 people, the average amount of rubber used on its tires is five or six hundred pounds. On the basis of Mr. Mickle's statement this morning that the car capacity index is around 4, therefore, to carry that same number of people using 14 or 15 or 16 private vehicles, would require somewhere around 1300 or 1400 pounds of rubber.

Interpreting the share-the-ride program to people doesn't mean a fellow going down the street and picking up passengers who are waiting to ride on mass transportation agency vehicles. From the standpoint of rubber conservation he might as well have gone on to

town or to the industrial plant in his car by himself.

We have a tremendous job, gentlemen, and your Chairman would like to throw this challenge out to you to take this job seriously. I have enjoyed listening to these discussions and to those who have indicated that they would like to get some state or some national help on this problem of the movement of defense workers, shoppers and business people to and from their places of business. This problem is no different from any other com-

munity problem that arises. It needs group action by the heads of the Chambers of Commerce, the City Governing Body, local safety leaders and civic groups of that kind and if they are assembled together and told the story, this job can be done just as easily and as successfully in the local community as any other job that is done by the Chamber of Commerce in getting a new plant into the town or any other municipal or civic job that presents itself.

You now stand adjourned.

TUESDAY AFTERNOON SESSION

October 27, 1942

JOINT SESSION WITH COMMERCIAL VEHICLE AND TRAFFIC SECTIONS

Presiding:—LESLIE J. SORENSON, City Traffic Eng., City of Chicago

Safety and the Individual

By DR. VERNON G. SCHAEFER

Pennsylvania State College, State College, Pa.

Why should we fret about traffic accidents? Is not our gasoline rationed? Are not our tires rationed? Is not our speed limit fixed at a very low rate, if indeed we drive at all? All this should reduce accidents materially. But we yet have a problem.

First we are confronted by the fact that if there is a reduction of traffic accidents due to the prohibitions enforced by government or obeyed through patriotic duty we are likely to become lax in our program of education. This is likely to have had results in several directions. The lack of education in safe driving may result in an increase in accidents on the part of those who are privileged to continue to drive. Furthermore, we are interested in the development of proper safe driving habits and attitudes on the part of those who will be behind the steering wheel when the shooting is over.

We are facing a situation analogous to

the prohibition of liquors twenty years ago. Whether such a prohibition was good or bad is beside the point. Previous to the war, schools, churches, The Anti-Saloon League, the W. C. T. U. and many other organizations kept up a constant fight to reduce the use of alcoholic liquors. We as a democratic nation believed the time had come, so we prohibited their manufacture, transportation, and sale.

We had prohibition! Education could stop, and it did stop. One prominent religious educator wrote in his notebook "Thank God it is finished; now I can relax. Drunkenness will be no more." He lived to see the day when his children and our children, no longer confronted by the prohibitions, faced a world uneducated in the safe way to deal with the problem of alcoholic liquor. Some of the tremendous increase in the excessive use of alcoholic liquor may be attributed to the sudden release from restrictions. But the lack of proper education over

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a period of years must be accredited as the chief factor in the situation.

In like manner when enforced governmental regulations and self-imposed restrictions are removed there is likely to be a misuse of automobiles. We must continue our training for safe practices even the more during the reduced driving period if we expect to meet the problem of accident prevention when restrictions are removed.

Secondly we have the problem of training drivers for the Army. We are building an Army of the United States that will number 10 millions of men supported by 70 millions more in direct service on the production lines, farms, and in special service.

If we have 10 millions of men in the Army at least one million of them will be driving "jeeps," "peeps," crash trucks, tanks, ambulances, supply trucks, and other motor vehicles. As long as we send young men and women into the service we will be sending a certain portion of them into the service as drivers.

I am in no position to divulge military secrets, but you must believe that unsafe driving practices are costly in the Army. Safe practices, habits, and attitudes on the part of these drivers would save many lives and much in the way of very costly and sorely needed material. The seriousness of the problem is well known to many officers.

We must provide those who will be entering the service with a background of good habits of safe practice before they enter. If we say "let the Army do it" we are thrusting upon it an almost impossible task. This is our war. Any training that is basically sound that can be provided before entering into the service will provide personnel better prepared for further training.

I should like to propose to this group a specific task and a challenge to accept that task. Everywhere those who have been interested in driver training are telling me there is no more use to continue it because it will not be needed. My proposition is that it be increased but that it be given a definite emphasis in the direction of training safe drivers for the service.

This will require careful coordination, after adequate discussion, with the program

of the armed service. The analysis of the jobs must be made by the Army and specifications determined.

A third part of the problem that confronts us, even if restrictions greatly reduce the use of privately owned automobiles, is the question of safety for pedestrians, bicyclists, and those who ride the common carriers. This part of the problem is increasing rather than decreasing.

May I now point out the necessity of educating those who do not drive. There is a need for individual and group instruction in the proper attitudes and safe practices in relation to the great increase in traffic by trains, buses, trolley, and bicycles. The pedestrian is also very much with us and as much in need of education concerning safe practices and proper attitudes as he ever has been.

In all of these non-driver groups traffic accidents have increased rather rapidly in the past year. There is little reason to believe that they will decrease in view of the fact that more and more people must depend on these means for both business and pleasure purposes.

In the case of the public transportation and common carrier traffic the problem is further complicated by the fact that the present facilities are not adequate to meet the demands for comfortable travel. And it is not likely that the companies involved will be permitted to develop the facilities.

Traffic accidents will not decrease greatly because private automobile travel is restricted both in mileage and in speed. If there is a decrease in this area we know already that there has been an increase in other traffic areas. Whether the increase in the one will reach the point of decrease in the other will be interesting statistically, but has no bearing on our problem. Our task is to reduce accidents wherever they occur. If safety education in the area of traffic is our problem, then our problem is not decreasing. It is just taking a new direction which offers new challenge to find a way to meet the problem.

Personal human factors have always been important in any accident situation. If we take the individual out of his own automo-

bile and force him to ride a bus, train, tram or bicycle or to walk to and from work we have not removed the greatest factor which might contribute to an accident. The means or vehicle of his transportation is comparatively safe in either case. It is the individual who is unsafe in his practices, habits, and attitudes. We have only changed the area of his activities.

In fact this change of activities in itself presents additional difficulty. There are new habits and specific practices to be learned. The safe driver may not be a safe pedestrian or a safe bus or train rider. Worse yet, the unsafe driver may be even more unsafe when confronted by a new mode of transportation requiring a change of specific habits. With the increase of traffic in the non-driver area the problem of educating and re-educating the individual is the more increased.

Since the great majority of all accidents are caused chiefly by failure of individuals to act properly we have as our problem the control of the individual if we wish to reduce accidents. This control involves several factors.

The individual must be taught safe practices. Lack of knowledge of safe practices is a contributing factor to the human failure in accident situations. People must be informed in the specific safe practices of their mode of transportation if traffic accidents are to be avoided. That information must be aimed at and pitched to the level of the individual. Nice generalizations to the public at large are usually not absorbed by the individuals who make up that large public. Give an individual appeal and importance to the information you dispense if you wish to inform the individual concerning safe practices.

The individual must be encouraged to repeat specific safe acts until they become fixed as habits. The individual acts either safely or unsafely chiefly by habit. It is no more difficult to learn a safe habit than an unsafe one. But it is difficult to change a habit after it is formed. Since most of our activities are carried out as habits it is necessary to learn safe habits rather than depend upon quick judgment to avoid accidents.

The factor of emotion is very closely re-

lated to accidents. The individual under the stress of an emotion, be it fear, anger, excitement, hilarity or extreme anxiety, is likely to act unwisely and expose himself to danger. While little may be done to change the emotional stability level, or emotional habits, of the individual, much can be done to help reduce the tensions to which he is exposed that may cause him to become emotional.

It would be foolish to say that people ought not to be under tension, and thus more emotional, at a time like this. In fact it would not be normal if people did not respond somewhat abnormally to the present abnormal conditions. People are more excited, more anxious, and more tense under present wartime conditions than under peacetime conditions. You may expect it. Likewise you should expect accidents to increase as a result of the emotional tensions of individuals. Our task is to relieve those tensions rather than increase them and to take extra precautions in the safeguarding and education of the individual.

An important point to be considered by the public carriers is that of educating the employees to the necessity of dealing courteously with the great number of excited and anxious individuals now using their facilities. The same point may be made to public traffic officers. Relieve the tensions rather than increase irritations if you wish to decrease traffic accidents. Enforcement of rules and regulations can be rigid without being harsh and irritating if the individual employee or officer understands human nature and practices leadership rather than dictatorial abuse of the already tense individual.

Attitude and morale are very closely related to each other and to safety. Attitude is developed by calling attention often enough to the desired point to guide the interest of the individual into a channel which when properly named or symbolized becomes the attitude of the individual. No safety promotion program can well be developed without the proper attitude on the part of the individuals involved in its development. The individual is often unsafe in his actions unless he has developed an attitude of safety-mindedness that will cause him to seek out and develop as habits the specific safe practices.

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Morale is a group situation. When the individuals of a group subscribe to a common purpose, be it of high or low level, the morale of the group is high. Then the attitudes of the individuals are similar and each promotes the best interests of the group according to the accepted common purpose. There is much evidence to show that the accident rate is low in groups where morale is high and high in the groups where morale is low. If we can increase the degree of morale by getting individuals to support wholeheartedly the common national purpose we can reduce accidents, produce materials of war, and win the struggle for democracy.

There are smaller groupings in which minor common purposes may be developed to increase morale which will in turn decrease accidents. Let us be sure, however, that the minor common purpose of our group

is not out of line with the larger national endeavor lest we build high morale in a small group at the expense of the morale of the nation.

Time does not permit us to discuss all of the factors relating the individual to safety and accident prevention. There is much that could be said concerning intelligence, aptitude, physical ability, and personality in relation to traffic safety. Each of these is important and must not be overlooked. The total individual must be better understood if he is to be educated in safe practices and adjusted to a world which presents a multitude of hazards to his safety. He must be understood and educated and adjusted specifically to each area such as home, occupation, and traffic according to the careful analysis of what constitutes hazards and safe practices in each area.

DISCUSSION BY J. S. BAKER, NATIONAL SAFETY COUNCIL, OF PAPER ON SAFETY AND THE INDIVIDUAL BY VERNON D. SCHAEFER

With Dr. Schaefer's three misgivings we can all more or less agree. The first of these, that slackening effort in traffic safety will result from a decline in accidents due to war reduction in traffic, is probably the most serious. It may lead us to forget that the remaining drivers will be those particularly important to the war effort. Furthermore, the machinery of accident prevention may be allowed to rust, with the result that the ultimate increase in traffic will find it out of commission.

Regarding the second fear that driver training may be diminished, whereas it ought to be directed to preconditioning for army and essential civilian traffic, we may be encouraged by the persistent rumors that the War Department and school authorities have plans afoot for meeting just this situation.

The third wartime traffic trouble is one against which we can well be on guard. Fewer cars mean more pedestrians, cyclists, and riders, a change which will introduce unfamiliar conditions to so many people that accidents are bound to result unless special precautions are taken.

In his analysis of the relationship of personality to accidents, Dr. Schaefer outlines the three fields which many of us have recognized but often call by other names:

1. The necessary physical and mental ability which is rightly classed as being basically the least important of the three, particularly in the carefully selected group of professional drivers in commercial-vehicle and transit fleets.

2. The knowledge and skill of a driver as developed by training and experience; the knowledge being not only an understanding of the vehicle driven, but also an appreciation of the hazards involved, and the skill being not only the ability to manipulate the controls of the vehicle almost automatically, but a corresponding habitual response to traffic situations *before* it is too late to avoid accidents.

3. The vague though vital factor of emotion; this is sometimes spoken of as attitude or morale, but boils down into a simple matter of whether drivers have the determination to make the utmost use of their natural abili-

ties and their acquired knowledge and skill.

Nice Generalizations

In developing these points, one thing was said which deserves the most emphatic underscoring: *"Nice generalizations are not absorbed by the general public."* Most of us in safety work should take this to heart! We are too easily content with preached or pictured admonitions to be careful, to drive safely, and to keep the vehicle in good mechanical condition. Such platitudes echo the pious sentiments of every driver to whom they are directed, but usually make no change in his faulty driving practices. Not until we break away from these "nice generalizations" and adjust our efforts to educate drivers and mold their attitudes to the exact situations of the drivers, can we make them see that there are in their own behavior flaws which will result disastrously. It takes work on each driver at his own level of interest and intelligence to bring into focus out of the blur of "nice generalizations" those specific things which he himself must do for safety.

Perhaps there should have been a little more said on attitude. We all recognize it as a certain fervor which we may call, "safety mindedness," or some other such term without much appreciation of how such a flame is kindled. Most drivers, and also many of those who are more or less responsible for the good driving of others, are satisfied if their attitude toward safety is right instead of wrong, without recognizing that the emotional outlook toward proper driving must not only be correct, but it must be strong. In general, our feeling toward traffic safety is good but woefully weak. We deplore drunken driving, but not strongly enough to let our drinking interfere with our driving.

In other fields, far less important from the standpoint of safety, our feelings are vastly stronger. For example, I doubt if there is a man in a thousand who would, if I asked him to, step up on the platform in front of an audience and take off his trousers, yet it is easy to find people who will agree to drive you home if you will first buy them a couple of good stiff drinks. In both cases we have the feeling that there is a little something undesirable about the situation, but the difference is that our attitude is strong in the former case and weak in the latter. We

cannot expect much traffic safety until we can develop the right attitudes strongly.

Possibly one of the reasons why this is so difficult is that in driving we are surrounded by the steel and glass of a car and we rarely come close enough to other drivers to sense their disapproval of what we are doing. If we crash the line at a ticket window, frowns on faces and muttered disapproval make us pause, but we are rarely aware of such reactions when we rush past five or six cars in line, whose impassive exteriors fail to reflect how their drivers hate us.

Attitude and Morale

This brings us to another point of Dr. Schaefer's which was most helpful: the distinction between attitude and morale. These days we speak rather glibly of the latter, often without failing to realize that it is a group affair. I can have attitude and you can have attitude, but if these two attitudes agree and reinforce each other, then we have morale. As an individual, I may believe in obeying the speed laws, refrain from driving after drinking, and give my whole attention to the job while I am behind the wheel, but if my compatriots sneer at this and call me a sissy for it, my attitude is weakened and our morale is poor. If, however, these same fellows berate me for my poor driving, compliment my good safety record, and I do the same for them, my attitude is strengthened, my determination to use my skills and abilities to their greatest advantage soars and our morale is high.

Such is the stuff of which safety is made. We talk of safety in the individual and we are discussing a most primitive instinct, that of survival. Our problem is, of course, one of keeping the physically and mentally unfit drivers from the highways, still more one of developing in each driver the habits and skills for keeping out of accidents, but surely most important of all, strengthening in him those attitudes which spring from the instinct of self-preservation to make the utmost use of his abilities and his skills to avoid being trapped in any dangerous situation and of multiplying the attitude of this individual by focusing on it the approval of others to build morale so essential to the success of any activity which is so much a group matter as sharing the highways with others.

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WEDNESDAY MORNING SESSION

October 28, 1942

GROUP SESSIONS OF TRAFFIC COURT JUDGES AND PROSECUTORS

WARTIME PROBLEMS OF THE TRAFFIC COURT

Presiding:—JUDGE EARLE W. FROST, Municipal Court, Kansas City, Mo.

Opening Remarks by Judge Frost

The two major phases of "Wartime Problems of the Traffic Court" directly resulting from and vitally affecting the war effort are the special problems imposed by defense workers involved in traffic violations and those of handling members of the armed services in the traffic court.

Reconciling apparently opposing factors is necessary in handling the two major status conditions. Defense workers and members of the armed forces must be kept "on the job." The ideal and practice of fair and impartial traffic law administration and all that has been accomplished in the cause of traffic safety must at the same time be preserved. All conflict, actual or apparent, between these two factors should be eliminated to the fullest possible extent to the end that the all-out objectives shall be attained.

Special problems imposed by defense workers involved in traffic violations include:

1. *Providing appropriate arrest and booking procedure in avoiding delay to and detention of workers.*

Agreements made between management of war industries and enforcement officials permit use of ticket summonses for speeding and minor violations and eliminate bond requirements normally required because of jurisdictional boundaries. This is, of course, primarily a problem of law enforcement officials.

2. *Providing court sessions for trial of workers that do not conflict with work schedule.*

This problem requires more and varied traffic sessions. The sessions must be staggered to meet the different work shifts. Night court sessions are imperative to han-

dle cases of workers who work continuously on a daytime shift. Traffic cases must be segregated and tried promptly and continuances avoided. The added case load in areas where war industries are located must be overcome by more efficiency in court procedure and facilities.

3. *Satisfaction of sentences or penalties so as to not conflict with work schedule.*

A plan of installment payment of fines is probably the best solution of this problem and much more practicable and satisfactory than attempting to have sentences served over week-ends.

4. *Elimination of unsafe drivers, particularly drivers carrying other passengers for hire.*

This problem can be solved by either temporary or permanent suspension or revocation of licenses.

5. *Elimination of unsafe transportation equipment.*

This problem can be solved by providing for and imposing appropriate fines and penalties or by impounding provisions requiring that equipment be made safe.

6. *Traffic education program for defense workers.*

A definite traffic educational program should be provided for defense workers, as well as for the general motoring public. This necessarily requires a traffic violators' school and attendance of defense workers during their off work periods. Courtroom education of traffic violators and cooperation of the management of war industries in educational programs should not be neglected.

7. Proper enforcement attitude as to defense workers.

Should defense workers be given special consideration because of their work?

A sound analysis of the problem would indicate that defense workers deserve no special consideration from the courts or police but must expect to pay the full penalty for traffic violations.

Handling members of the armed services in traffic court.

1. Legal jurisdiction of civil traffic courts over members of the armed services.

This involves a distinction between peacetime and wartime jurisdiction since we are now in the latter status. It further involves possible distinctions arising out of whether the member of the armed forces is on active

duty or on furlough and whether he is using military equipment or civilian equipment, and the practical distinction between minor and major traffic violations as well as the exercise of comity between civil and military authorities in the handling of traffic violations.

2. The procedure applicable in cases of conflict of civil and military jurisdiction, particularly in cases of serious traffic violations.

This necessitates cooperation between the civil and military authorities and a close contact between the civil authorities and the Provost Marshal's office or other commanding military officers of the particular area so as to facilitate the detention and transfer of the violator to the military authorities for appropriate action and punishment in connection with the violation and report back to the civil authorities to clear the records.

JUDGE JOSEPH B. CATANZARO, Municipal Court No. 1, St. Louis, Mo., discussed the effects of a great influx of construction and munitions into St. Louis. In addition to the housing difficulties, said Judge Catanzaro, there is a real traffic problem because of the fact that many of these workers came from farms, are unused to city life, and create an increase in violations of the traffic laws. These are chiefly defense workers who, after long hours of work, suffer a physical let-down, in consequence of which they stop at taverns for relief from the tension of the day's work.

This increases the drunken driving to be handled by the police, and other offenses such as leaving the scene of accident and of resisting an officer.

The Judge stated that they have 500 to 600 cases a day in their two courts. For the first offense for driving while intoxicated the fine is \$50 and removal of the license for one year. Frequently the defendant pleads necessity of the car in order to get to his war job, and with lawyers on the case it is frequently dismissed.

Another problem is encountered in the increasing number of defective cars, where the workers plead various excuses for not having them properly maintained. Defense

workers also plead lack of time to get the required drivers' and state licenses. For driving without such licenses there is a maximum fine of \$25 plus \$3 cost, but common court practice is to let violators off on the fine if they will procure the license.

Another problem of great importance is the question of careless or reckless driving charges. St. Louis is attempting to put a curb on the practice of the violator's seeking out the owner of the damaged car with the intent to settle the matter out of court. Judge Catanzaro believed that the ultimate solution to most of these problems is one of efficient and successful education of the general public. He stated his complete satisfaction with the way that the police are working with the court.

JUDGE ENGLER, of Austin, Minn., stated that there is a population of some 3,000,000 in Minnesota, two-thirds of whom live in rural sections. The sessions of the rural courts are very much more informal than the sessions of the city courts. There is a great deal of moving in the state and people are impressed with the lack of uniformity in court procedure.

The management of Minnesota courts in traffic violations does not leave in the citizens' mind a favorable impression, and this

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will undoubtedly have a bad effect on the whole problem of production and the control of traffic. Resentment against justices of the peace naturally reflects on traffic court justice in general. The public itself is not doing anything about it, but rather puts the responsibility on the Bar.

In a brief discussion following Judge Engler's remarks the following points were brought out: (1) Special court sessions at night are more efficient in taking care of the defense workers on their off-hours, (2) Satisfaction of penalties, the installment payment of fines and the serving of sentences over the week-end all tend to keep the war worker on the job, (3) The elimination of the unsafe driver and of unsafe transportation equipment and of more traffic educational programs are still problems deserving of a great deal of study. It is generally agreed, said Judge Engler, that the defense worker must pay the penalty just like anyone else.

JUDGE HUGH L. SMITH, San Francisco, California, said that soldiers in his state are treated like civilians in average traffic cases. More serious traffic cases as they arise are taken up with the Lieutenant Colonel in charge of the area. Judge Smith stated that they had excellent cooperation with the

Army and Navy authorities. The Army has drivers' regulations and are training the men best fitted to drive. Drivers in convoys seldom get into trouble because they are excellently trained by the Army. Army convoys are put right through the city by previous agreement with the local police and local traffic is rerouted. In cases where military drivers have no money to pay for fines in case of violation, they are put on probation. After communicating with the commanding officer the money is sent in to the probation office on payday. It is necessary and vital to have perfect coordination between the Army and Navy authorities and the local police, said Judge Smith.

JUDGE CHRIS FOX, Oakland, Calif., stated that they have great numbers of servicemen but that the problem of dealing with them is small compared with the problem of dealing with the defense worker. In Oakland, convoys go through town with the assistance of local officers. Traffic violations are usually handled in local courts with the exception of very serious cases. Military traffic cases, said the judge, are no particular problem—not so much as those of the average citizen. The attitude of the boys toward the court is very good. Soldiers are given priority hearings in all cases.

Statement by Judge Lawrence DuMars

The statement that the defense worker violator presents a very serious problem to law enforcement officers in general and traffic courts in particular will not occasion surprise to anyone present. In attempting to discuss the problem each of us will have to do so in the light of his own experience with it, in the light of conditions in our respective areas. In other words, it is impossible, in my opinion, to generalize very effectively about the problem, because it varies so widely in each locality, in each court and indeed in each defense plant. There are a few fundamentals, however, upon which I think we can all agree.

First: It should be the policy of the Court to make no distinction in favor of the defense worker in the application of the law to the facts of the case and in the imposition of the

penalty, and it should be made amply clear to them that they should expect no special consideration in these respects. The law makes no such distinction and the courts should not usurp the legislative powers and write in exceptions that the law making body didn't sanction. Further, the idea seems to be prevalent among a great number of such workers that the character of their occupation should exempt them from the necessity of obeying any law, and this is certainly not an idea that should be encouraged by any letting down by the Court.

The long time result of such a policy applied to the millions of war workers and the consequent fostering in them of a disregard for the law, might well result in chaos. A very large percentage of them are young men upon whom this duty of law observance rests

very lightly at best. Then too, you usually find the defense worker problem concentrated near one particular area where the defense plants are located; but it is usually very acute and it is simply inviting disaster to temporize, to fail to apply prompt and effective deterrents in the form of adequate penalties.

Second: In other respects, such as bond requirements, setting of cases and assuring a prompt hearing on the day set, I think every effort should be made to avoid interference with such violators' work. In minor violations, they can be released on acceptance of the ticket and promise to appear, particularly where the plant in which they work is willing to cooperate with the enforcement officers. Special sessions of Court can frequently be provided at hours which do not conflict with

their work hours, and, when they do attend, whether at regular or special sessions their cases can be given preference in call so as to keep them in Court as short a time as possible.

Third: Every effort should be made to enlist the active cooperation of the employer in efforts to solve the problem. In fact, I believe you have it well on the way toward solution as soon as you have his help. With his help a program of traffic education can be carried on in his plant. Through him the morale of his employees can be raised; the tin hat can be made a symbol, as the uniform of the soldier is a symbol, which he will not discredit by lawless conduct. It is my experience that the attitude of the employer largely governs the attitude of the employee.

Handling Members of the Armed Services in Civil Courts

By LT. COL. ROY MALCOLM McKERCHAR

6th Service Command, Army of the U. S., Chicago

The mere fact that a man is in the armed services gives him no immunity from prosecution by civil authorities. The wearing of the uniform does not make a soldier or officer less amenable to all statutes, either federal or state or municipal. This applies to felonies and misdemeanors.

When a man becomes a member of the armed services he immediately becomes amenable to both civil and military laws, and in certain instances he may be punished by both the civil and military authorities for the same offense; e.g., he might be punished by civil authorities for speeding at 75 miles per hour and by military authorities for injury to government property by driving at an excessive rate of speed with a government vehicle, and be punished by both authorities, and conviction and punishment by one would not be a legal defense to trial and punishment by the other.

Jurisdiction

With the foregoing in mind, the next question logically would seem to be, "Who has prior jurisdiction in case a member of the armed forces is accused of the violation of a civil law?"

In general, it might be said that initial jurisdiction is acquired by the authority making the arrest. Thus, if a member of the armed services is apprehended by civil authorities outside of a military reservation and is accused of the violation of a civil law, he may, as a matter of right in the civil authorities, be placed in confinement and tried and fined or imprisoned just as in the case of civilians.

However, under certain circumstances, this rule must be relaxed and the civil authority must yield to military authorities. In time of war, when a member of the armed services is arrested and detained by civil authorities, the military authorities have the right to demand that the accused be surrendered, if they certify that his retention by civil authorities is detrimental to the military service. In such cases, the military authorities agree that they will try and punish the accused at such times as will not be detrimental to the military service.

On the other hand, the civil authorities likewise have the right, except in time of war, to demand the surrender for trial of any person in service by appropriate demand on the immediate commander of the accused

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and the commander is required to surrender him unless he is then under charges by military authorities. This rule is relaxed in time of war, however, since the national interest and the efficient functioning of the military must take precedence over the punishment of military personnel by civil authorities. This does not mean that the accused escapes punishment; but only that the administering of the punishment is undertaken by the military and is applied so as to interfere as little as possible with the military duties of the accused.

A civilian may initiate charges against a member of the armed forces, but he may not file the charges in the military courts. This is left to the military authorities.

Civil authorities may arrest a deserter and turn him over to the military authorities.

The Practical View

Thus far I have been discussing the subject from the purely legal viewpoint. I now would like to present the practical point of view. After all, every man, both civilian and military, and especially the men here today, are determined that military necessity and the good of the service shall be paramount, and that naked legal rights, though they shall in no instance be lost to the individual, must give way to the practical type of treatment which will minimize red tape and legal processes and contribute most to the greater objective, namely, the efficiency of the military service.

What should a police officer do when he arrests a member of the armed forces for a traffic violation?

If the violation is a minor one, he should reprove the man and then take down his name, army serial number and his organization and direct him to report to camp, and his superior officer should report the violation to the man's commanding officer. The latter will then see that appropriate punishment is administered. This relieves the civil authorities of the burden and gets the man back to his organization. It gives the soldier a "break" for if he is arrested, tried and found guilty and is committed, he will be A.W.O.L. if he over-stays his pass, if he has one, or if he does not return to his organization in time.

If the violation is serious, the man should be arrested and his commanding officer should be notified by telephone or telegraph. The latter can then determine whether the best interests of the service will be served by permitting the soldier to remain and be tried and punished by the civil authorities, or whether military necessity requires the soldier's presence with his organization. Military authorities, in time of war, have the right to demand the surrender of any soldier accused of a violation, if his retention by civil authorities interferes with his military duties, but the military authorities must give assurance to the civil authorities that adequate punishment will be administered.

You may be sure that in such cases punishment will be given and therefore the civil authorities need have no fear that the violation will go unpunished. Furthermore, the soldier will, in the meantime, be available for military duty, rather than be idle in jail.

Men in Convoys

The foregoing principles pertain to individual soldiers, while acting independently. When the soldier is a part of a truck convoy, a different situation exists. All military personnel, when driving outside of military reservations, are subject to all traffic laws, rules and regulations, just the same as civilians, except in cases of military necessity. When a soldier is driving a vehicle as part of a military column or convoy he is under the direction of the column or convoy commander and therefore is subject to his commands and directions. If therefore his commander, directing the column, orders him to proceed faster than the local law permits or to make a prohibited left turn, the commander is the one subject to arrest and not the soldier, so long as he is obeying an apparently legal order.

The War Department has adopted a policy to be followed in the best interests of the service, which in brief is as follows:

It is generally desirable to arrange with local authorities of cities near posts, camps or stations to have Military Police on duty in civil communities. Their principal duties are:

a. To assist the civil police in maintaining order among military personnel by enforcing

observance of civil laws by military personnel.

b. Military police patrol areas with the civil police, particularly when difficulties with civilians may arise. Headquarters of Military Police are usually established in the local police headquarters.

c. By agreement with civil authorities, all military personnel arrested for minor violations are turned over promptly to military police, with the understanding that correc-

tive action is to be taken by the military authorities.

d. To apprehend deserters and other unauthorized absentees.

e. To take into custody military personnel appearing in public in a drunken or otherwise discreditable condition.

f. To assist civil police in traffic control when troop movements are in progress by controlling military traffic.

Wartime Problems of the Traffic Court

By JUDGE E. EARLE RIVES

Municipal-County Court, Greensboro, N. C.

With your permission, I shall raise and attempt to answer two questions dealing with the general problem of handling men in the armed services in the criminal court.

First: Offenses committed by persons in the Armed Services of the United States—jurisdiction of State courts.

Second: Delivery of persons in military service to civil authorities.

I should like to call to your attention the provisions of the Articles of War relating to criminal offenses committed by persons in military service. Article 74, Codified as 10 U. S. C. A., Section 1546, provides that "except in time of war" commanding officers shall turn over to the civil authorities for trial any person subject to military law who is accused of an offense committed within the geographical limits of a state. Article 92, 10 U. S. C. A., Section 1564, provides that any person subject to military law who commits murder or rape shall suffer death or life imprisonment as a court-martial may direct, but that no person shall be tried by a court-martial for murder or rape committed within the geographical limits of a state "in time of peace." Under Article 93, 10 U. S. C. A., Section 1565, any person subject to military law who commits manslaughter, mayhem, arson, burglary, housebreaking, robbery, larceny, embezzlement, perjury, forgery, sodomy, and certain assaults "shall be punished as a court-martial may direct."

It will be noticed that there is no declaration in any of the Articles mentioned that the State Courts shall be without jurisdiction to try persons in military service, either in time of peace or war. Article 93 authorizes courts-martial to punish persons who commit certain offenses, but it does not deny this power to the State Courts. Article 92 states that persons subject to military law who commit murder or rape within the geographical limits of a state shall not be tried by a court-martial in time of peace. Although a court-martial would have jurisdiction over these offenders in time of war, it is not expressly provided and it does not follow that the State Courts would be ousted of jurisdiction. Article 74 does not make it mandatory in time of war as in time of peace that persons in military service be released to the civil authorities to be tried for offenses committed within the geographical limits of a state, but it does not forbid the release of such persons to the civil authorities or forbid the civil courts to proceed to trial in time of war when custody of such persons has been acquired.

In *CALDWELL v. PARKER*, 252 U. S., 376, 64 L. Ed., 621, a defendant had been tried and convicted in a State Court in Alabama for the murder of a civilian. He asked to be discharged on writ of habeas corpus in a federal district court on the grounds that he was a soldier in the United States Army, that the alleged offense was committed while

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the United States was at war with Germany, and that the military courts had exclusive jurisdiction over such offenses. The United States Supreme Court held that the district court properly refused to discharge the petitioner, as the State Court and the military courts had concurrent jurisdiction to try a person in the armed forces for murder committed within the territorial jurisdiction of the State in time of war. This case is concerned only with a conviction for murder, which is covered by Article 92, in a State Court; but, in the course of the opinion both Article 93, which enumerates other crimes over which courts-martial may exercise jurisdiction, and Article 74, are discussed, and it is concluded that a declaration of war does not result in the complete destruction of state authority in time of war with respect to these offenses where persons in military service are involved.

In *STEWART v. COMMONWEALTH*, 185 Ky., 34, 213 S. W. 185, a State Supreme Court concluded that the State Courts had jurisdiction to try a person in military service for robbery committed in time of war, an offense for which a court-martial may also impose punishment under Article 93.

Under the authorities discussed, it seems fairly clear that State Courts have jurisdiction over the subject matter of criminal offenses committed within the geographical limits of the State by persons in military service even in time of war.

With reference to the second question, to-wit: delivery of persons in military service to civil authorities—when such a person is accused of committing a crime:

Article 74 of the Articles of War does not require that military authorities release persons in military service to the civil authorities for trial in time of war. Therefore, it may be impossible to obtain custody of a person in the armed forces who is accused of crime without the cooperation of the military authorities. Furthermore, it has been thought that the military authorities have a paramount right to the custody of a person in military service in time of war and that a State Court, having custody over him and admittedly having jurisdiction over the subject matter of an offense committed by him, may be required to surrender him upon request by the proper military authorities. Thus, in *EX PARTE*

KING, 246 Fed. 868, (E. D. Ky.), it was held that a person in military service would be ordered delivered to the military authorities on writ of habeas corpus when, in time of war, he was held by a State Court on a charge of murder and the State Court refused to release him, on request, to the military authorities. The existence of this paramount right of custody in favor of the military authorities, which was recognized by the district court in *EX PARTE KING*, has not been determined by the United States Supreme Court. In *CALDWELL v. PARKER*, supra, that Court refrained from deciding the question, stating at 64 L. Ed., page 627.

"As there was no demand by the military authorities for the surrender of the accused, what would have been the effect of such a demand, if made, is not before us."

The question of delivery of a person in the military service to civil authorities is partially covered by a copy of the procedure required by the Judge Advocate of the 78th Division, now stationed in North Carolina. This copy, presented to our Attorney General, reads as follows:

"*Ex Parte Bright 1, Uta 145, COLEMAN vs. TENNESSEE*, 97 US 509, Corpus Juris Army and Navy, Sec. 235, Corpus Juris Secundum, Section 38.

"2. If in a case where in application of A. W. 74 for delivery (of a military person) to the civil authorities is authorized, good reason exists for the use of Military Jurisdiction, charges should be promptly preferred. (M. C. M. 1928, Par. 11 of A. W. 74).

"3. It is the policy of the War Department, under the 74th A. W., to decline in time of war to turn over to the civil authorities one who is subject to Military Jurisdiction and charged with a civil offense, except when the offense is a most serious one such as a felony recognized as an offense which would serve to disqualify the offender for military service and association with upright and honorable men, and when the commanding officer believes that the available evidence is sufficient to establish a prima facie case.

"There will be required with each application by the civil authorities for the surrender of a member of the military service a statement of the offense, preferably in the form of a copy of the charge or indictment and a

summary of the evidence relied upon to sustain the charge.

"Whenever an application accompanied by the data required by paragraph 2 is made by the civil authorities for the surrender of a member of the military forces, the commanding officer exercising immediate general court martial jurisdiction over the accused will dispose of the matter in accordance with the policy outlined in paragraph 1. In any case in which the commanding officer is in doubt regarding the action which should be taken, a report will be at once transmitted to the War Department so as to enable it to determine the matter. (A. G. 014, 12 (12-22-41.) Cir. No. 2, January 2, 1942.)

"4. The Commanding General of the 78th

Division has announced that each individual case will be judged on its merits in cooperation with the civil authorities. A member of the 78th Division who is charged with a felony may or may not be tried by the civil authorities, depending upon the decision in each case."

I hope that this very inadequate and hurried statement relative to the two questions raised will be of some help to those of you here who are faced with the practical problems involved in handling men in the armed forces who have committed crimes off of military reservations. There is very definitely a need for closer coordination between the judges and solicitors of criminal courts and officers in the Judge Advocate General's Department.

WEDNESDAY MORNING SESSION

October 28, 1942

GROUP SESSION FOR TRAFFIC ENGINEERS

Presiding:—PROF. ROGER L. MORRISON, Department of Highway Engineering and Highway Transport, University of Michigan, Ann Arbor, Mich.

Emergency Traffic Control Problems

By W. H. KLAPPROTH

City Traffic Eng., Dallas, Texas

America's entry into the present world conflict may well mark the beginning of a new era in our way of life. Since World War I, we have built in this country a motorized economy that is without parallel in any other part of the globe. Our present era of transportation, which began in 1919 with only 7½ million vehicles, has been accelerated to such an extent that 34 million vehicles now shuttle back and forth between the forks of the creek and the city, between home and business, church, school or corner drugstore. Nearly one-half of our driving is associated with business and more than half of our population is entirely dependent on the automobile for transportation. Along with this development came the necessity for

traffic control to serve definite peacetime needs.

Then came the Japs. In a few short weeks more than 90 per cent of our rubber supply was in enemy hands. Synthetic rubber is still bouncing around in the halls of Congress. Transportation and the "tools" for traffic control are in a critical state. Hurdling the involved processes to obtain needed "tools" for necessary transportation control is only one of many emergency control problems. The term "emergency traffic control" has taken on an enlarged meaning. What we are really concerned with now is "emergency transportation control." Techniques of wartime transportation control are not

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new. We have merely added an emergency viewpoint and a more exacting evaluation of the immediate need of applications for self-preservation to conserve our mobility and to expedite war production.

Our streets and highways were designed and constructed to serve peacetime needs. Little thought was given to military requirements. Many bridges are bottlenecks and shoulders are frequently too narrow to be useful for moving or storing emergency traffic. Natural cover was considered merely as wayside scenery and convenient points of access to such locations are limited. Natural cover is of greater importance now, should it become necessary quickly to disperse military or civilian traffic in event of an attack. The problem of traffic dispersal along war production routes and on thoroughfares in critical areas is in need of immediate study by traffic authorities.

Emergency transportation control is more important in cities than in rural areas. Cities are natural target areas for enemy bombings aimed to destroy war industries and materials concentrated in such locations.

Transportation conservation is a war-born phenomena that is new to the American public. Never before have we been called upon to conserve travel. For twenty years we have taken for granted a never-ending supply of transportation sufficient to satisfy every peacetime need and whim.

Regulations and conservation programs have come thick and fast since our entry into the war. Frankly, however, the "man-in-the-street" and Mrs. Housewife are still befuddled by the flood of conservation proposals. They ask, "How can I contribute to winning the war by merely saving my tires? If the government needs them—well, that's different. I'll be glad to give them up right now. Just what am I saving my tires for?" That's what Mr. and Mrs. America want to know—what for?

Too few people realize that we cannot continue our war production on the required scale and maintain essential civilian services if private transportation fails. We must maintain approximately 20 million vehicles in service to keep our war program going and provide for essential civilian needs.

Mass transportation is available in approximately 1,150 cities, but about 875 of these are served only by buses which require rubber to operate. Public transit cannot carry the entire load, if private transportation fails. The backlog to counteract the diminishing supply of private transportation is in the hands of American drivers. It must be safeguarded to the best of our ability.

The scarcity of rubber already has removed thousands of vehicles from the streets and highways. Whereas vehicular traffic has decreased from 20 to 25 per cent, the number of transit riders has increased as much as 40 per cent or more in some cities. The percentage increases are usually less in larger cities, where from 60 to 85 per cent use public transportation, than in smaller cities, where only 20 to 40 per cent ride street cars and buses.

Staggered Hours

It took a war to break an old established custom which choked traffic arteries and transit vehicles each morning and evening. The staggering of business hours is not a new method to relieve congestion, but we had to lose our rubber supply and practically move about on our "uppers" before the plan was sold on a nation-wide scale to conserve public and private transportation facilities and to use them to the best advantage. The development of a staggered hour plan is essentially a transportation control problem in which the traffic engineer can play an important part.

Dallas is primarily a commercial and distribution center. Our relatively few industries are remote from the business district and major war plants are located several miles beyond the city limits. Conditions were such that the inter-industry type of staggering was best suited to control transportation to and from the central business district.

The total number of passengers carried on the transit system has increased from about 5½ to more than 7½ million per month since January, 1941. The per cent of increase this year compared with the same period last year is now approaching 40 per cent.

A limited program of staggered hours has been in operation since February 9, 1942. This program involved only the schools and large retail establishments which advanced their opening hours from 8:30 to 9:00 a.m. and 9:00 to 9:30 a.m., respectively. The initial program was expanded on July 6, 1942, when staggered business hours were applied to major business and industrial groups operating in the central business district. Representatives from each company in a particular group met with the Defense Transportation Technical Committee on successive days and all agreements were concluded within a week after the expanded plan was first proposed at a dinner attended by 100 or the city's civic and business leaders.

The expanded staggered hour program was designed on the basis of a transportation survey made by the Dallas Railway & Terminal Company. Cordon counts of automobile and transit passengers indicated that approximately 415,000 persons entered and left the central business district daily between the hours of 6:00 a.m. and 7:00 p.m. Sixty-five per cent traveled in automobiles and 35 per cent were transported by street cars and buses. Automobile loading was found to be 1.6 passengers per vehicle, whereas street cars and buses averaged 27 persons per unit. The volume of vehicular traffic was found to be about 20 per cent less than that observed in 1941.

Questionnaires returned by 60,000 persons employed in the central business district indicated that approximately 80 per cent of these arrived by private or public means during three 15-minute periods beginning at 8:00, 8:30, and 9:00 a.m. Only 7 per cent of the workers arrived during the 15-minute periods beginning at 8:15 and 8:45 a.m. The problem, therefore, was to revise starting and stopping time to level off the peak periods and increase travel during periods of low volume.

Checks made of passengers utilizing mass transportation facilities before and after the staggered hour program went into effect indicate the results shown on the next page.

Lighting

During recent years we have become in-

terested in lighting as a means of conserving life and property moving on streets and highways at night. Standards have been adopted which correlate lighting with physical conditions and traffic. Now we are confronted with the possibility of blackouts and air raids during which there must be no light, or at most, only "standard starlight" illumination having an intensity of not more than 0.0004 foot candles.

It may seem strange to discuss blackout preparation and adequate lighting in the same breath. Never in our history has there been a greater need for adequate street and highway lighting to speed war production and to conserve manpower and manhours than now. There will be hundreds of hours of darkness that will be bomb-free and safe for illumination for every hour we need to hide under the darkness of a blackout.

The London Daily Express in an editorial has this to say about a continued blackout:

"We ask for better light and common-sense use of it in the face of an air-raid danger . . . the negative blackness has been tried and it has failed. Let us consider using the positive weapon of light. Lights out if the warning goes, but not before, should be the policy."

The editorial goes on to state that the continuous blackout was bad for morale and curtailed war production; that blackouts had not saved cities and factories from bombs and had delayed transportation of workers and materials.

Some cities have adopted a misconceived notion that wartime conditions make it necessary to operate street lights at reduced voltage or to eliminate half of the lights. The U. S. Army Engineer Board in its specification for blackout street lighting specifically states that

"Normal street lighting will prevail except where blackouts are ordered by proper military authorities. Any curtailment of present street illumination at other times is not recommended. Reduction in lamp current, size or number of street lamps simply results in added traffic hazard without any significant decrease in case of detection and identification from the air."

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After Staggered Hours

Time	Number of Inbound Passengers	% of Total	Number of Inbound Passengers	% of Total	Adjusted %	
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7:00-7:15 a.m.	1506	4.8	2386	6.2	28.6	
7:15-7:30	3046	9.6	3507	9.1		5.5
7:30-7:45	4530	14.3	5016	13.0		9.3
7:45-8:00	4734	15.0	4823	12.5		16.8
8:00-8:15 a.m.	4029	12.8	4804	12.4		2.9
8:15-8:30	4353	13.8	4928	12.7		7.6
8:30-8:45	2879	9.0	3657	9.5	5.1	
8:45-9:00	2269	7.2	2950	7.6	6.0	
9:00-9:15 a.m.	1127	3.6	1854	4.8	33.2	
9:15-9:30	1092	3.5	1708	4.4	26.2	
9:30-9:45	1023	3.2	1586	4.1	28.3	
9:45-10:00	1025	3.2	1437	3.7	16.2	
TOTAL	31,613	100.0	38,656	(+ 22.3%)		
Time	Number of Outbound Passengers	% of Total	Number of Outbound Passengers	% of Total	Adjusted %	
					+	-
4:00-4:15 p.m.	1849	5.7	2013	5.4		11.7
4:15-4:30	2120	6.5	2363	6.1		9.1
4:30-4:45	2835	8.7	2613	7.3		15.7
4:45-5:00	3461	10.6	3325	9.8		21.6
5:00-5:15 p.m.	4354	13.2	4138	11.9		21.6
5:15-5:30	4177	12.7	4740	12.3		6.6
5:30-5:45	3508	10.8	4533	12.0	4.9	
5:45-6:00	3038	9.3	4270	9.8	14.8	
6:00-6:15 p.m.	2745	8.4	3993	9.1	18.8	
6:15-6:30	1853	5.7	3212	7.3	40.9	
6:30-6:45	1342	4.1	2626	4.6	60.2	
6:45-7:00	1407	4.3	2149	4.4	25.0	
TOTAL	32,689	100.0	39,975	(+ 22.3%)		

* Data for months of January 1942 and September 1942.

tion there are many more workers traveling to and from war plants at night. Fatigue is greater. Automotive equipment is older and tires are poorer. Vehicles are loaded heavier and carry more passengers. Little can be done about these conditions now. We can, however, do much to prevent the loss of manpower and manhours through traffic crashes by maintaining our present lighting and improving the same wherever it will aid war production. The link between victory on the battlefield and production for victory is the street or highway over which war materials must move to plant, railroad, or ship.

With greatly reduced vehicle and street lighting during a blackout, established con-

trol and warning signs may become entirely ineffective unless illuminated or reflectorized. In many cases it may be feasible to relocate signs and erect them at lower mounting heights. Signs also have added importance during this emergency to expedite and protect essential war production traffic and to separate such travel from other civilian traffic. It may be feasible to designate war production routes as through routes fully protected by stop signs on all cross streets. "No Parking" or "No Stopping" signs may be required to eliminate parking at all times along such routes or only during specified hours when changes in shifts are taking place. Electrically illuminated signs should be operated in a manner to conform with blackout regulations.

Pavement and obstruction marking is of much greater importance under blackout conditions to guide and warn vehicular and pedestrian traffic. Center and lane lines not only guide traffic but also facilitate movement as they aid in maintaining the maximum lines of moving traffic. Crosswalk and wide stop-limit lines, painted at least 5 feet in advance of the walk area on the side of vehicular approach, are required at all locations where there is heavy pedestrian travel. Turn lanes should be marked and indicated by a special message painted on the pavement. Other appurtenances adjacent to the traveled portion of the roadway, such as signal posts, fire plugs, and curbs, which intersect crosswalks or are located within the area of off-set intersections and around returns at corners should be marked according to adopted emergency standards. Raised center islands, medial curbs and loading platforms need to be especially well marked and perhaps provided with auxiliary reflecting signs.

Traffic Signals

Perhaps one of the most difficult emergency problems pertains to the control and operation of traffic signals. There are several factors, such as the geographic location of the city and existing control facilities, that may govern the adoption of a plan for emergency operation. Signals may be shut off, provided with masks or louvres, resistors may be installed, or they may be operated at reduced voltage by means of a transformer installed in the negative side of the light circuit.

Requirements for emergency signal control will vary in every city. Emergency control may be complicated in large cities that have many signals in operation, only a part of which may be interconnected and have remote control facilities. For instance, in Los Angeles, where they have 1,000 signalized intersections, 2,000 pieces of flashing equipment and 300 sodium luminaires they have provided hoods and masks for most of the equipment and have interconnected about 150 signals in the central district with the air raid alarm circuit. In San Francisco, 90 per cent of the signals are controlled from a central source. In Seattle a system of master control cables has been installed to various bridges where bridge-tenders may

switch signals to low voltage operation at the sounding of the alarm.

Dallas is about one hour by air from the Gulf of Mexico and two hours flying time from the Mexican border. At present, we do not believe that our city will be bombed or subjected to prolonged blackouts. Nevertheless, we are proceeding with preparations for emergency operation of traffic signals.

After a survey of our control systems, we have decided, in the event of a blackout or raid, to shut off signals in the central business district from a remote source where maintenance personnel is on duty at all times. Signals at school and industrial crossings can easily be shut off during periods of darkness. The remaining isolated or interconnected signals in outlying areas will be operated at reduced voltage, shut off by air raid wardens, or automatic switches as may be determined by conditions at each location.

Now is the time to "clean house" and help traffic movement by removing unwarranted signals. Traffic may have changed and perhaps the "city father" who was instrumental in having certain installations made is no longer in office. In Dallas we are removing unwarranted installations as rapidly as preparations are completed for reinstallation at other warranted locations.

It may be of interest to mention that we are now making a detailed survey of our entire cable system to obtain an accurate record of existing installations, plan interconnections and circuit revisions for war emergency purposes, and provide for the interconnection of air raid warning devices in the central business district by utilizing spare cable facilities.

Traffic counts and studies of traffic delays induced by signals are advisable at this time to adjust the timing of signals for present traffic requirements and reduce delays by improper timing relationships between successive intersections.

War places an emergency stamp on the use of public thoroughfares and upon established traffic regulations. Under raid conditions a priority of movement is established which requires that vehicles of the armed forces shall have precedence over all other traffic along selected military routes. Routes

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must also be selected for emergency traffic such as ambulances, fire, and police vehicles, official Civilian Defense Corps traffic and public utility cars on emergency service. These routes must provide for direct movement to all sectors within the area. Bypass, detour or alternate routes should also be selected and marked to guide civilian traffic wherever segregated from essential war or emergency traffic.

In order to provide for all eventualities of war, evacuation routes need to be selected. These routes usually should be main arteries having a capacity to carry large volumes of traffic with dispatch. Perhaps an emergency one-way movement may be required for such routes to increase capacity and expedite evacuation. The planning of various systems for movement should be undertaken now while there is yet time to consider all factors involved, including sudden changes to meet possible emergencies that may happen in quick succession during a raid. Emergency traffic planning may be a duty of the Transportation Officer assigned to the staff of the Commander of the Civilian Defense Corps. Who is better qualified to act as Transportation Officer than the Traffic Engineer?

The war has given us an opportunity and an incentive to solve many of our transportation problems NOW. Exigencies of the war may require us to blackout frequently

or possibly only for short intervals spaced weeks or months apart. Rules for the preservation and safety of traffic during a blackout or raid have been prescribed by the Office of Civilian Defense. These, too, hold some promise for better transportation control in times to come, for compliance with such rules and regulations may bring about improved traffic signs and marking standards. The signal system may be improved to the extent of interconnections provided and unwarranted installations removed during blackout preparation. "Standard starlight" illumination may serve to emphasize the importance of adequate street lighting to be provided with every important traffic facility in days to come.

The program sponsored by the Office of Defense Transportation touches practically every phase of our mobility. To the layman it means walk more often, share the ride, and use public transit facilities whenever they will serve your purpose. For transit and traffic officials it means a redistribution of transportation loads through staggered business hours and the reduction of transportation wastes produced by congestion and unwarranted or improper control. It provides the means for a more efficient use of transit and street facilities. The way is open for the return of transportation control to a strictly engineering basis motivated by engineering analyses rather than according to the whims and fancies of selfish interests.

Emergency Traffic Control Problems

By DONALD S. BERRY

Traffic Engineer, Evacuation and Transportation Section, U. S. Office of Civilian Defense, Washington, D. C.

Many emergency traffic control problems arise from enemy action or from precautions taken to avoid or minimize damage resulting from enemy action. The movement of military and other emergency vehicles must be expedited during periods of air raid alarm. Traffic must be rerouted because of damage resulting from bombings or sabotage. Panic must be prevented. At times of the evacuation of civilians, traffic control and the coordination between civilian and military motor movements are military necessities.

Since these problems may involve several jurisdictions at one time, coordination between state, county, and local jurisdictions is essential in preparing and executing emergency traffic control plans. Facilities are desirable at state and metropolitan levels for coordinating traffic control throughout each state so as to accomplish the following:

1. Elimination of overlapping in assigning personnel for stopping traffic at the boundaries of those districts under air raid alarm.

2. Coordination in selecting and controlling emergency routes between jurisdictions, to facilitate mutual aid by fire, police, medical and other civilian defense services.

3. Provision of central clearing houses for road damage information, to facilitate road repair and rerouting.

4. Coordination of traffic control personnel of many jurisdictions in the proper selection of new routes because of road damage or because a road has been reserved for the military authorities.

5. Facilitation of the movements of vehicles containing military personnel and supplies.

6. Control and guidance of civilian evacuations, avoiding conflict between such movements and military motor movements.

The Plan

A plan for emergency traffic control has been developed and published by the Office of Civilian Defense in the pamphlet "War Traffic Control." This plan provides for a traffic operations room at police headquarters, tied in closely with the control center of the civilian defense organization. Route surveys that should be made are described in OCD Transportation Bulletin No. 1 entitled, "Survey of Vital Routes and Facilities." This plan applies at the state level as well as to municipalities.

The remainder of this paper deals with application of the emergency traffic control plan at the state level, using a hypothetical state as an example. Its application in any particular state might be entirely different from that given here, because of local conditions.

Steps taken in applying the plan in a hypothetical state are as follows:

1. An emergency traffic control sub-committee is appointed, consisting of traffic engineers and of police and highway personnel from the state, county, and local levels, to furnish general guidance to the program. This committee is a sub-committee of the State Highway Traffic Advisory Committee, which is regarded as the transportation committee of the State Defense Council.

2. A state traffic control officer is appointed on the staff of the State Defense Council. This officer, selected from the state police, is

also the state liaison officer of the H. T. A. C. program for coordination of civilian and military motor movements. The state traffic engineer is appointed as traffic engineer officer and the maintenance engineer of the state highway department is appointed as highway repair officer, both to work with the state traffic control officer under the direction of the emergency traffic control sub-committee in the development of the program.

3. A traffic control operations room is set up in state police headquarters, adjacent to the communications room. This room is equipped with additional communications facilities and with the route maps that are described in the next section.

4. The traffic engineer officer supervises the preparation of emergency route maps for mounting on the walls of the traffic operations room. He utilizes information made available through the highway planning survey. The maps show primary, secondary, and other highways, capacities of weak bridges, other limitations and special features such as locations of traffic control posts. The assistance of the military authorities is obtained in selecting and classifying the highways.

5. The traffic control officer, with the advice of the state traffic control sub-committee and local authorities, selects strategic points through the state for establishment of traffic control posts, and arranges for assignments of state, county, or local police in manning these posts during emergencies. The work in each state police district is done by the commander of the state police post in that district, following the instructions given by the state traffic control officer. Rerouting plans are made for meeting various types of emergencies and each police agency is informed of its part in carrying out these plans.

Co-ordination

6. The highway repair officer develops a coordinated plan for mutual aid in road and bridge repair, utilizing the facilities of the state and county highway departments, local public works departments, the U. S. Department of Agriculture and other federal agencies. Inventories of personnel and equipment already have been made as part of another survey. The units in each county are affiliated with the county defense council. Arrangements also are made for using some of

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these facilities for rescue and other emergency services of the defense corps organizations.

7. Liaison already has been established between the military authorities and the state traffic control officer as a part of the H.T.A.C. program. This liaison is strengthened by arranging for mobilization of a state police officer in the appropriate military headquarters at times of emergency and by providing a direct line between military and state police headquarters.

8. Close coordination is established between the state civilian defense headquarters and the traffic control operations room, from the standpoints of both planning and operation. Information is to flow in both directions.

9. Arrangements are made for the prompt reporting of information on damage to roads and bridges through the local civilian defense organizations and through normal highway and police channels, so that information on road conditions may be kept up-to-date at all times. Information obtained through police and highway channels is to be furnished to the civilian defense headquarters.

10. Arrangements are made for mobilization of the traffic control officer, the traffic engineer officer, the highway repair officer, and the transport officer (or their deputies) at the state traffic operations room at times of air-raid alarm and for other emergencies. During normal times, the facilities of the room may be used to aid in the routing of military motor convoys.

11. A similar traffic operations room is established in each metropolitan area of the state, as a part of the metropolitan control center system of the civilian defense organization.

12. State police and highway personnel are assigned for mobilization in county control centers in other parts of the state, to coordinate traffic control and direct mutual aid for road repair within the counties.

Operation

The operation of the emergency traffic control organization in the hypothetical state is described here briefly for several different types of emergencies.

1. *Air raid alarms*—The traffic control per-

sonnel mobilizes throughout the area under air raid alarm. A cordon of police at the boundaries of the area stops all traffic entering the area with the exception of vehicles authorized to move at such times. Auxiliary personnel along previously selected emergency vehicle routes facilitates movements of emergency vehicles between sections of cities, counties and the state.

2. *Heavy Bombings*—Traffic control in the vicinity of bombed sections is taken care of by the police in the vicinity, assisted when necessary by squads dispatched from stations nearby. Damage to roads and bridges is reported through channels to the city, county, area and state headquarters and instructions received regarding routings and establishment of detours. Detours are established by road repair personnel in cooperation with the police.

3. *Military Movements*. Routes for military motor movements are selected, taking into account the road damage information. If a route is to be taken over for exclusive military use, civilian traffic will be diverted to other routes according to predetermined plans for rerouting, subject to changes ordered by county, metropolitan area or state traffic operations rooms.

4. *Voluntary Evacuations*. Police, assisted by air raid wardens, prevent spread of panic resulting from bombings by following instructions issued by the state authorities. After a period of air raid alarm, special attention is given to control of the movement of any persons desiring to leave the cities. If the number should be large and the military situation critical, steps may be necessary, in cooperation with the military police, and possibly under their direction, to reduce or prohibit such evacuations.

5. *Ordered Evacuations*. Evacuations may be ordered for certain classes of persons and the movements may be by motor convoys. (See OCD Transportation Bulletin No. 2, "Motor Transport and Convoys"). In such instances, especially when the movements are for considerable distances, the state traffic operations room may direct the dispatching and routing of the convoys, subject to the requirements of evacuation officers and the availability of routes.

Blackouts and dimouts add other traffic control problems to those already described.

Attention must be given to necessary modifications in vehicle lighting, street lighting, and traffic control devices. These problems

are being discussed in detail by other speakers, but are mentioned here because of their importance from the standpoint of safety.

Treating Danger Spots on Routes to War Plants and Military Posts

By CLAUD R. McCAMMENT

Engineer Safety and Traffic Control, State Highway Commission of Kansas

In actual practice I have found the term "danger spot" to possess at least one of the properties of rubber in that it is elastic enough to stretch over several continuous miles of highway, to include areas adjacent to war plants of several square miles, to encompass whole cities. The term may cover certain types of individuals using the highways and streets enroute to plants.

While the term "danger spot" cannot be sharply defined, it seems to be a function, in the sense of our discussion, of the war plant workers, the car of the war plant worker, the road traveled by the war plant worker, and the war plant and its environs.

About 25 per cent of the war plant workers in Kansas have moved here from other states. As in former days men followed harvests from western state to western state, a large number of migratory workmen in the unskilled and lower skilled groups now follow war plant construction.

The average worker either from out-of-state or from relatively distant points within the state is more defiant of state laws and public opinion than the local resident worker. Hence, as the driver of a car, he is a greater menace on the highways and streets. In general, he commits the following violations: he speeds; he passes cars on hills and curves; he rushes pedestrians. In short, he is a reckless driver and a living, highly mobile "danger spot." By some strange psychological process, a certain group seems to believe that because it is engaged in government work, it can commit traffic violations at will and remain above and beyond any local enforcement. Treatment for this specific "danger spot" is a function of the highway patrol and local peace officers. Persecutions are not favored, but for the sake of themselves and others certain steps must be taken early be-

fore precedent has had time to get in its work on others.

A few workers now find themselves making more money than they dreamed, with the ability to do something about their appetites for liquor. Consequently, they do. Since few drink during working hours, it may seem that this subject is out of place, but we feel it fitting to include because if an accident happens due to drunken driving, even if after work hours, the worker or workers may not be able to go to work the next morning. The treatment for this type of "danger spot" cannot be too drastic. At a time like this when cars, tires, and even gasoline are so precious to the war effort of our country a man who will chance an appearance upon the highway while in a drunken condition to the imminent danger of not only his own life and the lives of others, but irreparable damage to cars and tires so necessary in our wartime transportation needs is little more than a traitor to his country. In my opinion the one hundred dollar fine and the probable loss of his driving license is too light a punishment.

It is probable that the fact of excessively long commuting distances in Kansas contributes to the tendency of speeding and reckless passing movements. It is a common occurrence for a worker to drive to work from towns as far away as forty and fifty miles. If, for any reason such as failure to start for work on time or tire or engine trouble on the way, the worker feels that he may be late, it is only human to try to make up the lost time by driving faster than conditions warrant for safety and tire conservation.

While many of the workers' cars are in excellent mechanical condition, the average car used may be fittingly described as a jalopy which is temperamental, stubborn, and with the disconcerting habit of developing a me-

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chanical ailment where traffic is heaviest and the chances of finding a broad shoulder on which to get off the slab is poorest.

The tires in general are thin and some congestion and minor accidents result from the driver not pulling entirely off the slab to change tires after a puncture or blowout. Kansas has had an unusual amount of rain during the past two years, and it may be that the worker, rather than pull off on a soft shoulder where he may get stuck, prefers to chance being hit by traffic.

Travel is not made safer by the appearance of so many workers' cars pulling trailers of all makes and sizes, although this situation usually occurs during the beginning of the plant construction. The fact that a large per cent of the workers are forced to live in trailers due to housing shortage results in an increasing number of trailer towns near cities adjacent to war plants. These towns are naturally situated on highways leading to the plants and frequently the entrance or exits or both are near the crest of a hill where lack of sight distance forms a constant hazard to the turning movements necessary to entering or leaving the camp. Adding to this hazard is the fact that our heaviest traffic counts are obtained at points on the highways at city limits.

Physical Conditions

War plants in Kansas are invariably located adjacent to our state and federal highways and seldom more than ten miles from a city or town. These highways in general are all-weather roads, a large proportion consisting of concrete slab, bituminous macadam or bituminous mat. In rare instances in western Kansas a sand-gravel road connects the plant and surrounding towns from which come plant employees. Naturally, with forty-two war plants and military posts distributed over all sections of Kansas, many diversities in types of surfacing, alignment and traffic loads are encountered.

Our problems are either simplified or rendered more complex by type of surface, alignment of road, maintenance, width of traveled way, amount of normal traffic, whether rural or city road, and whether the road is subject to seasonal submergence by flood waters or blockaded by snow. Snow hazards should be considered to a big extent at this time of

year and a good snow removal system set up in the vicinity of all defense activities. The type of surface is important from our viewpoint due to its being the responsibility of the State Highway Commission to make certain that the worker can traverse the road at all times and seasons. Counties in many instances have had neither the money nor the equipment to build or maintain properly some of their access roads with the result that many workers have fought mud and have been unduly delayed in getting to and from work. Our chatt, gravel, and sand-gravel roads have held up under heavy traffic and adverse weather conditions better than expected. We have had little or no trouble with our concrete slab or our bituminous mat roads due to good maintenance.

Alignment of the routes used by war plant workers means a more orderly, faster movement with a greater safety factor, and much less work for my department. Grades, curves and restricted sight distance incidental to them reduce the load capacity of the road by slowing traffic. Also, heavily loaded trucks impede traffic by having to go into lower gears on the hills. The route to one of our war plants for a distance of ten miles is so continuously a series of vertical and horizontal curves with no tangent distance between that it was necessary for us to create a no-passing zone for the entire distance. We have detoured civilian traffic for a forty mile area in one location to avoid a huge munitions plant by merely placing signs calling for the public's cooperation.

Maintenance plays a big role in eliminating danger spots in the form of high weeds on curves restricting sight distance, weeds that obscure important regulatory signs, building up too sloping shoulders, filling the ruts at the edge of slab, cutting the corrugations from chatt and gravel roads, patching pot holes in bituminous roads, replacing signs that have been knocked down, and washing the mud from signs.

Width of traveled way plays a big part in the safety program. With the exception of a few miles of four-lane highway, most of the roads that serve our war workers are two-lane concrete slab, eighteen and twenty feet and 23 feet in width. Our bituminous road widths vary from twenty-six to thirty feet. We have found that a few feet in width of the roadway means a big saving in life

and property. By adding a two foot of bituminous material to each lane of an eighteen foot slab, we stopped entirely a long series of accidents due to cars running off the edge of the slab onto soft shoulders and thus getting out of control. We have found that some danger spots are caused by improper design such as too short transition distance from a four-lane to a two-lane highway; dumping traffic from a four-lane into an eighteen foot city street with no transition distance; building three roads to intersect at one point thereby causing confusion and congestion while the driver waits to make a decision.

The amount of normal traffic other than war workers on a highway route to a war plant means a great deal. A small traffic count greatly aids the ingress and egress of workers in and out of the plant. Frequently the cost and trouble of placing officers there to control traffic is eliminated, especially during the morning shift change, usually at seven o'clock. At that time rural roads some distance from a city are practically deserted except for workers at the plant. On the contrary a heavy normal traffic makes a truly dangerous spot at the entrance of a war plant and if possible should be detoured or officers in control at the point is a prime necessity. At some plant sites near our larger cities, as many as five State Highway Patrolmen work traffic, assisted by six county patrolmen. In congestion such as this, no type of sign or signal will be found adequate.

Whether a road lies within or without the limits of a city is of importance to us in that if the road is a city street there is little under the law that we can do to improve it. If the city street happens also to be a connecting link in our State Highway system we do have the authority to suggest proper signing and to approve or disapprove any suggested by the city. In cases of cities with traffic engineers our problems inside the city are reduced to a minimum because in every instance we have found city traffic engineers to be ready and willing to cooperate one hundred per cent.

Other danger spots on routes to plants are those caused by flood waters and by snow blockades and sleet. During the past two years floods have taken a huge toll in Kansas. Eighteen bridges have been washed away, some of them major structures, and

millions of dollars damage has been done to highway grades and surfaces. Fortunately, we have a lot of mileage in our road system. Kansas ranks second only to Texas in road mileage and boasts of 110,000 miles. This figure of course includes county and township roads. With so many roads it is easy to find a detour which will not delay the worker too much. It goes without saying that much care must be observed properly to barricade washouts and to sign detours even more thoroughly than a main highway. Last winter we had a great deal of sleet in certain sections of the state and it was not an uncommon sight to count as many as ten cars to the mile in the ditches near war plants. Fortunately, most people drive slowly on sleety roads and so it is seldom that such an accident has serious results. Our highway trucks work night and day in an attempt to sand all hills and curves on routes used by war workers. Where sleet occurs intermittently some signs are necessary to warn motorists who gather confidence immediately the surface becomes normal and are unprepared for recurrences of slippery pavement.

The War Plant

War plants in Kansas consist of air bases, aeroplane factories, glider factories, ammunition plants, invasion barge factories, military and naval bases, and army camps. They are widely distributed throughout the state, and all more or less similar during construction in that they employ workers numbering from 2,500 to 35,000. These workers come from an average area of about sixteen hundred miles, the plant being approximately in the center of the 40 mile square. Workers from this large area usually come to the plant entrance from two directions on the highway. Their pressing necessity upon arriving at the plant is a parking place. This must be within the plant area, since the highway commission must for reasons of safety prohibit parking on the slab, shoulders or anywhere within the right-of-way. Frequently, a parking space is provided within the plant area which is adequate in dry weather, but which is impossible in wet weather.

The state safety or traffic engineer should contact the official in charge, who may be a civilian engineer, or army officer, and have a conference. In a polite and diplomatic

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manner, he must be told that: There must be no parking of cars within the highway right-of-way adjacent to the plant area, and that this refers not only to official government cars and workers cars, but to salesmen's cars and those belonging to applicants for work. Salesmen and applicants cannot readily get into the area and must park somewhere while they are obtaining passes. The natural procedure is to park along the state right-of-way. The only method by which to prevent this is to have a parking lot for this special group, and to have it off the highway. Visitors may also use this lot. This latter group may easily run into hundreds during beginning of construction.

Parking lots must be surfaced with crushed rock, gravel or other type of surfacing so that they may be utilized during rainy weather. If the lots are a sea of mud, only a few hardy souls will venture into them, and again the adjacent highway will be filled with parked cars.

Entrances to war plants should be as far as possible from the highway. If the entrance is in line with the highway right-of-way, inspection by the plant guards should not be made at this point, since this process is so slow that the highway for several hundred feet in each direction is blocked by waiting cars. The guard house should be stationed at least five hundred feet from such an entrance. To keep cars in line while inside the area guide posts set closely together may be used.

If the entrance and exit are the same it should be at least 40, preferably 60 feet in width. There should be a fence or other physical division of the entrance space so that the paths of cars coming from opposite directions will not conflict. This promotes orderliness of movement and prevents minor accidents. Parking lots should be so arranged that cars leaving the plant may use the same side of the entrance through which they entered.

Stop signs should be installed at points of exit into the highway. They should rate strict observance from all vehicles exiting from the plant unless at times when an officer is present to direct traffic. We have noticed a tendency on the part of trucks coming out of plants to fail to stop before entering the highway. This is obviously a dangerous practice and should not be permitted.

Perhaps the best way to avoid difficulty over signs is to discuss methods of signing in use in the State, and to give the commandant and the plant safety engineer each a copy of the State sign manual. One may also offer to design any signs the army officials feel may be helpful to either their employees or through traffic. In this way, whether one quite approves or not, at least the signs will be uniform. In Kansas, we have the Uniform Traffic Act, and the State Highway Commission has the only authority to place or remove signs within the right-of-way limits on state or federal highways.

On normal high-speed highways adjacent to war plants, we have usually found it necessary to establish speed or no-passing zones or both. However, if the no-passing zone is enforced a speed zone seems unnecessary, since the slowest vehicle in line automatically sets the speed. On that portion of highway near the entrance or exit to a war plant we consider it ill-advised to permit passing movements or speeding not only during shift changes, but between shifts. We feel that if there is one place in the state where every precaution should be taken to prevent accidents and to insure safety, it is in the vicinity of a war plant. One injury or fatality involving a key man may work incalculable harm to the plant's productive capacity. It may be stated here without boasting that our work in this respect is very close to one hundred per cent.

It is sometimes possible for the state traffic or safety engineer to be of great help to the plant's safety engineer in the matter of acquainting him with local laws and conditions and in furnishing safety material for distribution among employees.

The state traffic engineer will find his services welcomed by the mayors and chiefs of police of cities under 50,000 population which do not have a traffic engineer. With the aid of local officials, the state traffic engineer can prepare zoning charts and establish routes within the cities for use by war plant workers which will cause them to miss congested areas where much valuable time would be lost. Also, assistance may be given local authorities in the matter of location of trailer camps adjacent to or within cities. Many cities are utilizing fair grounds, ball parks and city parks for trailer camp sites. Locations such as these have the advantages

of availability of sewage, lighting, heating, and entertainment facilities.

The state traffic engineer is often called upon to make complete city surveys in smaller cities near which it is proposed to build a war plant. Frequently, the city authorities may be appalled at having to provide for the possible doubling of the city's popula-

tion, and this within a very short space of time. It becomes necessary to plan through streets, rearrange parking, provide additional parking lots, establish truck routes, increase police and fire personnel, etc. Signalization of certain intersections becomes necessary, and many other steps must be taken to ready the town for its expected increase in population.

Treating Danger Spots on Routes to War Plants and Military Posts

Discussion by WALTER F. ROSENWALD

Traffic Eng., Minnesota State Highway Commission, St. Paul, Minn.

The "Danger Spot" has been correctly termed by Mr. McCammet, a function of the war plant workers, the car, the road and the war plant itself. Of these four factors the first and the last mentioned would seem to present the greatest opportunities for improvement. So far as the war plant itself is concerned, the problem resolves itself down to the attitude or interest of the plant management. The car and the road are both, of course, important factors in any traffic problem, but proper attitude on the part of the workers and the plant management will largely offset the deficiencies of the car and the road.

Mr. McCammet has well described the war production worker drivers. We have all run into this same problem and it appears that the quick and efficient prosecution of driver violation on the part of such workers is the best and probably the only way of making the war worker driver recognize his responsibility and of correcting his attitude with regard to traffic regulation. Rigid enforcement supported by the full cooperation by war plant management can and is accomplishing a great deal.

Many persons including war workers, do not seem to realize the problems resulting from extremely high volumes of traffic in war production areas. Rather their actions indicate a complete disregard for the usual regulations as though they each had a pre-emptory right to the sole use of the road.

Experience has proven in Minnesota as well as in other states that this attitude is quickly changed by full and complete coop-

eration of the traffic authorities and plant management.

The term "Danger Spots" should also include places of high congestion. While it is true that most highways furnishing access to large plants and military establishments, were not designed to carry the extreme loads now placed upon them, the simple staggering of hours of working shifts has reduced the critical load sufficiently to allow the overburdened roads to handle unusually heavy traffic fairly satisfactorily.

As has been stated, the locations of many of the recently constructed plants are from 10 to 15 miles outside of larger cities. In Minnesota we have found that traffic on the highways leading to these plants has increased from 50 to 300 per cent in spite of a general reduction over the balance of the state highway system. Increases of this kind might not prove to be serious on a road that formerly carried light traffic, but when they take place on some of the heavier traveled roads as is the case in Minnesota, the situation can become very acute.

We had one location near one of the larger war production plants where it was necessary to have from six to eight patrol officers in a comparatively short distance in order to keep traffic from stalling completely. Four of these officers were required to be at a single intersection. Arrangements were made for installation of traffic actuated signals, and although employment at the plant has materially increased since our installation, the actuated signals have handled the traffic with a minimum of congestion, and it is no longer

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necessary to have a large number of patrol officers at this location. The situation is now adequately taken care of by one officer at an intersection, the others being released for patrol duty on other routes between the plant and the cities.

We have had little difficulty with adequate parking facilities located off the highway right-of-way. In all cases of large plant construction, adequate space has been provided by the plant management for parking. It is important that access into and out of the parking lots be convenient so that the worker may park and unpark without delay. If unusual difficulties or inconvenience are experienced by the worker in trying to get into or out of a parking lot, both the morale of the worker and the use of the parking lot will be affected and drivers will try to find other more convenient locations to leave their cars. Such a condition would encourage parking outside of the plant area on the shoulders of the road and might require additional enforcement officers to prevent such improper parking.

Methods which we have found effective in eliminating danger spots on access roads in Minnesota, may be summarized as follows:

Channelization lines have been placed at several intersections.

Center line striping and "No Passing" stripes have been continually renewed and additional regulatory signs have been installed.

"Stop" signs have been removed at inter-

sections where traffic on the more heavily traveled highway was unduly impeded.

Sharp curves have been delineated through the use of reflectors placed on guard rail posts.

Encroachments, particularly advertising signs and gasoline pumps have been checked and eliminated, and parking has been corrected either by changing the method of parking or prohibiting all parking.

In one small community adjacent to a large ordnance plant, the school board on our recommendation adjusted the school hours so as to avoid conflict with the heavy traffic at the change of shifts.

A shoulder widening project has been carried out on one trunk highway on which the pavement was only 18 feet wide.

Traffic actuated signals have been installed at two intersections, with the contract now let for 2 additional installations.

Construction is now underway in which existing narrow two-way pavements which constitute critical bottlenecks are being replaced by a few miles of four-lane divided highways.

We have met with the greatest degree of cooperation on the part of the plant managements, military authorities in charge of operations and with local officers in the communities affected. Without this cooperation our problems would be considerably more severe than they are at the present time.

Treating Danger Spots on City Routes to War Plants and Military Posts

By JAMES E. LOER

Traffic Engineer, Indianapolis, Indiana

The conservation of equipment and tires through gasoline rationing and the maximum speed limit of 35 miles per hour will save lives and reduce personal injuries and property damage faster than could be achieved through the methods we have been following of engineering, education, and enforcement. We have threatened to revoke drivers'

license for speeding, but we still have speeders, but when a motorist is threatened with the loss of his gasoline rationing book, you will find that the speed rate will drop. Workers in the war industries have been some of the worst violators, but they are going to learn that the enforcement of a speed limit to conserve materials will be

more strict than the enforcement to conserve lives.

A few weeks ago I visited several eastern cities where gas rationing was in effect. I talked with many engineers about traffic matters, and in response to my question of "The treatment of danger spots on city routes to war industries," I received the same reply—"Now that we have gas rationing, there is less traffic congestion and consequently there are fewer traffic problems."

Some of the engineers I talked with are making plans for the construction of safety islands, channelization, etc., but the war transportation conservation program of the nation and states through staggered hours, group riding and speed reduction is taking the full time of many traffic engineers.

However, in my opinion, the decrease in motor vehicle travel will be largely in rural areas and on city streets during the off-peak hours. Few of our new war industries are served by the city transportation lines, and it will be necessary for the workers to travel by automobile. Therefore we still have the problem of making the routes to war industries operate more efficiently in order to reduce congestion, delay, and accidents. In the larger cities the problems of the mass carriers will be of major importance, since the street cars, trolley coaches and buses are transporting more people than ever before.

Indianapolis has had a great increase in population due to the new war industries, and the resulting traffic congestion has brought many problems at new locations. During the past year we have employed these various methods to help secure traffic safety on routes to war industries:

1. We have laid 40 miles of Prismo center-line stripe. This type of painting has been found very effective for night driving, and we expect that it will be an important factor in the operation of emergency vehicles during blackouts. We have laid many more miles of center stripe, using ordinary traffic paint, and also we have painted the curbs at major intersections and turns.

2. We installed sodium-vapor lights at danger spots as at Madison Avenue and Pleasant Run Creek.

3. Warning lights, which we term half-red lights, were installed on 22 concrete safety zone guards.

4. Half-red lights were installed on the center piers of all railroad elevations.

5. Parking in the vicinity of war industries has been restricted. In some cases there is no parking at all. In other cases there is no parking during certain hours and limited parking during other hours. Restrictions have been established as required by the particular conditions.

6. Manual operation of traffic signals has helped to reduce congestion at some intersections during peak hours. Cooperation of railroad officials in controlling switching movements has been a major factor in treating some spots.

7. The State Highway Department has obtained federal aid in improving access roads.

8. On routes to war industries it has been necessary to establish "No Passing" zones at some spots for greater protection to pedestrians and motorists.

9. Congestion and danger resulting from double parking were eliminated by allowing "Truck Stopping Only—15-Minute Limit" during the hours of peak load caused by war workers on changing shift.

10. In order to get the trolley coaches to the curb and thereby have better loading zones for passengers and also clear the traffic lanes, the operating company was permitted to establish 75-foot loading zones at intersections and 100-foot loading zones at mid-block stops.

11. By changing the direction of travel through the bus terminal we were able to eliminate over 800 left turns during an average day. After seeing conditions at terminals in other cities, I think Indianapolis is fortunate in having a large off-street bus terminal.

12. We constructed islands to aid pedestrians in crossing intersections. Three of these were constructed at avenue intersections in the downtown district.

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Staggered Hours to Conserve Mass Transportation

By THOS. E. WILLIER

War Transportation Administrator and City Traffic Engineer, Houston, Texas

Although the term "staggered hours" is of recent origin, the rearranging of working hours and school hours has been advocated for many years to solve traffic and transportation problems. When the automobile was developed in the United States, former inefficient travel habits were completely disrupted.

The essential qualities in every medium of transportation are safety, convenience, economy, and speed. These elements must be combined to provide efficient movement of persons from a point of origin to one of destination and if any one is lacking service will not be satisfactory. However, because of the uniformity of starting and stopping times of workers in business and industrial areas the speed factor has been eliminated in surface travel during peak traffic periods. To increase speed and reduce travel time it is necessary to remove traffic congestion and delays. Rearrangement of working hour schedules by staggering hours will accomplish this purpose and, even more important now, will make possible the conservation of mass transportation.

Statistics indicate that during the past ten to fifteen years the amount of walking and the use of mass transportation facilities decreased because of the increase in use of automobiles. In urban areas, traffic congestion and accidents continued to mount owing to the great number of automobiles in use and to the physical conditions of streets. It was possible to improve streets by resurfacing, widening, installing traffic control devices and constructing grade separations; however, the traffic patterns which had developed imposed heavy motor vehicle loads in business areas and on major thoroughfares during the peak traffic periods, thereby producing congestion and delays.

Traffic specialists have measured the variations in traffic flow hourly, daily, weekly, monthly and yearly for pedestrian, auto and mass transportation movements and, as a re-

sult, consideration has been given to the reduction of traffic congestion at peak periods. Traffic has been rerouted, one-way streets established, parking restricted or removed and traffic regulations adopted. However, it has been impossible further to reduce congestion and delays and move persons more efficiently in automobiles and in mass transportation vehicles during the times when persons were traveling to and from work because of working hour schedules which have been in effect for many years.

In business districts and in industrial areas where the eight-hour day was accepted as the standard working period, the usual working hours generally were from 8:00 a. m. until 5:00 p. m. with a one-hour period for lunch. Everyone has noted the three daily "traffic bottlenecks" which have been evident because of uniform working schedules, one prior to 8:00 a. m., one during the noon hour and one shortly after 5:00 p. m.

Dr. Miller McClintock, an outstanding authority on traffic, published a book, in 1935, based upon intensive field studies and research in which he referred to existing traffic peaks. This publication entitled "Traffic and Trade" contained recommendations for spreading the peaks and for eliminating traffic bottlenecks by shifting working hours. Unfortunately, the American people generally would not accept such proposed changes because of custom and habit. Consequently, traffic congestion could not be materially reduced on city streets during the morning and afternoon peak traffic periods.

Prior to this year, owing to shorter working hour schedules which were adopted in factories and industrial plants, factory workers, office employees and school children were generally observed traveling on congested thoroughfares about the same time in the early morning and late afternoon. Because of the great number of individual automobiles in use transporting persons to and from work, traffic conditions on major thor-

oughfares were rapidly becoming intolerable.

The lack of adequate parking space and the congestion evident on streets in business areas have caused a decentralization of business and property values in downtown business districts have depreciated because of the general growth of community centers and outlying shopping sections. Shoppers have been discouraged from trading in downtown business districts because of the lack of parking facilities on streets and in storage garages which were filled to capacity with vehicles used by office and store employees.

Increased Mass Transportation

During the latter part of 1940, when the United States entered upon a large scale program of production of war supplies and equipment, demands for passenger transportation rapidly mounted. This trend continued during 1941 and mass transportation facilities were expanded to meet the requirements of additional numbers of persons. Owing to the unprecedented demands for mass transportation, transit companies increased their orders for new equipment, but on September 1, 1941 an order was issued by the Office of Production Management under which the production of street cars and buses was curtailed. Further restrictions were placed on the production of transit vehicles this year so that now, aside from about 2,500 buses which will be produced and issued to cities where the demands are greatest, it is evident that no additional equipment will be available.

Passenger traffic on buses and street cars continued to increase at a rapid rate after automobile production was entirely stopped and tire rationing became effective in order to conserve rubber stocks. Operators of transit facilities were cognizant of the gravity of the situation which confronted them because they realized that more equipment would not be available to meet increased demands for transportation when individual automobiles were withdrawn from service. Many other new problems confronted transit operators. A shortage developed in replacement parts, employees resigned to enter the military service or to accept more lucrative positions in industrial plants and, although companies have been eligible for bus tires, complications have arisen in obtaining the proper sizes and the number of tires required when they were needed.

Mass transportation problems were further complicated by the fact that large war production plants were located in outlying sections of cities or even beyond the limits of municipalities where transportation facilities were not available. Additional buses and street cars were required on existing routes and, in many cases, new routes had to be established to provide transportation for thousands of war plant workers. Housing facilities have been provided in the near vicinity of some war production plants; however, transit companies generally have found it necessary to expand their operations to make transportation available for workers who reside in existing residential areas located many miles from industrial areas. These additional requirements for mass transportation added to the increase in the use of transit facilities by other than war production plant workers produced congested conditions in buses and street cars and led to the conclusion that a complete breakdown of transportation facilities might be expected unless measures were adopted to relieve the situation.

After thorough analysis of transportation requirements, Joseph B. Eastman, Director of the Office of Defense Transportation, prepared a Plan for Conserving Vital War Transportation and, in April of this year, he urged the adoption of the Plan by State and City Officials. He indicated that it was necessary to restrict the use of automobiles to a minimum and make maximum use of all mass transportation facilities so that rubber and other critical materials required in the production of war supplies and equipment could be conserved and necessary transportation facilities could be provided where needed. His three-point program consisted of the following:

1. Stagger business, school and working hours to reduce peak hour demands for mass transportation facilities.

2. Improve traffic regulations to expedite the flow of vehicles.

3. Make more efficient use of private automobiles through group riding.

It was recommended that staggered hours plans be adopted prior to promoting group riding so that working hour schedules would first be stabilized.

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Public Cooperation

It has been possible to obtain voluntary acceptance of such proposed transportation plans which often have caused great inconveniences and hardships for persons traveling by individual automobile and by mass transportation facilities. In recent months people have been so interested in furthering the war effort that they have willingly accepted changes in personal travel habits and in working hours.

A great amount of non-essential use of all transportation facilities, including individual automobiles, has been eliminated and essential transportation is being restricted to a minimum. Figures quoted by the American Transit Association in its publication entitled, "Trends of Transit Traffic," indicate that prior to this year city automobiles were used about the same number of miles for social and recreation travel as for business. The statistical analysis showed about 18 per cent of the total travel to work, 30 per cent business, 2 per cent shopping, 1 per cent to school and 49 per cent recreation. Much of the recreation travel has been eliminated, business travel has been greatly restricted and travel to work has been reduced through use of mass transportation and through group riding:

The increase in the use of mass transportation vehicles has been particularly noticeable in those sections of the country where gas rationing has been in effect. Transportation authorities agree that mass transportation offers many advantages over individual car transportation. It is cheaper and much more economical of street space; therefore if sufficient equipment were available, the transition from individual motor vehicles to buses and street cars would be beneficial. Traffic congestion could be reduced, parking spaces in the downtown business areas could be eliminated to provide a more fluid movement of motor vehicles and mass transportation systems could be operated more efficiently. However, new equipment cannot be obtained and, therefore, it has become necessary to prepare plans to utilize the potentialities of existing mass transportation facilities. Many cities already have adopted staggered hours plans to reduce peak demands for mass transportation in the morning and afternoon, and working hours in large war production plants have been adjusted by staggering shifts

so that existing transportation facilities may accommodate the workers.

In order to eliminate a waste of transportation and to transport office and store employees, industrial workers and school children, it is essential that staggered hours be applied in both urban and rural areas. Through the staggering of working hours in offices and stores in city business districts the major morning and afternoon traffic peaks may be materially reduced and the transportation load spread over greater periods of time even though the total number of hours of work remains unchanged in each particular place of business. However, it is necessary to consider transportation requirements on individual routes and in certain industrial areas as well as in business districts. Additional mass transportation may be made available on congested bus and street car routes through the rearrangement of working schedules in companies and industrial plants located on those routes. Shifts may be staggered in large industrial plants so that the demands for mass transportation will not occur at the same time. School hours may be arranged to eliminate requirements for bus and street car service by children and workers during the same periods in the morning and afternoon. If necessary, working shifts within a large plant may be staggered to further spread requirements for mass transportation.

Spacing and Timing

In staggering hours it is essential that consideration be given to the space element as well as the time element. Co-ordination and integration of working hour schedules must be effected in business areas and in manufacturing districts along with those of school hour-schedules so that through a change in hours in one district an additional load will not be superimposed upon the transit facilities at another point along a route. To illustrate this point, assume that a war production plant employing a great number of people is located on a bus route half-way between a downtown business district and an outlying residential section of a large city. If employees in a number of offices and stores in the business district stopped work at 5:30 p. m. and the workers in the industrial plant stopped work at 5:45 p. m. it is probable that the buses serving both the busi-

ness district and the industrial plant would be overcrowded even though stopping times were staggered. After a bus left the business district with a full load, space would not be available for employees of the industrial plant in traveling to the residential area. Naturally, other factors may affect a case of this kind and so it is important that those responsible for developing staggered hours plans carefully analyze all existing conditions before recommending shifts in working hours.

Since the Office of Defense Transportation proposed the staggering of hours to conserve mass transportation, numerous cities have adopted staggered hours plans and others are now engaged in conducting necessary surveys and studies to collect factual data upon which plans may be based. Through reference to a plan which has been tested and found effective it will be possible to indicate the advantages of staggering hours and the methods and procedures which proved satisfactory.

In my position of War Transportation Administrator and City Traffic Engineer for Houston, Texas, it was my responsibility to plan and supervise the field surveys which provided a basis for the Houston staggered hours plan which has been used as a model in many other cities throughout the country. Although this plan affected only employees in the downtown business district of Houston, the principles and methods involved may be applied anywhere, in urban or rural areas.

Three separate staggered hours surveys were conducted in Houston.

1. Questionnaires were distributed to workers in the business district to determine starting and stopping times of employees and relative use of buses and automobiles.

2. A field check of buses and bus passengers entering and leaving the business district was made.

3. A Cordon Count of automobiles and persons in automobiles entering and leaving the business district was conducted.

The following surveys were all completed in one day, on Thursday, May 21, 1942.

Working Hours Survey

Questionnaires were distributed among the

majority of the large offices and stores in the Houston business district by the Research Department of the Houston Chamber of Commerce. Copies of the questionnaire form and of a sample questionnaire were distributed in office buildings through the co-operation of the Office Building Managers Association by leaving a copy with each manager in the morning and then collecting it in the afternoon after it was filled in. The questionnaire requested information relative to the arrival and departure times of employees in various business groups in business offices and in stores and the number of persons in each group who used buses, autos and other means of transportation in traveling to and from the business district. Many of the larger places of business were contacted by telephone. About 3,000 questionnaires were distributed and replies were received relative to the working habits of approximately 23,000 individuals. All of the data was tabulated without charge by the local International Business Machine Company in co-operation with the Statistical Department of the Humble Oil Company.

Bus Survey

On the same day that the questionnaire forms were distributed, a check of bus movements and the number of persons in buses entering and leaving the business district was conducted by the Houston Electric Company, the company which operates the bus system in Houston. Employees of that company counted the number of buses and passengers on buses in the three hour period from 6:30 until 9:30 in the morning and from 3:30 until 6:30 in the afternoon. A tabulation of the field data was prepared to ascertain the volume of bus traffic inbound and outbound in the morning and afternoon, in 15-minute periods.

Automobile Cordon Counts

On May 21, the day when questionnaires were distributed in the working hours survey and when the bus survey was conducted, the Traffic Engineering Division of the City of Houston conducted a traffic survey of motor vehicles entering and leaving the downtown business district in the morning and afternoon peak hours. Traffic counts were made at the same locations and for the same periods

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as those used in the bus survey. The same Cordon Area was used in the working hours survey, the bus check and the automobile count.

Inasmuch as funds were not available and it was practically impossible to obtain men to make the automobile counts, the survey was conducted with the assistance of 70 volunteer women from the Office of Civilian Defense. These women worked for three hours in the morning and three hours in the afternoon and produced accurate results. Special forms were designed for use in making the traffic counts. Each counter checked motor vehicles traveling in one direction only at one of the 70 inbound and outbound counting stations. The exact location and the direction in which the traffic was to be enumerated were indicated on a small map of the Cordon area and each counter was given one of these maps and an assignment sheet. Owing to the great number of vehicles to be counted by each field checker and to the fact that automatic counters were not available, a form was prepared for counting vehicles quickly and accurately.

To determine the average number of persons per automobile entering and leaving the business district in the morning and in the afternoon, a check was made at four typical intersections on streets entering the Cordon area. Counters were stationed at the four locations to tabulate the actual number of persons in automobiles traveling inbound and outbound. The form which was designed for this purpose permitted the tabulation of nearly 300 vehicles in a 15-minute period for the number of persons per vehicle. By dividing the number of vehicles checked into the actual number of persons observed in all of the automobiles, it was possible to ascertain the average number of persons per vehicle at each of the four locations. Results of this survey were applied to the 70 locations used in the Cordon Count to determine the actual number of persons entering and leaving the business district in the morning and afternoon in automobiles, in 15-minute periods.

The City Traffic Engineering Division analyzed the results of all surveys and prepared charts and graphs based upon the statistical data and the graphical presentations then were used in the preparation of the final staggered hours plan.

It was evident from the observations of bus and automobile traffic movements that a greater percentage of persons entered the business district in buses during the morning peak periods than at any other time of the day. However, during the peak 15-minute periods from 7:30 to 7:45 a. m. and 7:45 to 8:00 a. m. about the same number of persons entered the business district in buses as in automobiles.

The relative use of buses was somewhat heavier prior to 7:30 a. m. and lighter after 8:00 a. m. Buses were overcrowded in the 30-minute period prior to 8:00 a. m. This peak demand for bus transportation during the morning hours clearly illustrates the advantages of rearranging working hours so that unused seats in buses may be filled during the off-peak periods and over-crowding may be reduced during the peak periods. Buses were even more crowded in the period prior to 8:00 a. m. because a great many persons work just outside the business area and, consequently, many persons leave buses before they arrive downtown and board buses after they leave the district on routes serving residential areas. Buses in Houston have an average seating capacity of about 35 persons yet there was an average of 46 persons per bus between 7:45 and 8:00 a. m., without taking into consideration the number of persons who left those buses before they entered the Cordon Area.

Between 7:30 and 7:45 a. m., 4,647 persons entered the business district in 110 buses, an average of about 42 persons per bus. During the period from 6:30 to 6:45 a. m. 81 buses were observed entering the business district with an average of only 24 persons per bus and between 9:15 and 9:30 a. m. 73 buses were counted with an average of 18 persons per bus. These figures indicated the availability of space in buses in the off-peak periods. The objective of the staggered hours plan was to spread the bus loads more evenly in the morning and afternoon.

Tabulated Replies

In tabulating replies received in the working hours survey 24 business classifications were established. The morning peak occurs at 8:00 a. m. and the evening peak at 5:00 p. m. Of the total number of employees who supplied information relative to their working

habits, employees of four major oil companies constituted the largest single group starting work at 8:00 a. m. A total of 4,451 persons are included in that group out of a total of 11,056 employees who indicated that they started work at 8:00 a. m. Only a few workers reported to places of employment prior to 8:00 a. m. but, as the chart indicates, many reported at 8:30. Department stores opened at 9:00 a. m. at the time of the original survey and closed at 5:30 p. m.; however, store employees were required to report between 8:30 and 8:45 a. m. Owing to variations in total working hours and in the closing times of offices and stores, the afternoon peak was not as high as the morning peak. In adjusting working schedules in the morning it was necessary to consider the effect of shifting starting times so that additional peaks might not be created in the afternoon.

The final proposed staggered hours plan was based upon a study of all of the statistical data which had been collected in the three surveys. This proposed plan was adopted, substantially as recommended, with only two exceptions. The major oil companies adopted a 7:30 opening time instead of the recommended 7:00 a. m. and department stores and retail stores agreed to open at 9:30 instead of at 10:00 a. m. as originally recommended.

After the staggered hours plan was completed, a Committee on Emergency Transport of the Houston Chamber of Commerce aided in obtaining necessary acceptance on the part of employers and employees. During the preparation of the staggered hours plan, a publicity campaign was conducted with the aid of local newspapers and through personal contacts. It was emphasized that a rearrangement of working hours was necessary in order to prevent a complete breakdown in the existing transportation system. Reference was made frequently to the necessity for conserving mass transportation equipment so that critical materials could be used for war production.

To offset statements that increased demands for mass transportation service could be met by the local bus company by purchasing additional equipment, news articles referred to information received from the Office of Defense Transportation that new buses would not be released for use in any community which had not rearranged working

hours. The Committee on Emergency Transport stressed the fact that sufficient bus capacity was not available on many routes and that all equipment was being used. Staggering of working hours was proposed to alleviate the overcrowded conditions on buses and to prepare for future increases in requirements for bus transportation by persons who would not be able to obtain replacements for their tires and automobiles. The public was warned that if gas rationing should become effective in Houston, the number of buses in use could not carry additional persons who would use mass transportation facilities because of an inadequate supply of gasoline for their automobiles.

After the plan was completed and approved, several meetings were held with executives of the major oil companies, department store managers and other employers of large groups of workers and the proposed rearrangement of working hours was fully explained. Members of the Committee on Emergency Transport met with company executives with whom they were personally acquainted and urged co-operation in the adoption of the proposed plan. The staggered hours plan was presented to the Houston Retail Merchants Association at a luncheon meeting on June 9. Within only a few days, the Association members and the heads of the major oil companies agreed to adopt the recommended changes in hours, substantially as proposed, for their respective employees. Letters were then mailed by the Emergency Transport Committee to all other business organizations affected by the plan, and individual companies were requested to indicate their co-operation by returning immediately the self-addressed stamped postcards which were sent to them with the letters. Practically all of the companies which were requested to change their working hours agreed to co-operate and the staggered hours plan became effective on July 15, 1942, only one month from the time when work was first initiated on the preparation of the plan.

Beneficial results were evident immediately after the plan became effective. Buses were less crowded during the former peak periods and additional passengers were observed during the off-peak times. Congestion in elevators and over-crowded conditions in restaurants during the usual 12:00 to 1:00 o'clock lunch hour were reduced because employees

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who started work earlier in the morning arranged to have their lunch prior to 12:00 and those who started later changed their lunch periods to 12:30 or 1:00 or even later. Retail stores, also, benefited by the new hours because by starting at 9:30 a. m. instead of 9:00 and closing not earlier than 6:00 p. m. instead of at 5:30 there was more time in the afternoon for employees of other business groups to shop after their offices closed. Many office workers have found, since the adoption of staggered hours, that it is more convenient to shop during the new lunch periods when conditions in stores are less crowded than they were during the former 12:00 to 1:00 lunch hour.

In developing the staggered hours plan, consideration was given to the rearrangement of school hours to reduce the demands for bus transportation during the peak periods in the morning and afternoon. School authorities agreed to the proposal to start school later in the morning in order that children would not be riding buses when business district employees were going to work in the morning. In September school hours were changed in accordance with recommendations of the staggered hours plan. Junior and senior high schools in Houston now open at 9:00 a. m. instead of 8:30 and close at 3:30 p. m. instead of 3:00. Primary schools which formerly opened at 9:00 a. m. and closed at 3:00 p. m. now open at 9:30 and close at 3:30.

When the original staggered hours surveys were conducted it was contemplated that after hours were staggered it would be advisable to make similar surveys to ascertain the effectiveness of the plan, and determine what further adjustments in working schedules might be necessary. Advantages of staggering hours are evident. Bus passengers entering the business district in the morning period from 6:30 to 9:30 increased 5,757 persons during the four months period yet very little increase is noted at the former peak from 7:30 to 7:45 a. m. and from 7:45 to 8:00 a. m. In the afternoon, although the increase in bus passengers leaving the business district is not as great as in the morning, there has been only a small increase in bus passengers between 5:15 and 5:30 p. m. and a decrease is evident between 5:30 and 5:45.

There has been more uniform use of buses since hours were staggered. Increases in

bus passengers, in both the morning and afternoon, have occurred during the off-peak periods and it is obvious that if the staggered hours plan had not been adopted, the major portion of the increase in total bus passengers would have developed during the peak periods and bus facilities would have been over-taxed at those times. Buses were being used to capacity during the morning and afternoon peak periods at the time of the original survey so it was essential that hours be staggered to prevent additional bus riding at those times when the bus system could not carry greater loads.

This "before and after" check has proved of great value in measuring the actual effectiveness of the original Houston plan and it provides information which is useful in determining further readjustments of working schedules which may be needed. It is anticipated that when gas rationing becomes effective in Houston, more people will use bus transportation in traveling to and from work. Bus facilities cannot be expanded because of lack of equipment so a further increase in bus riding during the peak periods must be prevented. This objective may be attained in two ways, through a further staggering of working hours, and of shifts in industrial plants, and through group riding.

The Office of War Transportation and the Emergency Transport Committee in Houston are now co-operating with the bus company in solving mass transportation problems which exist on certain bus routes and in the vicinity of large war production plants. When the need arises for additional bus service to the business district, other business classifications may be requested to adopt revised working hour schedules and additional surveys will be conducted from time to time to ascertain the changes which should be made.

Inasmuch as the staggering of hours is proving successful in conserving mass transportation, it is hoped that this method of spreading demands for transportation over greater periods of time will remain in use after the war. Reductions in mass transportation and individual automobile traffic during peak periods of the morning and afternoon also, have eliminated traffic congestion and delays to a great extent so the American public doubtless will approve the adoption of staggered working hours on a permanent basis in the future.

WEDNESDAY MORNING SESSION

October 28, 1942

GROUP SESSION ON PUBLIC SAFETY EDUCATION

Presiding:—PAUL F. HILL, Executive Secy., Highway Traffic Advisory Committee, Des Moines, Ia.

Traffic Safety Education Through the Civilian Defense Program

By ROY S. MARSHALL

Sunset Outdoor Advertising Co., Seattle, Washington

This morning we are gathered here in a small group to discuss one phase of this picture—namely “how safety education can tie into the civilian defense activities and other war efforts” and thereby greatly accentuate the results accomplished from safety education.

Because of the fact that Seattle is one of the critical war-industry areas, as well as being actually the closest territory in the United States proper to the Pacific War area—and the fact that I am naturally more familiar with my home-city problems, I want to briefly give you that picture. Seattle's population has suddenly increased from 365,000 to a conservative estimate of 530,000. At the last officially released data, war contracts in this section amounted to over \$1,800,000,000. Seattle is one of the first four in per capita appropriation of defense dollars. The state of Washington is in the first two states.

This has attracted many new types of industry and many new types of workers. We have airplane manufacturing, tank manufacturing, ship building—all of strategic importance to the carrying on of the war effort. Bremerton, Tacoma, Camp Lewis, in the immediate vicinity represent the largest navy yard in the Pacific area, a tremendous ship-building center, and one of the largest army troop training camps. Seattle is the port of embarkation for Alaska, which means tremendous traffic in manpower, war supplies and equipment.

As a result of the early conversion of this area into all this war atmosphere, Seattle has been imbued with the war spirit to a marked degree. The first major city to attempt black-

out tests and barrage balloons to protect plants, Seattle has had its share of the union difficulty, the 35-hour week, difficulty in arranging staggered hours with union officials, black-outs, limited transit facilities, a high shipyard accident rate as well as traffic and other industrial accidents.

Plenty of Problems

Now this boom of activity has created plenty of problems, with many of which you and your various committees are familiar. Traffic congestion and bottle-necks; an overburdened transit system; thousands of plane plant employees suddenly concentrated in a congested spot resulting in problems of exits, mass transportation, pooling of cars, car riders; lack of materials to make street improvements (particularly one major overhead project to the shipyard area); inadequate police and equipment; tire shortages and gas rationing—all creating a hub-bub of confusion with many conflicting interests and attempts to find solution.

Now, naturally in such a maze of problems, the enforcement program is important. Engineering improvements are vital. But my purpose this morning is to discuss the place that public education can and must play in such a picture. Under these conditions the public is apt to become lax in its observance of laws, in its courtesy to the other fellow—the public sees confusion and begins to ride the over-worked public official and conscientious citizen who is trying to do a job. One of the biggest problems that we have had in Seattle is the out-of-towner—perhaps a young fellow who is making his first real money. He has

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a new car. He has money in his pocket to spend. His regard for law and the rules of the road becomes incidental and he is out for a good time.

Need of Education

It is the job of the educational side of the traffic picture to carry on a public educational job that will arouse such public acceptance of a proper regard of safety or conservation of manpower and materials that will offset this laxity and carelessness. I believe I can best illustrate how this can be done—how some of the problems that must be met can be solved—by carrying on my illustration of Seattle and telling you a little of the story of how our "Victory Square" functioned.

Despite the fact of full and bulging pocket-books the bond sales were lagging—civilian defense needed stimulation—labor, capital and management were all looking to their selfish interests—transportation problems were looming—and many frictions existed impeding war effort. Eagerly striking out to meet these oncoming problems were patriotic citizens of every rank and interest with many duplications of efforts resulting in friction, jealousy, etc. And yet the ultimate aim of all was towards one thing—to win the war!

Victory Square

Out of this confusion the Seattle Advertising and Sales Club was asked to do a job. It was felt that a unity of purpose must be attained. A concentration on one over-all theme to arouse public spirit and patriotism. It was a job for advertising. From this original group sprang the idea of a "Victory Square." A wide street, a block long, located in a downtown central business section—at one end a stage erected in the form of a replica of the front porch of Monticello and at the other end a replica of the Washington Monument—with appropriate decorations of flags and color, provides the setting. Every day at noon, for one hour a stirring program is presented augmented by army and navy band music, entertainers, speakers, singers, returning war heroes—publicized in the daily newspapers, over the radio and on the billboards—all have gone to make this an institution—"Victory Square."

Behind all of this is a crystallized objective—the sale of defense bonds. From a very meager start, new records have been con-

stantly set until the latest high was a million three hundred thousand dollars of sales in war bonds on one noon program!

Now, I want to repeat the lesson of what was accomplished in this effort. First of all it brought a unity of purpose for all of the people of Seattle, crystallized and expressed in Victory Square. Every campaign of any importance in the war effort started a kick-off in Victory Square, which meant newspaper publicity, radio advertising, prestige and impact behind its story. Results? Bond sales are high. Army and Navy recruiting is at the top of the list in per capita. A spirit of cooperation between capital, labor and management was fostered.

This has been a community job. As in the promotion of patriotism and war bonds, the safety educational job in the final analysis boils down to the local community. Where a clean-cut, over-all job is done locally, you will find safety.

Essentials

When it comes down to doing the job in the public education field, I would like to outline a few essential points that should be a guiding factor in any local safety educational program—

1. Develop a unified program after determining your specific problems.
2. Keep the program simple.
3. Enlist key people in strong organizations.
4. Get the advice of the local advertising group.
5. Eliminate "who gets the credit." The Safety Council should be the coordinator. Give the other fellow a boost every time you can.
6. Tie in with the national program wherever possible.
7. Keep your eye on the ball.
8. Thoroughly acquaint all organizations and parties interested with your program.

Because the saving of manpower and material is so vitally necessary to the winning of the war, the tie-in with the necessity for conservation of manpower and material gives safety an opportunity to put over many basic safety principles it might otherwise take years to accomplish. It is an important war job to facilitate the flow of traffic and trans-

portation and to conserve manpower and materials—the recognition of this by the powers guiding the destinies of this country in its war effort is going to bring about an overall national program that is now in the process of preparation by the Advertising Council, Inc. to be paid for and sponsored by several of the major industries most interested. This will be an over-all project toward the gaining of public acceptance. It is up to the local Councils to take advantage of

this national effort—"to grab the ball and run." Out of this national emergency can grow a greater appreciation and public acceptance of the many little things that go to make up a resultful safety program.

With a little weight behind the power of public education, great strides should be made in our safety promotional effort that will gain public acceptance and bring lasting good results for safety consciousness.

Training the Civilian Defense Worker in Safety and Conservation

By WALTER D. LADD

Secretary, St. Joseph Safety Council, St. Joseph, Mo.

For years we have preached safety, because we could find audiences to preach to. We have failed largely to *teach* safety, because we could not find audiences, or pupils, to teach. I do not mean to say that the preaching wasn't worth while. We still need preaching. And for years safety needed to be preached, because it had comparatively few converts. We still need more converts, but we do have thousands—yes, millions—of people who BELIEVE in safety today. Why, then, do we not get better results?

There is no mystery about it. Analyze the average accident, or a thousand of them. The real reason is ignorance on the part of an individual or individuals.

A child burns to death and a dwelling is destroyed, and we say the cause was carelessness with a cigaret. A person placed a lighted cigaret in an ash-tray of the common, flat-edged type, and went away and left it there. That cigaret burned down until the portion extending outside the ash-tray was heavier than the rest of it, and then it fell outside the ash-tray and set fire to the house.

Ladies and gentlemen, that was not carelessness. That was ignorance. A person properly instructed in the fundamentals of accident and fire prevention would have known better than to leave a lighted cigaret in such a position. Such a person would have known better than to have such an ash-tray on the premises.

If the American people today destroyed every flat-edged ash-tray in the country—and there are millions of them—the loss figured at their retail value probably would be less than the fire losses for one week due to fires caused by their existence and use.

A motorist is driving along a highway at 40 miles an hour, engaged in conversation with a friend. He becomes so engrossed that he is not attentive to his driving, and edges over to the right, so that his right wheels are on the shoulder. He suddenly becomes aware of this fact and turns his front wheels to the left to get back on the slab, without slackening speed. In fact, he accelerates his speed to 45 or 50 miles an hour, without realizing it, in his anxiety to correct his error. Two seconds later he and his friend, if not too seriously injured, are trying to crawl out of the car, which is on its side in the ditch at the left side of the road, a few hundred feet beyond the place where it first got off the slab.

He was not careless. The accident wasn't due to carelessness. It was due to ignorance. He didn't know enough about driving an automobile. He never had received any formal instruction in driving. Like millions of other Americans who don't know enough about driving, he thought he was a good driver, and he intended to be a good driver; and above all, he prided himself on being a careful driver. But there is a lot of difference between a careful driver and a competent or good driver.

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Two cars crash at a city street intersection. Each driver blames the other. Both drivers actually believe they were driving in a safe, competent manner; actually, both drivers were driving improperly and unsafely, or there would have been no collision. If either driver had known HOW to drive safely, and had used that knowledge, there would have been no accident. Both drivers had seen many safety posters, admonishing them to drive safely. They had heard safety talks at luncheon clubs and at other places. They had been urged by their newspapers and the radio to drive safely. They may even have seen somewhere some specific instructions on HOW to drive safely, but they skimmed over them, assuming that they were for the other fellow, not for them.

Twenty minutes competent instruction on the mechanics of stopping a moving automobile, and its relation to intersection accidents, aimed directly at those two individuals, would have prevented that collision. It is the common experience of an instructor of classes in safety techniques, that students confess they have been doing common, everyday things unsafely for years, without ever realizing their danger. Such instruction gets the desired results.

The Civilian Defense program gives the greatest opportunity ever presented for the teaching of safety, and at the same time I believe it has shown some of us how far we have missed the mark in our efforts to reach the individual who causes or is involved in the millions of accidents which make up our appalling annual national total.

We received the impact of our shortcomings very early in the Civilian Defense program. In communities where there are safety organizations, those organizations at the very outset of Civilian Defense hastened to offer their services. Governmental authorities at the start of the defense program, long before Pearl Harbor, recognized the necessity for controlling accidents and fires. Our President even issued the proclamation with which you are all familiar, calling "upon every citizen, in public or private capacity, to enlist in this campaign and do his part in preventing wastage of human and material resources of the Nation through accidents."

Machinery was set in motion to train some thousands of persons in a short course in

safety engineering, to provide competent safety supervision for the mills and factories engaged in the work of producing war materials. The traffic accident prevention program of the country was swiftly overhauled to make it more effective, if possible, under wartime conditions.

And, as I have said, eager to serve, the various safety organizations offered their services, but usually to no avail. It wasn't that anyone wanted to keep them out of the home front war effort. It was just that the folks organizing Civilian Defense did not know how or why to use their services. Many of the community leaders of Civilian Defense knew little of safety except for such admonitions as "Be Careful" and "Drive Carefully," and they did not see what safety had to do with the war effort, or what useful place it could have in their program. Let me say here that there were notable exceptions to this, but this lack of understanding and consequent unwillingness to incorporate safety instruction or safety service in the Civilian Defense program, was the common experience.

In detailing this situation, I do not wish to place blame for it. It never has been possible in the past, as far as I know, to popularize safety instruction classes for the general public. And because such instruction has not been widespread, we have few persons who know anything about it or who understand its value, and furthermore, we have very, very few persons who can act as instructors.

In my home town of 80,000 persons, the safety council was fortunate in securing the willing co-operation of the Office of Civilian Defense.

After some mistakes and false starts, a 12-hour course in what we designated as "Personal Safety" was set up, and the Office of Civilian Defense listed it along with first aid, home nursing, nutrition, motor corps, and other study subjects.

In a period of six months a few more than 300 persons enrolled for this course, and 153 actually completed the course and received certificates. In that same time nearly 2,000 persons enrolled for first aid, and more than 1,200 completed their first aid courses.

Heaven only knows what we would have

done if 2,000 had enrolled for our personal safety course. We had only one instructor, whereas there were 34 first aid instructors. Thirty-six more first aid instructors have been added since then, and we still have one safety instructor. Our course was an enlarged and more detailed version of traffic safety instruction we had been giving to high school seniors for several years, plus an enlargement of a home safety lecture which we also had used for some time, plus the fundamentals of fire prevention and fire protection, with information about probable blackout procedure and the handling of incendiary bombs thrown in.

We thought along these lines in arranging the course: The average individual today is exposed to certain hazards, and he is the victim of certain types of accidents. Let's see what those hazards are, and then provide in this course, so far as we can, the knowledge of the hazards and of how to avoid or deal with them, that will enable that individual to recognize them and keep himself from becoming a casualty.

We teach the class how to have an accident. When they know how these accidents are caused, they can work backward, so to speak, and know how to prevent or avoid them.

When the first class assembled, we started the job with trepidation. Half of the class plainly had gone to the Civilian Defense Office and registered in a burst of patriotic fervor, seeking to take a swing at Hitler or the Japs, and here they found themselves in a safety class, faced by an instructor whom they had known for some years as a safety crank—or maybe "nut" was the word. Another 25 per cent had enrolled for the course because it looked like an easy Civilian Defense job to do, but they didn't think they would learn anything valuable or would even be interested. The remaining 25 per cent knew what it was all about, and were ready and willing to get some good out of it.

To further scramble the psychology of the situation, the instructor knew he was engaged in an experiment that might turn into a fizzle. He was more or less organizing his course as he went, feeling his way, trying to win the interest of the doubting ones, and do a worthwhile job. He never had had such a chance before and he didn't want to fumble it.

He had written more experienced friends for help, only to receive the reply that he was pioneering and wishing him luck. And would he let them know how he got along—maybe he had something worth while.

Imagine his surprise when the first class turned out to be a success. Practically the entire group finished the course, and those who had come expecting to be bored, remained to take a lively interest in learning the techniques of staying alive and whole in this dangerous world in which we live.

The next class went along more smoothly, as our instructor gained confidence and found what to give more emphasis to, methods to avoid, and so forth. And the next class, and the next went along better and better, until the course became a routine.

This instructor learned something he had even doubted himself—that safety instruction could be made interesting to the average person. But he learned that it was no easy job to make it interesting. He never did any harder work in his life. He found that it was a subject that could not be presented while sitting in a chair at a desk. He found he had to be a showman. He had to use every device he could find to lend action and interest to the course. He had to have as much change of pace as a good baseball pitcher, and produce almost as much action as a three-ring circus.

He found you couldn't just tell people that they should have a mat in their bathtubs. You had to have a bathtub mat right there and pass it around for them to handle and inspect. You couldn't just tell them a lighted cigaret would, as the man on the radio says, "almost invariably" fall on the outside of a flat-edged ash-tray and set fire to something. You had to prove it.

He found that charts with diagrams and pictures and startling facts displayed on them, kept more than one pupil from falling asleep as he dealt with the minimum of facts and figures necessary to present such a subject. So he used charts. When he didn't have a chart that suited the purpose, he used the blackboard, with the same effect.

He found that the sound-slide pictures of the National Safety Council which his office had in its library, emphasized many a point

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in traffic and home safety so that it went home after he probably had failed to get it across by just telling it. Such pictures as "Defensive Driving," "Safe All Around," "Are Your Feet Killing You?" and "No Use Skidding," tell the story better than it can be told with words.

He invited and encouraged discussion. He gave written tests, then reviewed the test papers with the class and had some beautiful arguments about the answers.

You can talk for ten minutes on the merits of letting the other fellow have the right-of-way in traffic rather than risking a wreck, but you will put the idea firmly in your pupil's head better by rattling off such a little bit of doggerel as this, which I first saw in a Chicago newspaper twenty years ago:

Here lie the bones of William Jay

Who died defending his right-of-way,

He was right, dead right, as he sped along,

But he's just as dead as if he'd been wrong.

We took the opportunity to explain the difficulties of law enforcement and to try to popularize engineering procedures with these classes, since they contained many neighborhood leaders, from various parts of the city. We explained that law observance must necessarily be largely voluntary, and we took actual case histories of bad accidents, which these people knew about, and explained causes or factors in these cases, which they did not know about.

In one such accident a ten-year old boy was struck by a car and killed near a busy intersection in a poor neighborhood. Following the accident, the people in that neighborhood had demanded that traffic signals be installed at that corner, and the pastor of a church there had led the protest when the demand was turned down. As a matter of fact, the conditions were such that signals would not work properly at that location, and signals would have had no bearing on the fatal accident.

It happened that in one of our classes was a grocer who was located near that corner. He told me later that he had been one of those dissatisfied because signals were not installed; that he never had understood the

situation before he attended the class, but that since then he had explained it to many of his neighbors. Public opinion in that neighborhood was changed.

Some of the fundamentals of traffic engineering were explained to the classes. Possibly you would be surprised to learn how many otherwise intelligent, well-informed persons believe that a stop sign possesses some magic property that will prevent accidents occurring within a considerable distance of its location, or who think of stop-and-go signals as a cure-all for the traffic ills of a community, or who believe one-hour limited parking will make the street wider for moving traffic.

Persons in the first class talked to their friends and got some of them interested, and thus helped supply pupils for the classes that followed.

The safety council was invited to present a traffic safety course for some eighty auxiliary police sergeants, and of course the invitation was accepted. These men were scattered over much of the city, and they in turn gave some instructions to their squads of auxiliary police. We hope to have classes for other groups of auxiliary police and air raid wardens.

Some school teachers were among those enrolled in the early classes, and they talked to other teachers, resulting in a request for safety instruction classes for teachers. About eighty teachers have enrolled in such classes. These classes will be of far-reaching value, since one of the great weaknesses of safety teaching in the schools is the lack of knowledge of the subject on the part of the teachers. We hope this will develop into some sort or regular training course for teachers.

A by-product of the safety instruction class for auxiliary police sergeants was a safety school for traffic law violators, which has been very successful. It happened that the city prosecutor of traffic cases was also an auxiliary police sergeant, and he was a member of the class. He showed a lively interest in the subject, although he never before had shown much interest in traffic safety efforts in the city. After the course, he continued to show interest, attended a National Safety Council regional conference of traffic court judges and prosecutors at Kansas City, and

then asked the safety council to provide instruction for violators' classes. Thus, through the original Civilian Defense course, we have been able to reach those persons who need traffic instruction most—the speeders and reckless and drunken drivers. And I may say here that their reception of such instruction has been as gratifying as that of any group with which we have dealt.

Another fine opportunity for safety instruction presented itself when the Civilian Defense drivers corps was to be organized. The safety council's instructor was given the task of organizing and training the drivers' corps, which is one of the protective units of Civilian Defense, ranking with the air raid wardens, auxiliary police and auxiliary firemen. Its job is to deliver persons, equipment and messages wherever they are required. These drivers must arrive at their destinations without accident under all conditions if they are to do their job properly. So if they are properly trained, they certainly should be trained in traffic safety. Some six or seven hours of traffic safety instruction is incorporated in the training course we are using, which also includes convoy driving, blackout driving, gas defense, emergency minor road repairs, map reading and first aid.

The drivers' corps training thus far has given us 100 students of safety, and we shall have 250 more. These people are responsible citizens scattered among all wards of the city, who will influence public opinion for safety in the future.

Altogether, including our senior high school classes, we have had more than 900 persons in safety classes in St. Joseph in the first nine months of this year. These people have had from three to twelve hours of instruction in traffic and home safety, fire prevention and protection and miscellaneous accident prevention.

I want to say a word about this instruction. It consists for the most part of analyzing the common types of accidents. We try to explain the relationship of speed on the street and highway and accidents, of a loose throw rug and a bad fall, of dry cleaning with gasoline in the kitchen or basement and a tragic explosion and fire. This can be done in a most convincing manner, because all the accidents in any field generally may be classified

in a comparatively few patterns. The same things happen over and over again, with the same causes and the same results. It is only necessary to present these patterns realistically and if possible, dramatically. The student will recognize enough of the picture to accept the rest of it.

I do not believe too much time should be spent on behavior, because it cannot be taught. The results of unsafe behavior will be apparent if the mechanics of the accidents are clearly presented. The effects of inattention, drinking, discourtesy and fatigue should be mentioned, but not stressed too much. These factors will appear from time to time in a natural way as your story of safe living is unfolded.

What we have been able to do in St. Joseph can be done anywhere. It is hard to get started at safety education along this line. We are all prone to shoot at big figures. We want to educate a thousand or ten thousand or a hundred thousand persons, but not just twenty or five, or one. We lose sight of the importance of the individual.

May I suggest that we will soon reach our limit in effective safety education unless we train our sights down to the individual.

Remember that individuals, not crowds of people, are killed and injured in accidents. One at a time, here and there, over the country, the total adds up to hundreds in a day. Remember that individuals, not groups of persons, cause the accidents and the fires. So we must reach the individual if we are to successfully educate the public in safety.

We must do as the Red Cross has done with its first aid work and as it is beginning to do in home and farm safety work—educate the people in small groups. Indeed, we have found that more than twenty-five persons in a class is too many. Twenty is better. Fifty or a hundred at a time is difficult and less effective.

We must provide competent instructors to do this work—thousands of them. They must be well trained and well equipped. We must go into the homes where we can, into the schools, into the clubs and churches, wherever the people are, and teach them. All this will cost money, and it will be an organization task worthy of the best brains and all the energy in the safety movement.

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WEDNESDAY MORNING SESSION

October 28, 1942

GROUP SESSION FOR CITY AND STATE POLICE
TRAFFIC CONTROL PROBLEMS IN WAR PRODUCTION AREAS

Presiding:—Lt. C. L. LYCAN, Traffic Div., Decatur Police Dept., Decatur, Ill.

The Place of Traffic Safety in War Time

By HAROLD ANDERSON

Chief of Police, Kansas City, Mo.

As a war measure, a rationing program has been put into effect. Because of this, the volume of vehicular traffic has decreased and this decrease has been reflected in a drop in the total number of accidents. Unfortunately some enforcement agencies have interpreted this accident decrease to mean that they can now relax their traffic safety program, reduce the number of officers assigned to enforcement, discontinue traffic violators' schools, reduce publicity and discontinue studies of high accident intersections. Actually, the opposite attitude should be taken.

Now we are facing a different situation; an immeasurably more serious situation.

The larger proportion of these injury accidents could have been prevented by the application of known methods of accident prevention. We police, in our attempts to aid the war effort must not be deceived into overlooking the importance of the accident problem simply because an excessively high accident rate is declining. We police, faced with the new and vital problems of protection from espionage and sabotage, must not forget to combat also an equally important source of destruction simply because it has been with us for so long. We must not adopt the belief that the accident problem has been subordinated to other police problems by the war, when actually it has been brought to the fore.

One apparent change in the character of traffic is the change in the distribution by the hour of the day and the day of the week. The large number of workers engaged in

war production are on a twenty-four hour a day basis and on a seven day week. Men who used to go to work at eight o'clock in the morning are now going to work at four in the afternoon or at midnight. Factories that used to close Friday night or Saturday noon never close their doors. Volume in some areas has decreased, in others increased, and in all cases the distribution by hour of the day and day of the week has been modified.

A second change in the traffic picture should also receive constant study. The traffic flow picture, and the resulting accident picture has changed in many areas. This change has been caused by the construction of large defense plants and accompanying housing projects. In some areas the flow has only been modified, in others, completely altered. We must not believe that we know what these changes are and what to do about them until we have made careful engineering studies of the new situation. Flow maps and accident spot maps should be maintained constantly and changes should be made as the traffic experience or accident experience indicate that they are necessary. These maps will allow changes to be made in enforcement, engineering and education as soon as new problems appear.

New Problems

A study of the accident experience in the past several months will show that several new problems have presented themselves. One that has never been given the attention it deserves is fatigue. We are all familiar

with the difficulty of getting proper rest after working from midnight to eight or from four to twelve. Large numbers of war workers are now doing this and large numbers of them are driving, often a number of miles, to and from work. Coupled with this is a noticeable tendency on the part of these workers to not only work hard, but to play hard. The resulting fatigue causes many accidents and contributes to many more.

Fatigue is hard to define, hard to observe and consequently difficult to control. Obviously, we cannot arrest a man for driving while fatigued, but we can make arrests when accidents occur and fatigue has been a primary or a contributing cause. We should never accept a driver's statement that he went to sleep as a reasonable excuse for an accident. But what about those fatigued drivers who are only potential accident hazards? There is not a great deal we can do. Occasionally an officer may see a driver wandering down the road on the borderline of going to sleep. This constitutes a real hazard and an arrest should be made. Patrol of streets and highways will have some influence as the mere presence of a police officer has the effect of making many drivers more attentive.

Education is of value in telling drivers of the importance of the fatigue problem and suggesting practical solutions. Such suggestions would include getting proper rest, changing drivers, parking safely and sleeping, and similar devices. The contribution of engineering to this problem is the proper lighting of streets and highways, construction of routes that are not tiring to drive over and adequate signs and signals. The engineering approach is sadly curtailed by the shortage of material.

An additional important problem is the influx of workers to war production centers. Their traffic difficulties have two main causes: unfamiliarity with local traffic regulations and unfamiliarity with the geography of the city. Both can result in congestion and accidents. Drivers unfamiliar with the city will unintentionally go through stop signs and signals or drive slowly along looking for street signs and forgetting their driving. A warning instead of an arrest should be used in such cases. Of course, there will always be a number of people that will take advan-

tage of their out-of-state license. When an officer feels that this is being done, these people should receive the same treatment as local violators.

Owners of motor equipment are faced with uncertainty as to how long and how much they can use this equipment. Those drivers whose mileage is already greatly restricted by gas rationing and those drivers who know that the use of their car will terminate with the life of their tires are prone to neglect the condition of their car. If the brakes need adjustment or repair, they are likely to say, "Well, the brakes will last as long as the tires," and so drive with the car in an unsafe condition.

There are recognized and widely used methods of checking the condition of motor vehicles. Many cities are operating well equipped inspection lanes. There are a number of suitable, reasonably priced methods of checking brakes, lights, steering, etc. Many garages now have this equipment. Most cities have ordinances that allow for the police checking of motor equipment, if such ordinances do not exist, they can be readily adopted from models set up by the National Safety Council. With the proper ordinance, the police can then see that the available methods and equipment are put in use to keep unsafe vehicles off of the street. As with other enforcement programs, testing should be accompanied by an educational campaign in the newspapers and other agencies explaining the reason for the testing, the method of testing, etc.

Speed

Particular attention should be paid to a possible general increase in speed. Unless enforcement is continued at high level, there are several factors that may lead to an increase in speed and therefore to accidents. A decrease in congestion will result in an increase in speed. With less traffic, the chance for collision appears to be less. This would be true if speed remained at the same level, but the tendency is for each driver to assume that he is the only driver left, and therefore operate at a higher speed. Thus, with fewer cars and increased speed, the accident rate might remain the same or even increase in severity if not in the total number of accidents.

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Every city has a number of people now working in defense industry at two or three times the salary they ever made before. It is no more than natural that these people would develop a "big shot" complex. One outgrowth of such a complex is fast, careless driving. Such persons will be the first to notice and take advantage of any laxity or lessening of enforcement. The only way to keep them in line is to not relax traffic enforcement.

When it is necessary to arrest a worker in war industry for a traffic violation, I believe that if he is on his way to work he should be issued a ticket unless the offense is very serious. I believe that this is a safe procedure, for these workers are required to carry very complete identification, which ordinarily includes a picture, in addition to their driver's license, draft registration, etc. We receive good cooperation from the employers if the worker fails to appear for court. So many of these workers are riding two or more to a car, so that arresting the driver and bringing him to a station for booking plus the time often required to make bond may delay production for some time, more particularly if the worker occupies a key position.

While the war has presented new traffic problems, new opportunities for educating important groups are also present. The management and safety engineers of the war production plants are glad to cooperate with any well planned method of attacking the accident problem. Many of the large plants have a daily, weekly or monthly newspaper or magazine that is distributed to all of

their workers. This is an excellent medium in which to place a safety message, outline traffic regulations and ask for the cooperation of the workers. Most of these plants have safety meetings at which they will be glad to give your department a chance to put across a message to their workers. The safety engineers will be happy to cooperate for they know that production is slowed as much by a man absent from work after a traffic injury, as by one absent because of an injury in the plant. Most of these plants have safety bulletin boards, and they will be glad to put up traffic safety posters.

Pay-roll enclosures carrying a short message are of proven value, as are longer bulletins distributed to the workers suggesting alternate routes and giving them the traffic regulations in brief, concise form.

Signs, signals, paint and many other things that we have regarded as essential are no longer available. We can at least partially solve this problem by two methods: Substitution of materials and the change of location of control devices. We can substitute plywood or pressedwood for metal in signs, we can put them on wooden posts instead of steel and we can conserve our paint or use other types of paint by making markings on the curb instead of the street and using broken lines instead of solid. We can, after adequate surveys, move many of our signs and signals to intersections where they will be of greater value. The tendency in the past has been to put in too many traffic control devices, and we should be able to discover a number whose value can be improved by moving.

Traffic Control Problems in War Production Areas

By COL. M. STANLEY GINN

Missouri State Highway Patrol, Jefferson City, Mo.

National Defense projects were ushered into being with an escort of traffic congestion and collisions that was unparalleled. The demand for labor, both skilled and unskilled, caused a migration of workers not only from the outlying sections of each state but also from surrounding states to the defense project areas. The majority of these laborers

came in private automobiles, and these combined with the many trucks used to transport construction materials, created a congestion from which traffic collisions were inevitable.

The fact that most of these projects were in areas away from the population centers meant that there were no housing facilities

in their immediate vicinity, and this, too played its part in the traffic control and accident problem. Many of the workers commuted up to thirty miles. On the overloaded highways this meant early starts to work and long trips home after a hard day's work when tempers were short and impatience was at its height. The combination of heavy traffic and tired drivers, impatient and short of temper is dynamite.

While the problem of controlling the construction phase of traffic is an enormous one, the problem of the serious accident partially solves itself. Congestion prevents speed, and slow driving prevents fatalities. Thus the highly congested area, with cars bumper to bumper, forms its own protection, if properly handled.

There is no secret formula for gaining and maintaining control of the traffic in these areas. The solution is simple. Get there first with sufficient men and equipment—before construction starts. Use motorcycles for patrolling—patrol cars cannot be maneuvered in dense traffic.

Use cars or trucks equipped with public address systems. Spot them at intersections. Their value is inestimable in keeping the cars in line. Keep the cars in their own traffic line. Allow no passing. It is next to impossible to get back into the unbroken line once a car pulls out. Take every advantage of the fact that speed is slow. Put rigid patrol and strict enforcement into effect on the "feeder roads," for this is where the serious accidents occur.

There are various methods of handling dense traffic. The prime requisite is to get there first—formulate a plan and be ready to put it into effect when the traffic arrives. By doing this, the contact is made with the first workers and their impression of your control methods will be carried on to subsequent workers as they arrive. Thus the value of enforcement is enhanced by the "word of mouth" education carried on from worker to worker.

The Production Period

With the opening of the production period, the volume of traffic drops—not back to normal—but enough that speed again becomes a factor in every collision that occurs.

The problem of housing facilities remains, and commuting is still necessary, though on a smaller scale. Many of the construction workers stay on to become production workers, and after the long period in commuting in slow traffic, they find in the more open road the impulse to speed. This attitude is contagious and will spread like wildfire to the other drivers, unless officers who mean business are there to deter them. Here again a careful watch must be kept over the more open "feeder roads."

The receding traffic flow naturally brings a drop in the number of collisions, but the collisions in every case are more serious because of the speed factor involved. At the same time the workers have more money than they have ever had before. They also have more free time on their hands. Free time and money brings a search for amusement. This search leads them to the inns and taverns along the highway and the drinking driver problem reaches major proportions.

I am not prepared to say what each individual state is doing to combat traffic fatality toll in these areas, but since it is purely a police problem—there is no longer time for the long term part that education plays in safety, nor is there time or money to build new roads to combat the problem through engineering—it must be fought with the only flexible weapon at hand—enforcement.

The volume of arrests must soar to new heights until it reaches a point where it will smother the fatality peak, and cause a downward trend. Arrests alone are not enough. Punishment must be meted out through fines, jail sentences, and loss of drivers' licenses. Every means of justice must be used.

Here again the cars and trucks equipped with public address equipment will be a valuable asset. They should be used close to the plants during shift changes, so that the workers could be informed as to what will and will not be countenanced by the traffic enforcement officers. The use of such equipment demands a great deal of thought and care, since saying the wrong thing, or even the right thing in the wrong way over these loud speakers, gives it an infinite capacity for making enemies. The statements made over them should not be too blunt. They should embody both politeness and firmness.

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Special consideration must be given to the midnight shift change, as the workers leaving are anxious to get home and most of those coming to work have waited until the last moment, barely allowing themselves time to arrive on time for work.

The successful enforcement program must carry the stamp of approval, not only from the police, but from the prosecutors and the judges, and the program must include a

good deal of the area surrounding the defense projects. It is easy to see the fallacy of attempting to enforce strictly the law in one small area and being lax in the surrounding areas.

I do not offer this as a cure for the situation. We will still have traffic fatalities as long as automotive transportation is essential. But I recommend "selective enforcement" as a weapon to combat them.

Unified Traffic Enforcement in Suburban and Adjacent Rural Areas

By CAPT. C. J. SANDERS

Nebraska Safety Patrol, Lincoln, Nebr.

Traffic enforcement in defense areas was another duty added to the many duties of the Nebraska Safety Patrol when the national defense program was started. This was a new experience, as most of the Nebraska traffic in the past had been rural traffic.

The first problem was the handling of traffic during the construction of the Martin bomber plant, which was constructed at Fort Crook. Access to this plant was from U. S. Highway No. 75, which is a two-lane highway and capable of handling just the normal flow of traffic. The Nebraska Traffic Advisory Committee to the War Department, which consists of the state engineer, assistant director of motor vehicles, and the captain of the Nebraska Safety Patrol, felt that this increase of traffic would create a serious traffic hazard. To meet this problem, arrangements were made with the county commissioners, county attorney, and county sheriff for the Patrol to take over the policing of the area.

During the construction of the bomber plant and a new divided four-lane highway, ten members of the Safety Patrol were stationed at Fort Crook to maintain a strict enforcement program. A central office was set up at the Fort, with call stations set up every mile between Fort Crook and Omaha. With this call system and the highway zoned for speed, the Patrol was able to bring about uniform and efficient enforcement.

Due to the fact that such a large number of drivers were stopped for speeding, it was impossible to take them all into Court, so

the drivers were given the choice of going to Court or spending an hour looking at the speed limit sign. In one month 463 drivers chose to study the sign. In the same month 93 arrests were made for driving under the influence of alcohol, intoxication, assault and battery, etc.

During the construction period there were no fatalities and only one personal injury accident. This is an exceptional record, when one considers the fact that there were as high as twelve to fifteen thousand cars a day on that five-mile stretch of highway. In the past during normal times, this highway had one of the highest accident rates of any highway in Nebraska.

Since the completion of construction of this plant and the new highway, enforcement is handled by four Patrol officers and the county officers. Traffic within the plant, of course, is handled by the plant officials.

We feel that we have accomplished much in setting up a uniform enforcement program, as other law enforcement agencies in Nebraska are following this enforcement program in the seven defense areas over Nebraska. Due to the number of defense areas and the limited number of Patrolmen, it has been impossible to set up an enforcement program as was followed at the Martin bomber plant, but it has established its self as a plan for other agencies to follow.

Plant officials in the other plants have set up safety programs with our cooperation, which should make enforcement compara-

tively easy. Members of the Patrol and of the traffic engineering department have contacted the officials in all of the defense plants in Nebraska for the purpose of working out a uniform enforcement and safety program. Through this program, which consists of posters, bulletins, and illustrated lectures, there will be uniformity, not alone in enforcement, but also in the plants and courts.

It must be remembered that many contractors and laborers who have worked in the first defense plants became acquainted with the uniform traffic regulations and enforcement policies and have since moved to other defense plants, will be much easier to control and should be safer drivers. This will be true, not alone in Nebraska, but in any state.

Cooperation with Plant Managers and Plant Protection Officials

By CAPT. K. E. KLINE

Purdue University, Lafayette, Ind.

The city and state police have a definite responsibility of production in the war effort.

This responsibility divides itself into two general parts, the control of normal everyday flow of worker traffic to and from the plant, and the introduction of emergency vehicles into the plant during periods of abnormal activity.

If the local police can deliver the worker to the plant in the shortest time and in the best frame of mind, the ground work for a maximum day's work has been laid. If the driving worker is delayed and subjected to traffic annoyances he is not in the proper frame of mind for maximum effort upon arrival at the plant.

To illustrate, let us take the case of Joe Doak who has selected a route to and from his home to the plant. Each day the traffic flow becomes a little slower. Finally Joe has to rearrange his schedule to leave earlier or be late getting to work. Joe becomes a little more irritated each day, and as he does his production potential drops off. Joe's problem could have been solved if he had been given information by the plant or local police as to some new route, less used, by which he could get to work. In this case the plant officials and the local police have not cooperated in the production effort.

Normal Worker Traffic

For proper cooperation the local police chief should meet with the plant officials concerned and determine where the workers in a particular plant live. If there are two

or more arteries through which the plant can be reached, a map should be prepared showing what they are. This map should show the approximate traffic using each artery. The map should be posted where the workers can examine it and determine their best route.

The police must make every worker acquainted with all traffic laws and regulations which affect them on their way to and from work. The police must not allow the plant officials to attempt to interfere with traffic enforcement. They must never attempt to protect a worker just because he works in a war plant.

Plant officials should arrange a meeting of all foremen with a representative of the local police so that the two groups can arrive at a meeting of minds on this subject of traffic. Finally, the plant officials must coordinate their traffic control efforts with those of the local police.

Emergency Vehicles

In the case of a fire or major disaster plans must be formulated to introduce the necessary emergency vehicles into the plant as may be required. The police must confer with plant officials to determine the physical layout of the plant, that is, the location of all gates, roads that can be used inside the plant, roads which cannot be used and other like information.

The police must prepare emergency routes of approach to the plant, they must prepare necessary blockades to reserve these routes, and they should work out an identification

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scheme in order that the proper officials and vehicles can proceed to the plant at such times.

Proper means of communication must be established between the plant and adjacent police departments. A map of all emergency routes must be prepared. This will also show all plant gates and plant roads. This map is available to both the plant and local police.

Let us suppose an explosion occurs in the plant resulting in a fire which will require fire and police assistance from the adjacent city departments. The plant police call the city police and fire departments by radio giving them the information about the incident. The fire department decides to send the assistant chief and two pumpers to the fire. They know from the prepared map which plant gate to use. On the way it is necessary to blockade streets to keep the curious away.

This is done by the police.

The fire equipment arrives at the plant gate. The firemen and police are admitted to the plant on credentials which have already been prepared. The police and fire departments enter the plant and their information of the plant tells them what roads to use to get to the incident.

This illustrates some of the cooperation necessary to insure maximum production.

To summarize:

Go to the plant officials and get all of the information necessary to control their everyday traffic, see that the information about traffic control gets to each plant worker, plan for every possible emergency. Coordinate these plans with the plant, the fire department and any other agencies concerned.

WEDNESDAY NOON SESSION

October 28, 1942

LUNCHEON-BUSINESS MEETING

Presiding:—CARL J. RUTLAND, Chairman, Citizens Traffic Commission, Dallas, Texas

Transportation After the War

Prepared by G. DONALD KENNEDY

Commissioner, Michigan State Highway Dept., Lansing, Mich.

By LOYD B. REID

Deputy Commissioner, Michigan State Highway Commission, Lansing, Mich.

In 1938 the National Resources Planning Board made an estimate of the transportation service performed by each type of system—the railroads, the highways, the inland waterways, the pipe lines, and the airways.

It found that the railroads accounted for nearly 70 per cent of all freight tonnage, but only eight per cent of passenger traffic. The highways on the other hand, did only a little more than eight per cent of the freight hauling, but 90 per cent of the transportation of passengers. Pipelines and waterways each handled about 14 per cent of the ton-mile movement of freight. And, in 1938, the year of the estimate, the airlines' share of trans-

port service was not significant, except as an indication of growth.

During the past year there have been marked changes in the absolute and relative amounts of traffic carried by the different transport systems. These changes have resulted from the demands, the conditions, and the restrictions of the war. Except in the highway field, there is little exact data of their extent. Here there is marked change in the volumes on some roads, as the products of war manufacturing moves to ports of debarkation. The great stock piles of parts are on the trucks along the road, rather than in one place as we used to see them.

Virtual closure of the Panama Canal to commercial traffic and the submarine menace on the Atlantic and Gulf seaboard have thrown an added freight load on the railroads, especially the transcontinental and seaboard lines. The critical rubber situation has reduced the amount of passenger travel on the highways and transferred most of it to the railroads.

Thus the over-all transportation movement by rail, particularly passenger traffic, has been increased. In certain specific areas, however, the freight tonnage generated by armament production is less than that formerly produced by normal peacetime industry.

It is probable that in the case of the airways, the need for emergency deliveries has resulted in more and heavier freight loads. Excluding the movement in military planes, it is difficult to judge how much total air travel has increased.

Future Possibilities

In attempting to establish some basis for estimating the shape of things to come in transportation, two factors must be given consideration. One is the degree of permanency of these shifts of traffic between the various services which have been induced by the war. The other is the probability of radical development and improvement of at least some of the transportation services in the post-war period.

The outcome of the war will strongly influence these factors in relation to certain types of transport. For instance, unless the policy of international aggression is completely discredited by decisive defeat, our vulnerable coastwise shipping routes must be changed or protected. They will either be replaced with additional pipeline and railroad facilities or be provided with improved inter-coastal waterways. Victory will unquestionably increase our trade with Latin America and that, in turn, will probably mean an important revival of shipping on the rivers flowing down the central valley to the Gulf.

Of much greater account in the general transportation picture is the future of the service of the airways and the railroads. Of the latter it can be said with some assurance that their freight tonnage will grow with the great expansion of public works construc-

tion and industrial activity which will mark the post-war era. As to their passenger business, it is open to question whether the roads will be able to hold more than their pre-war proportion of the traffic. They probably will have to continue and extend recent improvement policies to do that.

Nevertheless, the possibility remains that a combination of improved service, wider-range travel, and wartime habits of train-riding, may significantly increase passenger traffic on transcontinental rail routes.

There is no such uncertainty as to what the air service will do. It will expand and it will carry a larger share of the nation's movement of both passengers and freight. Thousands will fly for business and pleasure.

The course of the war is stimulating added interest in the possibilities of air-transport and is developing the means. Immense numbers of planes and pilots will be available when the fighting stops. The enlargement of existing air fields and the construction of new ones for military purposes is providing terminal facilities in all parts of the country.

Then as now, the routes of major travel will be the long hops between principal cities, but there will also be an increased utilization of air service to remote or inaccessible recreational and frontier areas. Fields will be provided and you can fly to resort places—to right where you are going to fish.

Highway Transportation

These changes in the several types of transportation are highly important in themselves and they will affect highway travel in many important respects. But before attempting to estimate these effects, it will be well to consider the conditions which the war emergency is producing and may produce in the highway transportation field itself. These, too, will have a significant influence in shaping the pattern of post-war motor vehicle traffic.

Motor vehicle use is being subjected to severe restriction and regulation, and more are to come. The supply of new cars and tires for civilian purchase is small and is strictly controlled. To conserve this equipment, the speed of travel is limited in most parts of the country. For the same purpose,

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gas is now rationed in 17 eastern states and next month rationing will be made nationwide.

If the war is of long duration, as it well may be, we shall practically wear out our present cars. Should a serious scarcity develop, means will be found to make the remaining vehicles available to those who need them to perform essential functions in the war effort. Thus, when peace comes, the distribution of car ownership may be quite different from the existing one. In this case, even when the war was over, a considerable time would elapse before new production could even start to restore the pre-war ratio of cars to people.

We are already feeling the braking pressure of the restrictions even in areas where those restrictions are still largely voluntary. In my own state, traffic at the beginning of this month was about 23 per cent below the volume for a year ago and it is still declining. On the basis of the experience in the rationed areas, we estimate that imposition of the full restriction will bring the drop to more than 40 per cent. Depletion of rolling stock would carry reduction from that point on.

The question is being asked, "How much of the wartime habits of diminished driving, of mass transportation riding and even of walking, will persist after peace comes?" Will not the portion of the transportation function now being partially taken over by other types of transportation tend to remain with them in the post-war period? In other words, has not the peak of highway travel passed?

It seems to me that such questions can only arise from a lack of understanding of two very basic factors—the place transportation must necessarily fill in this country and the place that the automobile has made for itself in our scheme of living and making a living.

No one needs to enlarge on the function of the movement of goods and people in the operation of our business and social economy. The amount and range of this movement is and must be in approximately direct proportion to the intensity and productiveness of our economic activities. In spite of the difficulties which will attend our return to peacetime production, the transition will be made, and restored and expanded industry and busi-

ness will generate the transportation movement on which their operation depends.

This group does not need to be told that American civilization has adapted itself very completely to the social organization and living habits which the motor vehicle makes possible. Nevertheless, it may be of interest to cite a few data which illustrate how great our dependence on highway transportation service has become.

When it first appeared that the rubber shortage might be acute, the state highway department initiated a study of Michigan's situation, particularly the situation of its defense industries, in respect to rubber-borne traffic. It revealed that, due to lack of railroad development and curtailment of rail service during the last two decades, more than half a million people live in communities without other transportation service than that provided by cars, trucks and buses. Nearly 300,000 more depend on motor vehicle for passenger transport.

Our study of Michigan industry showed the degree to which the highways had been integrated into its mass production process. In 749 plants engaged in war production and employing 434,684 workers, it was found that 65 per cent of their incoming materials and 69 per cent of their outgoing products were carried by truck. Of the total employment at these plants, 75 per cent of the workers traveled to the job in their own cars. It was estimated that on this basis no fewer than 635,000 men in Michigan industry used and were largely dependent on this form of transportation.

These figures do not make clear how completely our cities and suburban areas have been laid out with dependence on the motor vehicle and the highway. They do not show how rural life and rural schools have been transformed by and readjusted to their use. But conditions in Michigan are so typical of those in the rest of the country that you are able to fill in the details of the picture.

Post-War Highway Transportation

Just as certainly as American life and business will resume their activities after the present conflict is ended, the most characteristic form of American transportation will again take up the job of fulfilling its essential

function. There may be growth in the amount of the transportation load carried by other services in the post-war days, but eventually these increments will be found to be net additions to the total national movement of people and materials.

Highway transportation plays such a vital role in practically all phases of modern life, that its rehabilitation will be among the very first tasks which will be undertaken on the day after the armistice. I even venture to predict that the replenishment of the supply of motor vehicles and the improvement and development of the streets and highways will be major factors, as they have been in the past, in stimulating our peacetime economy into renewed activity.

Those of us who have the responsibility for highway traffic accommodation and protection will be faced with a tremendous post-war job. It is not only that progress will be increasingly handicapped throughout the war period and that the accumulation of work will demand attention at its close. It is possible to foresee serious and fundamental problems which will be vital to the successful resumption of highway development.

Perhaps the question of first importance in considering the character of post-war traffic, is what the post-war automobile will be. If existing cars are practically worn out, manufacturers will have an open field for entirely new models.

If our enemies should lay down their arms tomorrow, it is probable that most of our automobile makers would resume production of their 1942 models. But the best we can hope for is peace by the end of next year. By that time it is likely that existing dies and special tools will have gone to the scrap pile and new car designs will be ready to come out of the experimental departments.

The second factor is the matter of highway facilities. These war years are in reality a transition period in highway development. For more than a generation we were principally engaged in a process of adapting the old roads and streets for motor vehicle use. The job was of immense proportions and it was done rapidly and well. But when it approached completion, it was evident that motor vehicle traffic had produced conditions which could no longer be met by mere adaptation.

We have been rethinking our problem for several years and have been preparing for the new task of building a highway system that is conceived in terms of modern, motorized life. Roads like the Pennsylvania Turnpike will undoubtedly be developed. In the past we have been building roads to connect towns. That is largely over, and expressways are to be expected in the future. The fact that we have had to take time out to protect the free, democratic civilization on which that life rests, only means that accomplishment of the task is postponed.

As a matter of fact, our experience in meeting the emergency requirements of war has been of value. When the time comes to resume the construction of the highways of the future, we will find ourselves better able to cope with the changes of traffic, the shifts in the industrial and population patterns, and the need to replan our urban and rural communities which the post-war period will bring.

Highway travel will continue after the war to be the form of transportation most intimately in touch with the life of the people. The objective of post-war highway development must be to better fit it for its function as the principal integrating force in our civic, economic, social, and recreational activities.

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WEDNESDAY AFTERNOON SESSION

October 28, 1942

GENERAL SESSION

Presiding:—W. GRAHAM COLE, Dir. of Safety, Metropolitan Life Insurance Co., New York City

Handling the Drinking Driver in Wartime

By HARRY H. PORTER

Chief Justice, The Municipal Court of Evanston, Ill.

The drinking driver problem, considered by many the Nation's No. 1 traffic safety problem, has become much more acute since the beginning of the present emergency. The drinking driver problem is still a night accident matter, but by reason of the 24-hour successive shifts in industry wherein workers are released at all hours of the day, and because of the demands made by the war effort on the time of non-industrial workers, it has become an important day time problem also.

The strain of longer hours, and in many cases; a killing overtime pace, has caused thousands of workers to seek relaxation in the use of alcohol. This, added to the necessity of quick transportation to and from work by automobile, is causing additional havoc on our streets and highways. The number of persons killed or injured in these accidents is increased due to the necessity of group riding to and from the plants, whereby entire carfuls of persons are injured in a single accident. The exigencies of war have removed and will continue to remove considerable unnecessary traffic from the streets. However, thousands of war plants have been built in areas not yet served by public systems of transportation and it is highly necessary for workers in these plants to be transported to and from work. The automobile must do this job today and perhaps for the duration, because acute material shortages will not permit public utilities to expand sufficiently to take over this job at the expense of arms and munitions of war.

In the field of motor truck transportation of goods many of our most reliable and able commercial drivers have been taken into the

armed forces and these, of necessity, have been replaced by comparatively inexperienced drivers who are none too safe at normal. Add to this inexperience, much longer hours of employment, with consequent fatigue, the use of alcohol to relieve the strain and the constant rush to deliver munitions of war in a hurry and you have a new death dealing combination.

In the year 1941, the major portion of which expired before Pearl Harbor, mind you, traffic accidents generally increased 17 per cent over the year before while accidents involving drinking and driving increased 27 per cent.

With payrolls up 10 per cent in the month of August, 1942, over the corresponding month in 1941 and with an infinite variety of consumer goods no longer appearing on the shelves of business, it is but natural that more money is available for the purchase of intoxicants than ever before, and this amount will increase as the war progresses in spite of heavier taxes and war bond purchases.

In addition to this, demands made upon the enforcement groups to guard against sabotage and the enormous voluntary enlistments of police officers in the armed forces, have weakened those agencies by replacement of experienced personnel with the inexperienced, and thus our power to cope with the drinking driver has been depleted.

Chemical Tests

The formulation of a general program to handle the emergency has already been adequately dealt with, and this information has

been transmitted to you in printed form in the pamphlet entitled "Intoxication and the Traffic Accident Emergency" by your committee on Tests for Intoxication under the very able direction of its chairman, Honorable Don Stiver.

I shall not take your time to discuss the program generally but rather will confine myself this afternoon to the most recent work of the Sub-committee on Legislation headed by Doctor David G. Monroe of Northwestern University's Traffic Institute.

Dr. Monroe has done a very careful piece of research and is to be highly commended for both the quality and sincerity of his work.

It may perhaps be well to start at the beginning and take up the matter of the necessity of legislation. To secure their introduction into evidence the results of carefully made scientific tests need no legislative action whatever. For the present, therefore, our purpose in securing legislation distinctly is not the introduction in evidence of the test results in order to convict or acquit a given defendant or affect the outcome of a civil law suit.

The real purpose behind the legislation, at least for the present, is to tide over the period during which the chemical tests are becoming rapidly popular until a sufficient number of persons can be trained scientifically in their interpretation to provide the necessary expert witnesses to present this type of evidence properly in court.

I dare say that, at the present time, there are not more than 40 or 50 persons in the entire nation whose training and experience with these tests entitles them to take the stand in a court of law as interpreters of the test results.

At the present time I know of no man in the entire City of Chicago except Dr. Theodore Friedemann of the Northwestern University Medical School who has made the necessary specialized study which would qualify him as an expert on the witness stand in this matter.

We need the expert to interpret the test results for the reason that .18 per cent blood alcohol means nothing to the average layman who sits upon the jury, in terms of its effect upon human behavior. It is necessary

therefore, for the jury to rely upon the experience of a man who does know.

In the alternative, the jury may rely upon the law of the State—in other words, upon a legislative interpretation of the test results. The jury will receive this information from the instructions of the Court which will be based upon a statute of the type we desire.

A Typical Case

A typical drunken driving case in one of our American Courts will go off something like this:

Five or six witnesses will take the stand for the State—chiefly police officers—and these will testify that they were present at the time of the accident or immediately thereafter; that they observed the appearance, speech and behavior of the accused; that when he tried to walk his gait was rolling and staggering, his eyes dilated and glassy; his tongue thick; his speech incoherent; his clothing disarranged; the strong odor of alcoholic liquor was upon his breath and in general "he presented all the outward symptoms we have commonly come to associate with the condition known as drunkenness; and therefore it is my opinion that, at such time and place, the accused was definitely under the influence of intoxicating liquors."

The State is ordinarily deprived of the force and effect of the injured or damaged party's testimony because in every instance the accused has either settled or agreed to settle for his damages before trial.

Then the defence comes on the stand with five or six or eight or ten witnesses, all of whom are friends of the accused and all of whom were with him one-half hour before the accident; they saw what he had to drink and, believe it or not, all he had to drink was two beers!

He is a family man, well respected in the community. He has five or six children; has had the same job for more than 20 years; goes to church regularly; is of good habits; brings his check home to his wife at the end of each week and enjoys a most excellent reputation as a solid and substantial citizen. He only had two beers and, anyway, two beers wouldn't make a canary bird drunk.

If it is a tough case, counsel for the defendant maligns, excoriates and abuses the

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arresting officers for their brutality in handling his client and for their very apparent insincerity in bringing such a charge against one of the model citizens of the community.

Now, bear in mind, all of this testimony is *opinion* testimony; opinion on one side and counter opinion on the other. All of this is dropped into the lap of twelve men of average ignorance each of whom has his own individual opinion of just what is meant by "under the influence of intoxicating liquor." The evidence is so nebulous and uncertain you may wind up anywhere.

Then the trial judge, who is a very helpful little fellow—pursuing the duty imposed on him by law tells the jury this: "Ladies and Gentlemen, this is a criminal case, the defendant is clothed with a presumption of innocence. Unless you are satisfied of his guilt upon the law and the evidence *beyond a reasonable doubt* it is your duty to bring in a verdict of not guilty." This the jury promptly does, and you have another miscarriage of justice.

To get away from all this uncertainty; to place the proposition of "under the influence" upon a sound, concrete, and definite basis, so as to eliminate all guess work, these chemical tests were perfected. Their proper function is to either acquit the innocent before trial or to nail down a case against the guilty so tightly that all argument is eliminated. This they do and do so very well.

However the meaning of the tests must be explained to the jury either by the expert witness or must be set up in statutory form so that the trial judge may explain it.

Several forms of legislation have been proposed all of which provide the statutory interpretation but some of which go far beyond.

Four "Test" Bills

(1) The District of Columbia bill which also provides that no sample may be taken from accused unless he consents.

(2) The original Indiana bill which also provides that the Court may admit the specific evidence of the test results.

(3) The proposed bill which makes the issuance of an operator's license contingent upon the recipient first waiving his constitutional rights against self incrimination and against search and seizure.

(4) The simple definatory bill which merely provides a bare statutory interpretation of the test results.

The question is which type of legislation, in any given state, has the best chance of becoming law.

If it is either No. 2 or No. 4 I would say by all means propose it at once.

If it is No. 1 we come to a very definite problem. The District of Columbia bill contains the provision which precludes compulsory tests, and if this bill should be enacted into law it is my opinion that we are in for some real trouble in D. C. from then on. The State of Maine will yet rue the day when it permitted such a provision to be inserted into its law.

It is obvious that the use of chemical tests to determine intoxication is rapidly increasing. Public knowledge of the general nature of these tests is also rapidly increasing. Although there is little difficulty in obtaining samples for analysis as yet, we must frankly face the prospect of defendants in increasing numbers refusing to yield samples voluntarily. There can be no question about this and when the day comes when this difficulty is appreciable we will have to take the samples against the will of the defendant; obviously then, a statutory provision excluding compulsory tests is going to prove extremely embarrassing.

For this reason, and for the further reason that once on the books, concessions of this type are almost impossible to be rid of, I suggest to you that we face the problem from the overall long range view and act accordingly. Rather fail to enact a bill than to enact one with such a concession.

It is not possible to predict what the courts will do with the proposition of compulsory tests when they ultimately come before them, but there is reason to believe that a fair consideration of the problem will result in their being judicially approved. Witness, for instance, the case of the compulsory taking of finger prints which has now been approved by almost every court in the land. Similar instances require a criminal defendant to disrobe and disclose identifying scars, marks and tattoos, etc.

It is poor psychology to proceed along the line of examining voluntary samples only

with a clear disregard of a vital problem which the future holds. One might argue, then, that it would be far better to submit a bill to the legislature which would authorize the enforcing authorities to take samples by force, if need be, and thus present the question of constitutionality of such a bill to the courts after enactment.

The public has, as yet, been insufficiently educated to the chemical tests for such a bill to have much of a chance of being considered. When the educational processes have made sufficient progress so that citizens generally understand that these tests will as quickly acquit the innocent as convict the guilty then we are in a position to offer such legislation. That period will be reached when defendants arrested for operating vehicles while under the influence demand the test in order to clear themselves.

The time will come when these tests will take their true place in the estimation of the public and will be recognized as thoroughly accurate and simply infallible, when carefully made by a competent analyst. Until that time let us not offer a bill which will contain provisions in advance of their time, but, if force eventually becomes necessary let us present the issue to the courts in the first instance without the aid of a statute. A favorable decision from the courts will go a long way toward convincing legislators and, indeed, will make a statute on the subject wholly unnecessary.

Self-Incrimination

With reference to the type of legislation which would require a person to sign away certain constitutional rights as a condition precedent to obtaining a license to drive, apparently authority on this question does not exist. A careful consideration of this question, however, indicates that the issue of constitutionality of such a statute would be highly debatable if, at least, a defendant does have such a constitutional right as to refuse to yield a sample for examination.

The primary purpose of the constitutional guarantees against self incrimination was to prevent falsehood creeping into the record by forcing persons charged with offenses to testify orally or in writing against themselves. About the time of the founding of the American colonies there existed in England a

system of ecclesiastical courts, or church courts, which were concerned chiefly with prosecutions for heresy. These courts, guarding the state religion, were accustomed to administer an oath called the oath "ex officio" and defendants were, thereupon, called upon to testify against themselves and make full disclosures. The original purpose, therefore, of the privilege against self incrimination which arose out of popular reaction against the oath "ex officio" was to bar from the record oral testimony which was produced under duress and which, for the sake of relieving such duress, might be truthful or untruthful. It is easily seen that one charged with crime who is tortured into a confession may make any kind of confession in order to escape the torture. Such confession may well be made, under such circumstances, by an innocent person.

In the case of the chemical tests, however, the same test result is achieved, whether the sample be taken by force from the accused or given voluntarily by him. The test result cannot tell a lie in either case and only the strict truth is spoken. There seems to be no reason, therefore, for the courts to include these matters within the self incrimination privilege, and it is quite likely, when the precise issue of the chemical tests taken under compulsion is presented to the courts, that they will take the view that compulsory tests do not violate constitutional provisions any more than compulsory finger printing does.

The original Indiana Act which forms the basis for all the bills which have thus far been introduced provides the statutory definition required and provides for the admission of the test results into evidence. I am advised that this law has worked very well in Indiana. This Indiana bill was offered verbatim to the Illinois legislature in 1941 and was passed by a majority of both houses. The Attorney General held the bill to be unconstitutional arguing that the bill purported to authorize courts to admit evidence based upon the chemical tests regardless of how the samples were obtained, i. e., inferentially holding that testimony based upon analysis of samples taken under compulsion was violative of the constitution, and also that the bill purported to allow the introduction of evidence based upon any type of analysis whether the same were accurate or not. Those of us who sponsored the Illinois bill have not been particularly im-

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pressed with the tortured construction placed upon the bill by the Attorney General, but I simply advise you of what happened in this state in order to place you upon your guard when you have bills introduced into your own legislatures. The constitutions of New York, Indiana, Maine and Oregon are essentially the same as that of Illinois, and the Indiana bill, in essence, has been approved by the Attorneys General of those states.

There remains, then, to be discussed, the simple definatory bill which merely interprets the test results and stops right there. Professor Monroe's committee is of the opinion that for the time being this type of bill will meet with less opposition than any other and will serve the purpose very well. This type of bill is usually prepared as an amendment to the drunken driving section of the motor vehicle laws and simply provides that

for the purposes of the above section a person shall be considered *prima facie* under the influence whose blood contains more than .15 per cent absolute alcohol by weight. This type of bill has the advantage of being extremely simple, affording little room for argument among the legislators and will serve the purpose for the time being as well as any of the others.

The need for legislation cannot be too strongly urged at the present time; first, because the war emergency has made the drunken driving problem much more acute; second, because the proper use of the chemical tests in the enforcement work can perhaps be the greatest single help in coping with this problem, and third, because the legislature of most of the states meet in January of 1943 and will not meet again for two years thereafter.

Pedestrian Safety in War Time

By HOWARD SMITHHISLER

Information Coordinator, Traffic Safety Assn., Detroit, Mich.

War means that because of material and manpower shortages many engineering improvements may have to wait. It means that enforcement levels may slope downward. I use the word "may" advisedly because with application of the same American ingenuity that soon will bring the Axis to its knees, many problems of safety engineering can be solved and the enforcement problem in many a city can be licked.

War means, too, that competition for public attention is extraordinarily keen—that usual media for public education on matters of traffic safety may be ineffectual. This is the time to get things done. We have talked, we have written and we have attempted to pictorialize safety for so long that the very idea is hackneyed not only to us but to the public as well.

We have portrayed time and again the horrors and the anguish of little children crushed beneath the wheels of fast-moving vehicles, and in so doing, we have virtually worn out a basic emotional appeal.

The wartime job of safety will not be done by the trite methods of the past. The day

has long been gone when public imagination, interest or co-operation can be attracted by appeals to be careful—to watch while you walk—to practice safety first.

It need not have taken a Pearl Harbor to make us aware of a changed public attitude. Long before then we should have sensed that our appeals to be careful had been worn pretty thin. After all, most people don't want to be careful. We are a chance taking people.

There's a place for the indirect appeal in pedestrian safety, too. And there's also a place for taking advantage of an opportunity that was mentioned earlier—the opportunity to capitalize on a public attitude that is crying for directives and for leadership.

Early in May of this year, our Common Council enacted a new ordinance. By dint of much persuasion—particularly directed toward newspaper headline writers—the new law became officially and generally known as the Pedestrian Protection Ordinance.

We didn't want the ordinance to be known as, or referred to as a jay-walking law. Not

only is that term subject to misinterpretation in infinite variety, but the word itself has an ugly connotation. The passage of this ordinance represented nearly six months of intensive effort on the part of our Association.

Even before Pearl Harbor, we had diagnosed public attitude as being receptive for directives. And if any city ever had a record on which to make a plea for directives to control pedestrian movements, ours had.

With one notable exception, the ordinance does not differ from other so-called jay-walking laws—the exception being a provision that no pedestrian may step into a street without first coming to a stop and then looking in both directions before crossing. This provision, incidentally, is being watched closely and although it is much too soon for any results to be conclusive, we are encouraged at the effect this provision is apparently having on the number of near-curb pedestrian accidents—the location, as you all know, where the majority of pedestrian accidents occur.

We found the public receptive and we took advantage of that receptiveness to make the average pedestrian respond to our plea for voluntary observance of the new law to control his actions while walking. Aside from a highly selective campaign to impress those persons within the community who influence public opinion with the need for control of pedestrian actions, we steered completely away from any appeals to self preservation. We didn't ask people to walk safely lest they get hit. We didn't admonish them to watch while they walked.

Borrowing a page from our experiences in the previous December's campaign against accidents due to alcohol, we decided again to take the indirect approach to sell safety. We simply set forth the directives as embodied in the ordinance and concluded with the admonition that "It's the law"—perhaps leaving the inference that we didn't give a damn if they stepped into the street and killed themselves. To all outward appearances, there was no great concern on the

part of the public for their own safety or well being when, as the ordinance became effective, pedestrians walked with the green light and motorists respected their right-of-way on turns.

They complied and voluntarily to a large extent because "it was the law." To quote one early recipient of a ticket: "I always figured I was smart enough to keep from being hit by an automobile but I guess I'm not smart enough to dodge the cop on the corner."

Just as truth is the basic element in all advertising which is successful—so was truth needed to back up our assertion that "it's the law." A carefully planned enforcement program took care of that. Following a police educational program which embodied the use of slides and explanatory written material and to which every officer in the department was subjected, a uniform enforcement policy was laid down by police officials.

Officers were instructed to be lenient during the first few weeks after the ordinance took effect. Gradually enforcement tightened up and since the first of August, arrests under the ordinance have averaged more than 200 a day—a figure high enough to convince a lot of people that "it's the law."

We have a working chart in our office now which serves as a guide for sustained effort throughout the months to come. We have purposely curtailed intensive promotion of the law in recent months because it is virtually impossible to maintain an even pitch over a number of months on one topic. Better to show periodic peaks and valleys in the interest curve than attempt to maintain a regularity that will soon become monotonous.

Indicative, too, of the need for keeping on top of the job is the chart here which shows daily issuance of notices to violators of the pedestrian law. There seems to be a leveling off of effort here and that's the cue for a visit to the police department to ask the question, "Why?"

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Report of Committee on Traffic Accident Records

By WILBUR S. SMITH

State Traffic Engineer, Columbia, S. C., Chairman of the Committee

During the past twelve months the Council's statistical field representatives have assisted 29 states in improving their accident records mechanics and in putting their accident records to work. This activity continues to be supported by the Automotive Safety Foundation.

Traffic accident records work in cities and states, just as with most other traffic activities, has been somewhat curtailed due to the war. Personnel of record bureaus have been attracted by war industries, as well as by the armed services themselves. Despite some curtailment in personnel—and this may seem somewhat paradoxical—traffic accident records today are getting more real attention than at any time in the past. There may be somewhat fewer man-hours available for records work, but the information developed is being restricted to the facts which are actually needed to guide policy and action, and those facts are being used to a greater extent than ever before.

Although we all agreed a few years ago that good traffic accident records were fundamental to an effective accident prevention program, it was nevertheless true that many traffic people could get along at least fairly well with a background of experience built up from observations and accident facts. Just plain observation on the part of experts with ten or fifteen years experience in the field was often a good basis for action. Today, with rapidly shifting concentrations of traffic and accidents, it is absolutely necessary that records be used to keep up-to-date. For example, spot maps have always been a pretty well accepted technique for determining accident concentrations, but in the last few months a considerably greater interest in spot maps as a necessary tool has been very evident.

Definition Manual

The National Conference on Uniform Traffic Accident Statistics, in whose work your Council Committee on Traffic Accident

Records cooperates, has completed its work on a basic traffic accident definition manual. It has been a great pleasure to me that this manual, although representing vastly greater breadth of opinion than did the manual drafted by your committee a few years back, is not much different from your committee's manual in essentials. The new definitions manual, proposed for use beginning January 1, 1943, has been published by the U. S. Bureau of the Census. Copies have already been sent to the states and to the larger cities. Additional copies for distribution to medium sized and small cities will be available shortly.

The standard traffic accident report and summary forms designed for use in cities and states have continued to get greater and greater acceptance. The standard traffic accident report form is now used entirely or in part in 40 states. The standard summary form in 30 states. Over 400 cities are using the monthly summary forms recommended by the Committee on Traffic Accident Records. The Council's sale of individual report forms runs into the hundreds of thousands annually, with an additional group of cities which print up their own forms in exactly the same, or nearly the same, style as the recommended form.

No revisions in report or summary forms are contemplated for the new year. The forms now in use have proven more satisfactory than any previously designed, and suggested changes have come in at a lower rate than ever before.

The Council staff has continued to promote improved accident record work through class room instruction. The course in accident records, as a part of the National Institute for Traffic Training, was again conducted. The statistical field representatives have taken part in a number of state police schools, giving instruction on accident reporting and investigation. Three staff members will shortly begin periods of instruction in accident records at the Northwestern University Traffic Institute.

Report of the Committee on Winter Driving Hazards

Prepared by **RALPH A. MOYER**

Asst. Prof. of Highway Eng., Iowa State College, Ames, Iowa

Presented by **JUDGE HARRY PORTER**

At the 1941 meeting of the committee, the program decided on consisted of disseminating the information which resulted from the previous three years of research.

When the President of the United States proclaimed that the National Safety Council should take a leading part in reducing accidents in the pre-war emergency, the committee prepared a bulletin named "Winter Driving in the Traffic Accident Emergency." Seven thousand of these bulletins were distributed to key officials and organizations.

At the mid-year meeting of the committee it was decided that the war had eliminated the possibility for further research during the emergency and the committee program for the ensuing period should be wholly one of education. The educational program was to consist of two parts. One, devoted to careful public education on winter driving aids to drivers during the war; the second, to winter road maintenance methods.

The committee's accomplishments during the past six months consist of:

1. Preparation of the booklet entitled "Winter Road Maintenance." This is primarily for winter road maintenance organizations—city, county and state—in the snow belt, and applies to war conditions. These will be widely distributed to all of these agencies.

2. The pamphlet entitled "Winter Rules for Auto Pools," which is directed to the driver. These will be distributed in a very large number through the Army Ordnance

Department, safety councils, and other organizations.

3. An article was published in the August issue of *Public Safety* magazine entitled "When Winter Comes." Another well-illustrated article has been prepared for publication in the November issue of *Public Safety* magazine.

4. A poster on winter driving has been printed and is now available.

Committee Proposals

1. The preparation of fifteen recorded radiograms for driver consumption on various winter driving practices which are applicable to wartime conditions. These will be broadcast on approximately 130 radio stations throughout the snow belt.

2. Newspaper releases directed specifically at war industry workers which will deal with traffic delays and accidents caused by severe winter conditions. The committee has cooperated fully in line with the spirit of the times.

Never before have we faced such a critical manpower situation. Our sights are set on directing help for the motoring public in minimizing avoidable winter hazards. Every committee member is confident that these efforts, after the war, will indicate that the Committee on Winter Driving Hazards saves manpower for warpower through its activities of educating the public to drive safely during winter months.

Report of the Committee on Pedestrian Control and Protection

By **LESLIE J. SORENSON**

Traffic Engineer, City of Chicago, and Chairman, Committee on Pedestrian Control and Protection

As soon as possible after the 1941 Congress, the Committee completed publication of the annual report, which was issued as a 64-page booklet. This report is the most comprehensive yet published on Pedestrian Protec-

tion, and serves as a manual and hand book for those planning pedestrian programs. Ten thousand copies were printed, and approximately 6,000 copies have been distributed. The booklet entitled "Safe on Foot" contains

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a suggested state pedestrian safety program.

The Committee also published a special pamphlet entitled "Pedestrian Protection in the Traffic Accident Emergency," and 7,000 copies of this booklet were distributed free of charge.

The sale of pedestrian leaflets has continued during the last year, and 147,800 copies of the leaflet "Will You Be Next?" were sold. 25,100 copies of the leaflet "Are Your Feet Killing You?" were also sold during the past year. These sales bring the total number of the three pedestrian leaflets originally issued by the Committee to approximately 550,000 copies.

A total of 235 copies of the pedestrian

sound slide film, "Are Your Feet Killing You?" have been sold to date. This film is of particular value in off-the-job accident prevention programs.

The Committee carried out an off-the-job accident study, getting reports from a number of cities, following plans made at the meeting of the Committee last May.

No special report is being published for the past year, as most efforts are related directly to the war effort, and research studies are being passed on as quickly as they become available. There may be a new pedestrian leaflet prepared in the near future. This would deal particularly with pedestrians in the vicinity of war production plants.

Report of Committee on Tests for Intoxication

By DON F. STIVER

Supt., Indiana State Police, and Chairman, Committee on Tests for Intoxication

Drunkenness seems to be increasing with the intensification of the nation's war effort. We of the National Safety Council's Committee on Tests for Intoxication have watched the rise in drunken driving, the mounting total of arrests for this offense, and the growing roster of deaths from the same cause.

A survey of traffic deaths or information from 22 states for the years 1940 and 1941 showed a 27 per cent increase in fatal drinking driver accidents, as compared with a 17 per cent increase in other fatal accidents.

Of more recent date I can quote the figures on arrests for drunken driving by my own department, the Indiana State Police. In the first nine months of 1942 we have arrested 1,855 persons for this offense as against 1,149 for the same period in 1941, or an increase of 61 per cent, with a numerical increase of 706 arrests. An average of 90 per cent convictions have obtained in disposing of these arrests.

The strain of war, the uprooting of families, and longer working hours are contributing perhaps to man's apparently increased appetite for liquor. Many men have more money for entertainment and less time and places in which to spend it than for many a long year. Whatever the cause, we are threatened with a loss of manpower for war-

power through accidents brought about by drunkenness, both among civilians and to some extent among military personnel. This has already set the prohibitionists on the march; and must stir us all to greater attention to the issue.

I am not here concerned with the merits of prohibition as a curb for this evil, but rather with the merits of chemical tests for intoxication as a weapon in the hands of public officials to fix blame where it rightly belongs. Fortunately tests had been gaining scattered acceptance several years before the war, or we would not now have them at our disposal.

Our committee during this past year has endeavored to put our methods and information in order so that they might be ready now that a drastic use of them seems to be called for. We began a Manual on Tests for Intoxication, a part of which was being prepared by eminent medical specialists and toxicologists by our Committee, and part by our committee's secretary, Don Berry. It was to have been a lucid explanation of the problem and our answers. Its chapter headings give you a bird's-eye view of the contents. They are:

The Drunken Driver
Problems in Enforcement

Blood Alcohol and Intoxication
 Urine, Breath, Saliva and Spinal Fluid
 Chemistry of Alcohol Tests
 Use of Chemical Tests
 Legal Problems
 Evidence for Courts
 Presenting Testimony in Court
 Procedure in Setting Up Testing Programs
 The Pedestrian
 Aids in Education

I am positive that the Manual could sell the program to the nation, but unfortunately for us Don Berry was urgently needed in Washington on problems relating to planning for Civilian Evacuation and Transportation for the Office of Civilian Defense and he has been lent to them for some months, and we have not had his services for completion of the Manual.

Work has also been virtually completed on the draft of a model state statute authorizing and establishing chemical tests for intoxica-

tion in states where it is not now on the books. The States of Maine, New York, Indiana, and Oregon have such statutes. This bill will be ready in time for introduction into the several state legislatures meeting in 1943 where its passage may be sought by state agencies. Leadership for this project has been ably provided by Dr. David G. Munroe of Northwestern University Traffic Institute.

In several cases we know that the army is using chemical tests for intoxication. We are urging them to extend this practice, both in the army and in the navy, as a fair and accurate method of fixing responsibility for drunkenness upon their personnel, where they wish to do so.

The idea has been growing among us that ultimately chemical tests for intoxication will be universal and compulsory. The war may hasten that day. We look to you to help us hurry along the accomplishment of this goal.

Report of Committee of Traffic Court Judges and Prosecutors

By JUDGE EARL W. FROST

Municipal Court, Kansas City, Mo., and Chairman, Committee of Traffic Court Judges and Prosecutors

As has been characteristic of many other plans and programs, the Committee of Traffic Court Judges and Prosecutors has not been able to carry out some of the plans which were made a year ago.

For example, the Committee planned to make a questionnaire study of traffic prosecutors to find out just what prosecutors are doing in connection with the trying of traffic cases. The questionnaire for this purpose was prepared and has been approved by the Committee, but since that was done it has not been possible to send the questionnaire to the various prosecutors over the country and this project is being held in abeyance.

One project planned by the Committee, however, has received some attention, and plans have been made for even greater activity in the months to come. I refer to the holding of regional conferences for traffic court judges and prosecutors.

Two such conferences have been held during the past year—one at Kansas City for judges and prosecutors from five states in

that area, and one at Cleveland directed in the main at the state of Ohio. Tentative plans have been made for several others, and the date has been set for one of these—to be held at Lincoln, Nebraska in connection with the annual meeting of the Nebraska State Bar Association. Tentative plans have been made for a conference at Salt Lake City, and there has been correspondence relative to conferences at Baltimore and Atlanta. A conference or sectional meeting for judges and prosecutors will probably be held at Memphis in February in connection with the Southern Safety Conference.

The war effort and the new pressing problems of the traffic court in connection with defense workers and handling members of the armed services have stimulated interest in these regional conferences, and they are being planned as efforts contributing directly to solving traffic problems in connection with the war effort.

It is suggested that the members of the Committee should especially interest them-

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selves in these regional conferences and they are expected to assume a major part of the promotional work for conferences held in their particular areas.

The Junior Bar Conference of the American Bar Association has also included in their projects for the year cooperation in improving traffic courts and it is expected that the Committee will have the cooperation and help of the Junior Bar Conference in the future regional meetings.

Following the 1941 Congress, the annual report of the Committee was completed and published under the title, "Trying Traffic Cases." This has been widely distributed and has served to meet a very pressing need.

To meet the increasing problems in connection with the war traffic emergency, the

Committee also prepared and published a special booklet entitled, "The Traffic Court in the Traffic Accident Emergency." Six thousand copies of this booklet were printed and distributed free of charge. It has been very popular and has served as a guide to many traffic courts in organizing and meeting some of the special problems which the war effort has created.

There has been the usual efforts to contact and interest other judges in the work of improved traffic court administration and procedure with much individual correspondence with judges here and there over the country. Several judges are here at the Congress this week for the first time. This work should go on so that the traffic court may receive its full share of attention in proportion to its importance in the accident prevention job.

THURSDAY MORNING SESSION

October 29, 1942

GROUP SESSION OF TRAFFIC COURT JUDGES AND PROSECUTORS

Presiding:—JUDGE JOE BROWN CUMMINGS, Municipal Court, Nashville, Tenn.

The first talk on effective traffic court organization and procedure was given by Judge Perry A. Frey, Cleveland. The Judge explained the procedure of the Cleveland triplicate ticket system. At the time the violator is arrested he has a choice of appearing in court the next morning or attending the first following night session. These sessions are held two nights a week, Tuesday and Friday, from 7:30 until they are through. These night courts handle only minor offenses. The officer arresting the violator does not attend court unless the violator pleads "not guilty."

The Cleveland Court handles 180 to 200 cases at a time and is too crowded. The bench is separated by a rail and far enough back to prevent any one's whispering to the Judge. The traffic court is usually the first court that most people ever see; consequently, it should be clean, well planned, and in proper condition. In opening the court, Judge Frey stated, he makes a few serious remarks regarding a scoreboard covering the city's acci-

dent experience. Judge Frey feels that the court should be solemn and dignified. He informs people of their right to plead guilty or not guilty. Ninety-eight per cent plead guilty. Money fines now mean much less to the average defendant than does license suspension, and Judge Frey has therefore increased this sentence.

Cleveland has a violators' school to which those who have been brought in two or three times on minor offenses are sent, and to which those for serious offenses are sent the first time. It also has a probation department which handles cases of driving while intoxicated, and cases in which there is incomplete knowledge of the violator. This department checks the background of the violator to give the judge a better idea of the person he is dealing with. A psychiatric clinic handles cases in which there might be something physically or mentally wrong.

Judge Frey discussed briefly the great im-

portance of the night court, which offsets lost man hours of worker production, by taking care of the violator at night. He stated that night cases average 125 to 200 in number, and that practically all those summoned do appear at court.

Effective techniques in trying traffic cases were discussed by Judge Edmund B. Smith of Kansas City, Missouri. Judge Smith stated that judges are not interested so much in the collection of fines as in remedying traffic evils. The judge should study the human problems that come into court, the "why" of each case. Judge Smith stated that the prosecutor does not have much chance to prepare a case before it comes to the court. He suggested that police officers with serious cases about which they are doubtful should consult the prosecutor so that he may get a continuance and time to prepare the case. The accident investigation unit should also be put to work on cases of this kind so that when it comes before the Judge all the information possibly available will be there. The attitude of the Judge himself toward the people who come before

him is most important. People should be treated with dignity and respect, and the court, in turn, will receive the same treatment. Promptness is stressed in Kansas City courts, which have a special schedule for handling traffic cases.

Mr. George Bowman, Deputy District Attorney of Milwaukee County, spoke on the subject of preparation of cases involving drivers under the influence of alcohol. The prosecutor should go immediately and directly to the scene of the crime so that he may get a vivid picture of the situation. In this way he can see all the factors involved in the case. It also becomes important to have the city engineer make a map drawn to scale showing all details of the situation. Milwaukee County uses a form on which is noted the attitude, appearance, reaction, etc. of the suspect, and a check is made concerning every case. A request for body fluids is made from which analyses may be taken. When the case comes to court the opinions of experts are used in preparation of the case for trial.

The Organization and Function of a Municipal Judges Association

By JUDGE CHRIST HOLM

Municipal Court, Hibbing, Minn.

Minnesota's municipal courts, many of them established over half a century ago, had no organization or association which would bring the judges together for periodical discussion or consideration of their common problems. In Minnesota, as in probably most other States of the Union, municipal courts still are sometimes unfortunately referred to as "inferior courts."

The provision of our Constitution under which municipal courts have been organized was adopted 85 years ago, before Indian uprisings had ceased in Minnesota, and while transportation was by ox-team or occasionally by horse and wagon. Minnesota was very definitely a backwoods, pioneer State whose principal roads were logging roads or trails through the big timber and whose population consisted of a few people with no large cities or built-up communities. There, of course, were no lawyers except possibly in the small towns of Minneapolis and St. Paul.

There was naturally no requirement in the Constitution that men presiding over municipal courts be learned in the law.

Since that time Minnesota has developed to a State of almost three million people, above the average population of the forty-eight States. It has developed rapidly so that it is now in a substantial way both an agricultural and industrial State.

Its people and its institutions are no longer satisfied with the primitive and outmoded system of backwoods justice. They are no longer satisfied or content to regard courts as an amusement or entertainment. The only function now expected to be performed by courts is the function of deciding disputes and controversies and administering justice.

We had had no substantial improvement in our courts during the 85 years of Statehood. While we have hundreds of lawyers

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located in all parts of the State, there are still many municipal courts, almost 50 per cent, that are still operating with laymen judges under a procedure that permits and encourages a trial de novo or second trial in every case disposed of by municipal courts.

As a practicing lawyer before these municipal courts and then occupying the bench of one of these courts for some years, I decided that some step ought to be taken to improve the administration of justice as rendered by Minnesota's municipal courts. Not only were all traffic matters handled in these courts but civil controversies up to the amount of \$500.00 also came before these courts, which were frequently incompetent properly to dispose of such controversies.

It is estimated that four-fifths of the people who come before the courts of my State make their first appearance in a municipal court. These people comprise all classes but, of course, in the majority of cases the poorer class.

These four-fifths of our people who are brought into municipal courts in civil matters and on traffic and other criminal violations are entitled to the same efficient, final disposition of their problems that the large litigant or the felonious criminal received.

Our Municipal bench in Minnesota had so little of unity and was so under-privileged that there was no place in the State, even in the State Capitol where municipal judges' oaths of office are required to be filed, where it was possible to get a complete list of the municipal judges of the State or where municipal courts were located.

There are municipal courts in 85 municipalities of Minnesota and it became necessary to write to all of these places where we suspected a municipal court might exist in order to ascertain whether there was a municipal court in such place and, if so, who the judge or judges of such court might be.

This involved considerable work but it seemed important to organize the municipal judges into an Association which would bring them together periodically for a discussion and mutual consideration of their common problems. After preliminary inquiries and correspondence directed to as many judges as could be "apprehended" throughout

the State, an organization meeting was called to be held in the State Capitol in March of 1934.

Thirteen municipal judges from various municipalities gathered at this humble initial meeting. Many of them, especially the older ones, were doubtful that an organization could even be accomplished, but all were hopeful and enthusiastic.

There are still some municipal judges in Minnesota so indifferent that they have not become aware of the great value of membership in the Judges' Association, but the great majority of Minnesota's municipal judges now are active, interested members of our Judges' Association.

It affords them an opportunity for social and professional contact with their fellow judges having kindred problems and responsibilities.

Since the first meeting in March, 1934, we have each year had an annual meeting of the Judges' Association, which is always held at the time and place of the annual meeting of the State Bar Association. These meetings are extremely lively and the discussion always helpful and instructive to the members. A large number of our municipal judges are still laymen, but they benefit probably even more than the lawyer judges from these discussions and contacts. In addition, we have each year in connection with the annual meeting of the League of Municipalities a Judges' Round Table discussion which is also quite generously attended and helpful to those who are present.

Among many other favorable results coming from the organization of Minnesota judges is an increased respect shown for the municipal bench by the members of the State Legislature. No difficulty was encountered in passing a law which provided for reimbursement of judges' expenses attending meetings of the Judges' Association.

When some irresponsible lawyer introduces legislation, the purpose of which would be even further to cripple and impair the municipal bench, the views of the Judges' Association are always shown the utmost respect by the Legislature.

One of the reasons municipal judges should be organized on a State-wide basis and by

mutual discussion and consideration learn each others problems and work out better co-operation is that many crimes and particularly traffic violations are no longer matters of local concern. A driver who violates a traffic law in the Northern part of the State in the morning, may be endangering the safety and lives of people in the Southern end of

that State before the same day is over.

The influence of the Judges Association increases the self-esteem of judges and induces them to assert themselves and obtain such support and facilities, physical and economic, as may be necessary to place their courts and the work of their courts on a higher plane of dignity and efficiency and respectability.

Educational Activities of the Court

By JUDGE GEORGE D. NEILSON

Municipal Court, Washington, D. C.

We of the judiciary, whose efforts are directed toward sane and sensible traffic enforcement, have a grave responsibility in pointing the way—through word and action—to the preservation of life and property.

It is a foregone conclusion that every life spared and every personal injury prevented, as well as all property saved, in turn will mean that much more man-power and material available to produce those vital weapons of war so urgently needed by our armed forces.

We must be ever mindful that the traffic problem is one which requires eternal vigilance. The public, including the motorists and the pedestrians, must be ever traffic conscious. This means that a policy of do-nothing will not suffice. We must affirmatively—with intelligence and vision—plan and carry forward such activities as will impress upon each and every individual that the traffic problem is his problem and that it is his life and his property which may be lost if he fails to cooperate.

Probably more people visit traffic court than any other court. They appear as witnesses, as defendants, or simply as visitors. Hence, it may be clearly seen that the average citizen's first impression of the machinery of the judiciary in action is in most cases obtained in traffic court. A smooth functioning, efficient, and strictly fair and impartial court will prove a powerful factor in instilling respect for traffic and other laws. What the judge, the prosecutor, and the defense counsel do and say will leave a deep impression on those present.

It has been said that this is the radio age. Have the full possibilities of this marvelous invention been utilized in the traffic prob-

lem? In our traffic court in the nation's capitol the radio has played a major role in the traffic crusade. For nearly four years, fifteen minute and half hour broadcasts from traffic court itself have brought home a constant reminder that traffic infractions do not pay. All types of traffic cases are broadcast, including major and minor offenses. Through this medium the public becomes familiar with the various safety rules of the road, and their interpretation as applied to the facts of various cases.

The newspapers and the radio both can be utilized to good advantage in spreading the doctrine of safety in traffic. From time to time valuable articles dealing with the traffic problem have come to my attention. Last winter the National Safety Council itself prepared and published a series of "Vital to Victory" bulletins, discussing practical measures for reducing automobile accidents. These covered such timely topics as "Intoxication in the Traffic Accident Emergency," "Winter Driving," and "Protecting the Pedestrian." So clear and forceful were these discussions that I instructed my clerk to read them at intervals in traffic court for the benefit of traffic offenders, and the radio public. These were supplemented by my own personal comments and observations. Other traffic items of value submitted by the American Automobile Association, the Keystone Automobile Club, and our own Department of Vehicles and Traffic were presented in a similar manner. This radio program of education, together with newspaper articles covering the subject matter, have aided considerably in the war on careless and reckless driving.

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other thought. A good heart to heart discussion between the bench and the defendant in some instances may be a more potent factor in producing results than a harsh lecture and a heavy fine. If the court is interested enough in promoting highway safety that

it takes time to impress the defendant with his responsibilities while driving a motor vehicle the psychological effect is positive and cannot help but promote better driving practices on our highways.

Special and Adequate Penalties

By EDWARD C. FISHER

Judge of the Municipal Court, Lincoln, Nebr.

The scope of possibility in relation to assessing fines and penalties is necessarily limited by the various charter or statutory provisions under which the court operates. In Lincoln we are limited to assessment of a fine not to exceed \$1000.00, but in state cases we have a wide latitude, the only handicap being that the legislature has undertaken to fix a great assortment of minimum and maximum fines for various offenses. Our state law gives the court power to suspend driver's licenses for violation of any state law and also for drunken driving and reckless driving under city or village ordinances.

In Lincoln I have a definite schedule of fines which apply in all ordinary cases. My theory is that the penalty should be certain and that generally the same penalty should be assessed against everyone who is guilty of the same violation. People bitterly resent discrimination and favoritism. Therefore if you assess different penalties for the same offense, one who gets hit harder than another will have just ground to complain.

Special Penalties

In dealing with the matter of special penalties the court should not attempt to do something which it has no power to do. The judge must not step beyond the limits prescribed by law, because if he imposes an unlawful penalty he is in no better position than the original offender. Judges cannot legally impose some of the freak penalties that some people think they can, but the judge should know what he can and cannot do.

A great many good things can be accomplished and undue hardship avoided in certain cases by means of suspended sentences—the penalty to be withheld on certain con-

ditions, the variety of which is limited only by the ingenuity and resourcefulness of the judge. Remembering that the purpose of law enforcement is not to enrich the city treasury, but rather to promote public safety, sentence can be suspended, sometimes on conditions which will be calculated to induce the violator to take an interest in traffic safety. It is far better for the city to make a careful driver out of a bad one than to simply collect his "dollar and costs."

One of the most effective special penalties at our disposal is the suspension of driver's licenses, and I think this has very important possibilities which have not been sufficiently explored. In Nebraska we can suspend driver's licenses for violation of any state traffic law and reckless and drunken driving under city ordinances, and we can make these either partial or absolute. I use the partial suspension in cases where an absolute one would put a truck driver, for instance, clear out of business, which would also punish his family. If the man has no dependents or does not earn a living by driving, I suspend his license absolutely. It is too bad that we cannot suspend licenses in any traffic case.

In order to make the suspension effective there must be a really serious penalty involved in driving during the suspension period. I have been assessing \$100.00 and 30 days in jail for this offense. It could be 90 days under the law, but we haven't had very many offenses of this kind and it hasn't been necessary to raise it.

Juvenile Traffic Cases

Because of the fact that a considerable number of our violators are youngsters who have not learned to drive or have learned wrong, or have no money to pay the fine and

their parent would have to pay, we devised a special session of our police court for offenders seventeen years of age and under. This session is held at 10 o'clock Saturday morning, after the regular police court is over. These juveniles are required to bring one of their parents or their guardian along, so that we can be sure those responsible for the child know what is going on.

At the opening of this juvenile session, I explain to the assembly the purpose and idea of traffic law enforcement. In most of these cases I cannot suspend a driver's license but I can impose it as a condition of suspending sentence. Each juvenile violator is given the choice between two alternatives, (1) he may pay the usual fine for the offense with which he is charged, or (2) he may give up his driver's license for a certain period, attend traffic school and write a 1,000 word paper on traffic safety. I always strongly recommend the second alternative because it teaches the youngster some safety principles he may never otherwise get, it gives us a chance to provide him with some safety material to which he would not otherwise pay any attention, and it gains the cooperation of the parent. In most of these cases they have been fighting Junior about using the car, anyway, and usually they can't tell him anything about driving it, either.

Furthermore, the second alternative removes him from the streets as a traffic menace until he has had a chance to learn something about safe driving. It teaches the young driver the value of his driver's license. He doesn't appreciate it very much until it is gone, and then he wants it back *right now*. Thereafter he will be likely to try to behave so he won't lose it again. It likewise shows the people, in a convincing way, that it is not their *money* we are after. It shows them we are sincere in our efforts to promote traffic safety.

As to the period the license is withheld, this is graduated according to the seriousness of the offense—roughly 30 days for each \$5.00 of fine.

Special Penalties for Adults

In exceptional cases I have permitted the same alternative to adults, where payment of even a small fine would work a severe hardship, but these are special cases—for instance a housewife with small children, who

has no money, would have to spend several days in jail for passing a stop sign. Obviously a jail term would be "cruel and unusual punishment," not only for the woman but for the whole family.

In devising special penalties for exceptional cases like this we must be especially careful to make the alternatives sufficiently tough so that it cannot be said we are "fixing" the case, and it must be burdensome enough that they won't be too anxious to escape paying the fine.

While it is true that the purpose of traffic law enforcement is not to provide revenue for the city, still the law provides for its enforcement by means of fines and therefore it should be done that way in all except those exceptional cases where it would be an exercise of poor judgment to apply the rules literally. Traffic safety can be far more effectively promoted with the cooperation of the people than without it, and to send a traffic violator to jail for nonpayment of a fine and have his family suffer meantime is not very far sighted judging. It will make a bolshevik out of him, and he will be an enemy of law enforcement from then on.

We have worked out a plan of cooperation with the Provost Marshal by which a soldier without funds, who would otherwise go to jail for nonpayment of the fine, may plead not guilty and, in lieu of the usual appearance bond, be released to the Provost Marshal pending trial, or until he gets his money. Otherwise we treat them just like civilians unless the army wants them. So far they have turned all traffic violators over to us. This practice prevents having the soldier-violator held out of the ranks laying out a fine in our jailhouse. Treating them just like civilians is a middle course which avoids any criticism that we are letting the soldiers run wild, ignoring their traffic violations, or that we are being too hard on them, trying to make revenue from their presence near the city. The army authorities understand and appreciate our position and the plan has worked very well.

Judge Marcus Kavanaugh has said "the first purpose of a penal law is not to stay the commission of a crime but rather to prevent the creation of a criminal." Paraphrasing this for our purpose we can say that the first purpose of traffic laws is to prevent motorists from becoming law violators.

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THURSDAY MORNING SESSION

October 29, 1942

JOINT SESSION OF CITY AND STATE POLICE AND TRAFFIC ENGINEERS

Presiding:—MAXWELL HALSEY, Executive Secy., Michigan State Safety Commission, Lansing, Mich.

The Engineering Features of Blackout Traffic Control

By ROBERT O. SWAIN

1st Lt., Corps of Engineers, Engineer Board, Fort Belvoir, Va.

There will be traffic movement during blackouts, although, certainly it must be kept to a minimum consistent with essential military operations and necessary civilian services. In recognition of the importance of maintaining such traffic, the War Department has time and again reiterated the objectives of its blackout program: (1) Freedom from aerial detection, which of necessity must be the primary objective, and (2) Maximum safety of ground movement consistent with the low levels of illumination permissible.

Controlled illumination is essential to the attainment of these objectives. The War Department has tested dozens of headlamp masks in an attempt to find some simple and universal means by which the headlights on every make and type of car might be dimmed to the road illumination level which aerial observation have shown is necessary to prevent detection at usual bombing altitudes and by which, at the same time, the beam distribution which provides greatest usefulness for traffic movement might be created. So far, however, no mask has been designed which will meet such requirements, since automobile headlighting is far from being uniform in intensity and beam pattern. Even the sealed beam lamps vary considerably in this respect. The importance of uniformity in blackout headlighting, with the assurance of immunity from aerial detection which only uniformity can attain, was recognized. After many experiments, the decision was reached that uniformity could only be achieved by starting from scratch and designing a completely new blackout headlamp. Uniformity in peacetime safety programs is a well established fact. It is doubly important under blackout conditions when so much is at stake and even the

striking of a match may identify target areas.

Army engineers, after establishing the desirable characteristics of a blackout driving lamp, developed a unit having an accurately focused lamp, a scientifically designed lens, and a cleverly shaped mask and hood, which is not only invisible from the air at bomber operational heights, but which provides a controlled, though dim, illumination on the street and highway as follows:

1. Illumination of a 30-foot roadway in such a manner that the apparent road brightness from the driver's seat is the same from 20 feet to 100 feet in front of the vehicle.
2. Uniform reduction in roadway brightness from 100 feet to 200 feet in front of the vehicle.
3. Visual cutoff of the top of the beam directed downward at an angle of 1 degree below the horizontal.
4. Elimination of stray illumination outside the limits specified in 1, 2 and 3.

Such a beam pattern and light intensity permits the safe operation of motor vehicles at a speed of approximately 15 miles per hour.

Headlamps

The headlamp, however, is only part of the blackout motor vehicle lighting system. Since the headlamp is invisible above the horizontal, on the front of the car are two small marker lamps which are placed on the fenders to serve as clearance lights and to indicate to approaching cars that another

vehicle is proceeding in the opposite direction. These marker lights are designed to have a maximum visibility of approximately 1,000 feet on a clear, moonless night when viewed with dark-adapted eyes. In addition to these clearance lights, a special stop and tail lamp has been designed to provide driving safety and yet meet the blackout requirement of freedom from aerial detection. This tail light incorporates an unique distance judging feature since extreme difficulty is experienced in exactly gauging the position of low intensity lights. The four "V" shaped openings of the tail light appear as one at distances greater than 150 feet, as two from 75 to 150 feet, and as four at all distances below 75 feet.

Following the adoption of the vehicle blackout driving lamp, it was necessary to redesign or modify other traffic control devices in order to gain maximum utility from light emitted by this headlamp. I will describe briefly some of these devices, but to the traffic engineers and those enforcement officials who have worked closely with motor transportation, I would like to say that much of this work is still to be done, and on them will fall most of the burden of obtaining the maximum benefits for vehicle operators by effective utilization of the illumination provided by the blackout driving lamp. In order to do this, many existing devices will have to be redesigned; finer, more accurate techniques for their use will have to be employed; and perhaps some new devices developed.

Obviously the beam pattern of the blackout driving lamp prohibits recognition of road conditions at great distances, and the driver must concentrate on a definite area directly in front of him. Hence, pavement traffic stripes are one of the more important aids to blackout driving; and center lines, lane lines, and stop lines are the more important pavement markings. New designs for stop lines have been developed since conventional designs are invisible under blackout conditions. One design which has been found satisfactory is a comb-shaped one which employs short longitudinal lines to obtain desired visibility.

Although pavement markings may consist of paint (white being the most satisfactory), reflectorized coatings increase their utility many times. Reflector units may also be

used for pavement markings. When paint or reflectorized coatings are used for center lines, continuous lines are preferable. Centerlines should be maintained on all two-way hard-surface routes of the primary street system having an even number of lanes, and lane lines of a pattern distinct from center lines should be maintained on similar routes having over one lane available for travel in one direction.

Traffic Signs

Traffic signs under normal conditions are one of the principal devices employed by the traffic engineer; when especially designed and properly used, they are of equal utility for the control and guidance of blackout traffic.

The employment of interior-illuminated sign boxes provides a method of signing which, under blackout conditions, gives the greatest legibility for letter size and permissible illumination. These signs are safe from aerial observation at very low altitudes when they are designed to be undetectable on the ground from a distance of 2,000 feet. A message of three-inch letters in such a box will provide a legibility of approximately 150 feet during blackout. Larger letters may be used where greater legibility is desired. New letter designs for blackout signs also give promise of greater legibility.

Another method of sign illumination, permitting use of existing traffic signs during blackout, is by attachment of a small, well-shielded, battery operated lamp of the flash-light type to a sign in order to make it legible to approaching traffic. The lamp and its reflector are mounted on an arm and arranged to illuminate evenly the sign area. The lamp must be so shielded that direct light is not projected above the horizontal and glare is not produced in direction of approaching traffic. The surface brightness of the sign, however, must be carefully limited to avoid aerial detection. Such limitations have been determined by aerial tests and have been included in War Department instructions to the defense commanders.

Reflectorized coatings added to existing signs provide a third type of blackout sign. This type of sign requires exactness of location, both vertically and laterally, since it is essential to insure that the reflectorized coating will return maximum amount of light

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incident on it from the blackout driving lamp to the point where reading of the sign is necessary. Reflectorized signs should be legible for at least 50 feet when illuminated by the vehicle blackout driving lamp. The sign must not be more than 12 feet from right edge of any traffic lane which it controls and the top of the message not more than 24 inches above the road crown. Curb parking restricts the use of this type of sign.

Exterior and interior-illuminated signs must be used wherever required legibility cannot be obtained by reflectorized signs.

Blackout Traffic Signals

Extensive experiments have shown that the best way to modify traffic signals for blackout operation is to reduce the operating voltage of the lamps to approximately $\frac{1}{4}$ of their rated voltage, since this method allows return to normal illumination during other periods. The signal should never be masked or painted in such a manner as to impair its usefulness during daylight periods. Blackouts, when ordered, as far as we know today, will be for the most part of temporary duration, and it is important that all traffic signals return to normal as soon as possible to insure continued safety of normal movement.

A small box-like device with a battery operated lamp, in a small reflector, which flashes at intervals thereby giving a signal that attracts attention at distances up to approximately 500 feet when viewed from the normal driving position, has been developed for the marking of road hazards and obstacles during blackout. This device provides light of such low intensity that it is undetectable from the air, yet it is adequate for use on the ground during blackouts.

An illuminated traffic baton which permits policemen equipped with them to give legible indications during blackouts to approaching traffic is proving exceptionally valuable. The baton may be used during normal night conditions as well as in blackouts since the device is designed with reflector buttons, imbedded in a plastic rod, which will reflect brilliantly the light from regular headlights. During blackouts, the plastic rod glows faintly under light passed through a filter, thereby illuminating flutes out in the outer surface of the rod throughout its length.

Reflectorized anklets and reflectorized leggings designed to be worn around the ankles give pedestrians a measure of protection. Since they are worn as close to the ground as possible, these devices will return the light from a blackout driving lamp at distances up to 100 to 200 feet.

Luminescent Materials

Finally, luminescent paints and materials have been thoroughly investigated in connection with their application to traffic control during blackouts. War Department experiments have not confirmed, however, many of the somewhat extravagant claims made for the use of luminescent materials during blackouts. Most of these materials deteriorate rapidly under exposure to sunlight and moisture. The visibility of these materials after several hours of darkness is very low, and maintenance is a big problem. Further development in this field will be necessary before these materials become useful for traffic control purposes.

Effective use of all these blackout traffic safety and control devices depends not only upon their design and application, but also upon their intelligent use by the public under very trying conditions, which a real blackout most assuredly will produce. The factor which makes blackout lighting at all possible is the remarkable ability of the human eye to adjust itself for vision under extremely low levels of illumination. The importance of dark adaptation must be impressed on all motor vehicle operators and all others who move on the streets and highways during blackouts. It is absolutely essential to allow at least five minutes, and preferably 20 to 30 minutes, before attempting to drive vehicles or move about in a blackout. This is a necessary blackout traffic control regulation.

In this review of some of the highlights of the Engineering Features of Traffic Control, it has been necessary to omit many details which no doubt would interest traffic officials. The War Department, however, has issued specifications giving all the information essential to planning a blackout traffic control program. They are as follows:

Blackout Requirements for Highway Movement

Street Lighting During Blackouts

Blackout Flashlights, Lanterns, and
Flares

Traffic Control During Blackouts

Blackout of Buildings

Luminescent Materials

Blackout of Railroads

The first six specifications have been released by the War Department. It is expected that "Blackout of Railroads" will be released within the next few weeks. Public dissemination of these specifications will be

handled by the Office of Civilian Defense.

The War Department in releasing these specifications is interested not alone in the safety of vital military materials and operations, but is also deeply concerned with the safety of life and public property. It is this phase of the problem with which you are most closely allied in your work as safety engineers, and it presents a new challenge—a challenge which I am sure will be met by the initiative that is so characteristically American, and upon which we depend so much to win the war.

Enforcement Features of Blackout Traffic Control

By IRA F. REEDY

Captain of Traffic, Oakland Police Department, Oakland, Calif.

Anyone who purports to make an authoritative statement with respect to the enforcement features of blackout traffic control based on our American experience necessarily is engaging in a considerable degree of speculation.

My city, Oakland, California, lies on the eastern shore of San Francisco Bay. It is part of a large metropolitan area with a population of approximately 1,500,000. The city itself, with a population of about 400,000, is filled with large military and defense installations of every kind—shipyards, manufacturing plants, rail and water terminals and a host of other installations vital to the war effort. We are told this is a logical target area and a potential combat zone.

Yet we have had relatively little opportunity for real blackout traffic control practice because we have had only a few blackouts, and because the military authorities won't permit practice blackouts. Therefore when we express our views and theories respecting traffic control during blackouts, we are indulging largely in speculation,—speculation based on what we fear, with our fears based on a score of unknown factors.

In Oakland we have a local ordinance from which I quote Section 8, which governs the movement of non-emergency vehicles during a blackout.

"At the commencement of a period of air raid alarm, the operator of any motor

vehicle shall forthwith BRING SUCH VEHICLE TO A STOP at the nearest available curb or edge of the street, road or highway off of the main traveled portion thereof, and the operator of such motor vehicle and the operator of any street car, shall bring such motor vehicle or street car to a stop clear of any crossing, intersection, fire house, fire plug, hospital or other emergency depot or area, and during the hours of darkness shall extinguish all lights therein or thereon and said motor vehicle or street car shall remain so situated during the period of air raid alarm, unless directed or ordered to move by a peace officer, highway patrolman or fireman."

There is nothing in the Motor Vehicle Act of California which governs the operation of vehicles during a blackout, inasmuch as the Legislature has not convened since Pearl Harbor to enact any emergency legislation. However, the basic speed law, which is part of the California Vehicle Code, might be applicable to traffic conditions during a blackout upon the theory that blackout conditions would be such as to require the operation of vehicles at a relatively low rate of speed. But there is no regulatory provision specifying the type of vehicle which might be operated, the speed thereof, the lighting of such vehicle and kindred matters.

So far as federal regulations are concerned, we have proclamations issued in our area by the Western Defense Command, together

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with some material issued by the defense councils. While these may be helpful from the point of view of education, they are of little use to the enforcement officer because to date they lack "teeth." The California Division of Motor Vehicles issues regulations from time to time, but these have been changed and modified so many times that they have been of relatively little help.

Laws and Regulations Covering Blackouts

If reference is made to the municipal ordinance above mentioned, it will be seen that it prohibits the operation of *privately* operated vehicles during the period of a blackout. The ordinance requires that these vehicles be brought to a stop at the nearest available curb or edge of the street or highway off of the main traveled portion thereof.

The vehicles that are permitted to move are emergency vehicles which include the following:

A. All army and navy vehicles.

B. All vehicles with United States Government credentials indicating the necessity of emergency movement.

C. All authorized emergency vehicles designated as such in the California Vehicle Code.

D. All vehicles operated by members of the California State Guard while actually on duty.

E. All vehicles of volunteer personnel engaged in the operation of the Aircraft Warning Service of the Fourth Interceptor Command while such personnel are actually going to or from their posts of duty.

F. All vehicles certified by sheriffs, district attorneys, the California Highway Patrol, police chiefs, and fire chiefs, when within the respective territorial jurisdictions of the certifying officer as being essential to the preservation of the public health, peace or safety or to the dissemination of public information or to the national defense, when such vehicles are actually being used in work essential to the public health, peace or safety.

Thus, the job of the enforcement officer is

to see that the movement of private vehicles comes to a stop and to facilitate the safe movement of the emergency vehicles which have a job to do during the blackout or period of air raid warning.

Our own local ordinance contains a provision that such vehicles must conform to the uniform lighting regulation approved by the Department of Motor Vehicles and the California State Highway Patrol for blackout emergency vehicles. The California Highway Patrol has specified blackout lights for emergency vehicles and so far as we know, most emergency vehicles are equipped with these lights. All vehicles in our police and fire departments are so equipped. My reference here is to blackout marker lights, similar to those used by the military, and I am not referring to lights used as sources of illumination.

All of the vehicles which fall into the category of emergency vehicles are certified by the local civilian defense organization, whose certificates identify the driver and specify the vehicle. Where a private vehicle is used by someone in the service of the civilian defense or Red Cross, it is provided with a suitable identification sticker for the windshield. The State of California, acting through the Department of Motor Vehicles, California Highway Patrol, issues stickers bearing the letter "E" to designate emergency vehicles.

At the present time, the approved blackout lights are merely marker lights which do not provide sufficient illumination for the movement of emergency equipment with safety to driver, equipment or pedestrian.

The difficulty with most of these masking devices is that they interfere with proper use of headlights under normal operation. Unfortunately, the light which has been specified as a source of illumination for use on emergency vehicles has not been and is not now available on the Pacific Coast. This is something that urgently requires attention.

Restrictions on Pedestrians

Thus far there are no laws or regulations in our city or state, so far as I know, regulating the movement of pedestrians during a period of blackout. No doubt we shall have

to rely on the civilian defense block wardens and on auxiliary police to maintain appropriate control of pedestrians.

We know from normal experience in our city that lack of proper street illumination is the reason why we have had a large number of traffic deaths and accidents in certain parts of the city. Lack of pedestrian control is a decided handicap. We shall have to depend heavily upon educational campaigns, safety council activity and the assistance of the wardens and auxiliary police.

All persons who are engaged in the service of civilian defense and Red Cross emergency service are furnished with necessary identification arm bands and cards entitling them to go about their duties during blackouts. These persons are adequately instructed by their own organizations and warned of the danger to pedestrians during blackouts. They are instructed not to interfere with the movement of vehicles, leaving control of vehicles to the police.

In Oakland we have an excellent auxiliary police setup, under the head of a lieutenant of police assigned by the Chief of Police to work with civilian defense. These auxiliary police are assigned to posts or beats and these posts or beats are as near as possible within walking distance of their homes.

In the event of a blackout, the Chief of Police calls on the head of the Auxiliary Volunteer Police to send the required equipment and men to the location of any incident.

The head of the Auxiliary Volunteer Police contacts the section leader or leaders as the case may be. The section leader or leaders send out messengers to contact the men and notify them to report to the scene or location of the incident.

In the event it is necessary to move equipment and personnel any great distance, arrangements have been made with the Yellow Cab Company which provides taxicabs for the movement of men and equipment. This is without cost to the City of Oakland or to the civilian defense setup. It is a contribution on the part of the company.

A military police unit is operating in our city with various pieces of rolling equipment, the personnel being trained for the purpose of handling traffic and convoys. The only

assistance we may receive from this unit during an emergency will be to assist in protecting primary emergency routes that are of vital importance to the military.

Communication Facilities

The unavailability of the radio during blackouts will greatly handicap our operations. We have been told by the Fourth Interceptor Command that the use of the regular radio, as well as the police radio broadcast, will not be permitted during blackouts. However, we can use telephones and motorized equipment as a means of communicating between points.

In Oakland thirty-two telephone communication points have been set up. At each of these thirty-two telephone communication points, a motorcycle officer will be stationed so that he may act as a messenger or runner in that particular area.

Radio will not be allowed during a blackout at the present time. However, plans are under way for organizing all 'ham' radio operators in order that they may be available during blackouts or during incidents. The Federal Communications Commission has stated that they can be used if the Army does not rule them off the air. When that point is cleared with the Army, we will know if the radio will be available.

With this background in which I have endeavored to describe the underlying situation, we may now consider some of the problems that confront the enforcement officer.

Our motor vehicle laws, both state and local, are peace time laws that were never designed for war time conditions. What price the arrest of violators by the traffic division if there is no adequate statute or administrative regulation to govern when the violators face the court?

It would seem that the Presidential war time powers would be sufficient clearly to define speed and other limitations and regulations to govern the movement of all vehicles during blackouts, especially in a potential combat zone, such as the one in which my department operates. The job is definitely one of coordination, a job which has not been done, but which must be done if the enforcement officer is ever to do what is expected

of him.

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We know that emergency vehicles must move during blackouts. In normal times, fire equipment, police equipment and ambulances move at a high rate of speed. Fires won't wait. Broken bones and ruptured blood vessels won't wait. But during blackouts, with definite limitations on the lighting equipment of emergency vehicles, we are faced with the problem of moving vehicles as fast as conditions permit. I feel that the sooner we are provided with driving lights which will emit the maximum illumination permitted during blackouts, the sooner we will be able to train the drivers of these vehicles in safe operation during blackouts. This is certainly going to require practice, and without practice it is hardly fair to expect a maximum of safety or a maximum of required speed.

Traffic Signal Lights

Traffic lights and signals, if they could be operated satisfactorily during blackouts, would be an important aid to the enforcement officer. However, properly to mask traffic signal lights to permit their safe operation during a blackout almost completely destroys the efficiency of the lights for normal day time and night time use. Accordingly, rather than thus limit the efficiency of the lights, the practice has been to turn them off during the period of blackout. While this may be necessary from a practical point of view perhaps, it is nevertheless regrettable.

In our present disaster plan, we are laying out routes for ambulances and emergency vehicles of all kinds. In addition, the Army requires certain streets to be set aside to facilitate the movement of military vehicles, equipment and ammunition trains. If we could barricade these streets and prevent all cross traffic, all would be well, but we know we can't do this continuously and it will be necessary to provide for cross movement.

If we had satisfactory traffic signal lights which could be operated during blackouts, it would free a large number of traffic officers for other general supervisory duties. I hope our traffic engineers will be able to solve these problems for us without destroying the efficiency of the lights and signals for normal operation.

Due to the fact that routes which will be

selected by the Military are unknown, we are not able to set up primary routes for emergency vehicles. We have attempted to solve this by setting up a flexible system of primary routes and bypasses, so we will be able to handle any condition that may arise during an emergency.

Personnel Problems

When the first call came out from the office of the Traffic Division for motorcycle riders during blackouts, to work as volunteer auxiliary traffic officers, we found that we had 993 registered motorcycle owners in Alameda County. Of this total, 520 were registered in Oakland. These 520 were contacted through the mail. As a result, 115 came into the Traffic Division and signed up, which gave us a working unit of that number. They were fingerprinted and assigned to patrol posts for training and duty.

In July of this year, I made a check, the result of which was surprising. Of the 115 men assigned to patrol posts, exactly 54 were available in case of an emergency, maybe! Many had gone into the armed services, many had taken jobs in defense industries away from Oakland. And—as a result of another check less than a month ago, it was found that less than 24 of the original 115 were now available. Of that 24, more than half were subject to call by the draft board.

Thus far we have lost eight key men to the military, and with competition offered by high wages in the shipyards and industrial plants, the task of replacement is difficult. Satisfactory policing of traffic during blackout conditions requires trained men and it is readily apparent that the enforcement officer will be handicapped by loss of personnel.

We have a special problem in our city relating to blackouts. You are all familiar with the yellow, blue and red alerts. Also, I assume all of you know of the heavy volume of traffic that moves across the San Francisco-Oakland Bay bridge which connects the cities of San Francisco and Oakland. The practice is to close the bridge to traffic upon a yellow alert. However, a yellow alert is known only to police and civilian defense authorities.

The net result is that we have a heavy flow of traffic to the bridge approaches on the

east side of the Bay, from all adjacent highways and streets and this causes a huge traffic jam, backing up from the east shore toll gates.

Our problem is to divert this traffic at points considerably removed from the main bridge approaches in order to avoid these large concentrations. It is quite apparent that if an attack came with these large accumulations of vehicles jamming the streets from curb to curb, the risk to motorists would be tremendous. It is hoped that by means of radio control cars, traffic can be diverted and kept away from areas of heavy concentration upon a yellow alert.

Shortly after the declaration of war on December 7th, convoys became a very important problem to the traffic division. We found they were using forty-five per cent of our personnel in connection with the military problem. With the installation of a military police unit in our city, at this time we have no problem and convoy requests have been cut to a minimum.

Ambulance routes have been laid out and connected with hospitals and Red Cross centers throughout the entire city, using main arteries which we believe will be less desirable for the military. Each ambulance driver has been given a route map with printed instructions that must be followed.

I have already indicated that the military authorities will not permit practice blackouts. While we can have drills, I feel the real drill should be in an actual blackout. As it stands, no one knows when a blackout will come or how long it will last. Since Pearl Harbor, we have had four blackouts and they lasted from a few minutes to three hours and 10 minutes.

War Production Problems of Engineering and Enforcement in Transport and Traffic Control

By HALLIE MYERS

Dir. of Traffic, Indiana State Highway Commission, Indianapolis, Ind.

The traffic pattern has been greatly changed. Roads and streets formerly carrying a mere trickle of traffic now carry swollen streams. Workers going to and from work constitute the great bulk of this traffic.

I really feel that it should be possible for us to work out with the military certain prescribed periods of blackout, so we could actually test our various plans to deal with the movement of vehicles under blackout conditions. This problem is as yet unsolved.

Prolonged Blackouts

The type of blackout we have been concerned with on the Pacific Coast is entirely different from the continuous blackout in England. Here, the so-called blackout or period of air raid warning is the period between the sounding of an audible air raid warning and the sounding of the "All Clear."

Suppose an enemy target or unidentified enemy aircraft requires an air raid warning signal at nine-thirty at night. This would mean all non-emergency vehicles would draw to the curb and stop. Let us suppose the "All Clear" did not sound until ten o'clock on the following morning. This would mean over twelve hours of blackout or air raid warning period.

The question which concerns me is this: Would the motorists continue to park their vehicles that long? Would defense workers stay away from their jobs? Would people abandon their vehicles, perhaps lock them and plan to return later?

They had such a situation in Los Angeles once and I am told they had a traffic snarl the like of which had never been seen previously in that city. I am wondering if we should not permit the movement of vehicles during a blackout and before there has been any enemy action. I fear we may create conditions beyond the tolerance of the motorist and that he may decide to drive his car during periods of prolonged blackout.

New plants built to produce war supplies have been built in suburban and rural areas served only by roads and streets designed and constructed to carry small traffic volumes.

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of traffic at times of shift changes and these concentrations often extend for miles in all directions. They occur three times daily, seven days a week and always one and often two are during the hours of darkness.

One good example of this problem in Indiana is an ordnance plant constructed prior to our entry into the war. The one rural two lane highway serving this area in August, 1940 carried 650 vehicles daily. In November, 1940 this had increased to 7500 vehicles per day. By March, 1941 it carried 11,000 per day and it now carries an average of 8,000 per day.

Another example is a munitions plant which employs in excess of 17,000 workers daily. A survey of the origin of these workers revealed some astonishing facts. Over two-thirds of the workers lived outside the County in which the plant is located. Over 700 lived 70 miles or more from the plant and an additional 1500 lived 50 miles or more distant. The average round trip for all workers was in excess of 60 miles.

Such conditions have generated great traffic volumes where none existed before, often creating severe traffic problems in small cities at a considerable distance from the plant, and have completely revised our city and state traffic patterns.

On every hand we are faced with scarcities of the four M's. Money—Manpower—Materials and Machinery. As a consequence, we are forced to extract the utmost efficiency from existing facilities.

Perhaps the first thing we learned was that, even if money and materials were available, we could not construct new facilities rapidly enough to meet changing conditions.

Perhaps the most important thing we have learned, and this is worth remembering after the War, is that elaborate and expensive control devices and other facilities are not always necessary. Regulation can be and has been very satisfactorily substituted in many cases and is meeting a great amount of voluntary public acceptance.

The scarcity of rubber has caused practically all states to embark on some sort of transportation conservation program working with federal and local agencies. These have met with varied degrees of success. Nearly all such programs include staggering of hours

and group riding. The inherent weakness of these two projects is the fact that compliance is purely voluntary. This method of approach ignores the time honored fact that "Americans will do what they have to, when they have to." Some means must be found to make compliance mandatory.

We have worked out some beautiful plans for staggering of hours in cities only to have them fail because one plant refuses to change its hours. The mechanics of working out a staggered hours plan are basically the same everywhere and are not too complicated. Such programs must usually be planned to care for anticipated conditions which the average person does not readily recognize or foresee. Since such plans entail changing the daily habits of many persons as well as the present organization of several industries and their existing contracts with many unions, it is only natural that there should be considerable resistance.

Much preparation and selling is necessary to put such programs over and it is doubtful if many will be inaugurated in time to forestall transportation difficulties. On the other hand, we believe that by proper planning and preparation a plan can be devised which will be accepted when the transportation problem becomes more acute in these cities. To hope for their adoption, generally, before such a stage is reached is being over optimistic.

Group riding, swap riding, call it what you will is a beautiful plan which will save rubber and spread our transportation over a longer period. Like staggered hours, it lacks the one essential feature to make it work—compulsion.

We have in Indiana a good plan for swap ride organization. We have used this plan in several cities. Mechanically it works beautifully in collecting the necessary information on which to base the actual organization of swap ride groups. Up to date, it has failed, dismally, to secure the anticipated results. We believe gasoline rationing will give it the necessary push.

In a further effort to conserve cars, tires and manpower, we have instituted two other projects:

Better Use of Streets.

Public Safety and Speed Reduction.

We have provided a state technical advisory group which was loaned to interested cities to work out these projects for them. This stemmed from our established policy of using existing trained traffic personnel on projects of immediate national importance.

These two projects have proven very satisfactory and useful and our recommendations have been well received and uniformly well executed by the cities after we left them.

In the better use of streets projects we were dealing with an official city administration which saw an opportunity to get some traffic engineering at no cost. We offered a quick but fairly comprehensive traffic survey of the city and made definite recommendations for changes at specific locations. None of our recommendations have involved the expenditure of much money or the use of critical materials. It is strictly a war-time emergency program aimed at moving men and materials to and from war plants and substituting planning and regulation for money and materials.

Our plan is first to determine what we call the war traffic network of streets, (the pattern of which has largely been determined by the choice of the drivers themselves) then to concentrate on this network all possible maintenance and control personnel and equipment. We believe it desirable to encourage concentration on a limited network rather than to disperse the traffic throughout the entire city street system and thereby require dispersal of personnel and equipment to handle it. A few police officers, strategically located can control one street carrying 15,000 vehicles per day better than five streets each carrying 3,000. Repair crews can keep one street in repair easier than five. Here's another that is seasonal and vitally important. Snow and ice can be handled more quickly and effectively on a limited network. Fewer control devices are required.

Having adopted the policy of selecting a limited but adequate network for attention and use, it then becomes imperative that this network be kept open for free movement at all times and that every feasible plan be used to extract more efficiency from it.

Speed and delay studies were run to determine the points of delay and these points received special attention.

Some of the most common impediments to

traffic, most of which are found in every city and none of which require large expenditures to correct are these:

1. Improper parking and double parking.
2. Inadequate or poorly located bus loading zones.
3. Parking on narrow streets.
4. Improperly timed or unwarranted stop and go signals.
5. Improper distribution of traffic load.
6. Irregular and confusing intersections.
7. Streets blockaded for repairs to utilities.
8. Wandering of vehicles on wide streets.
9. Permission of parades on vital streets.
10. Heavy turning movements at certain intersections.
11. Disorderly pedestrian practices.
12. Railroad switching movements.
13. Cruising taxicabs.
14. Too many stop signs.
15. View obstruction at intersections.
16. Frequent street car and bus stops.

Each of these suggests its own solution to the traffic engineer and involves the use of methods and techniques with which he is familiar. Time does not permit the enumeration of the remedies recommended. Most of these things are apparent to anyone looking for them but it is surprising how often they are overlooked because we are looking for something spectacular to do.

For police departments we have in our recommendations followed closely the emergency traffic law enforcement program of the I.A.C.P.

The practice, originated in Indiana of police departments sending copies of arrest and warning tickets for moving violations to tire rationing boards, has had a very beneficial effect.

The same engineering and enforcement policies are used with reference to rural state highways. A state war traffic network was determined and our efforts concentrated on

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these to prevent accidents and delay.

Since a very high percentage of vital war materials is hauled by truck, a delay on a rural highway or in a distant city is just as bad as one within a block of the plant itself. Our efforts to expedite traffic on this network include:

Excellent maintenance.

Eliminating unnecessary delay in small towns.

Avoiding long and difficult detours.

Prompt snow and ice removal.

Improved signs and markings with particular attention to their night value.

In all of this we have cooperated closely with state and local police officers. We have recommended and secured concentration of enforcement personnel on routes where and at times when they will do the most good.

The war has given the traffic engineer and the enforcement officer an opportunity to demonstrate their ability. City governments have adopted and the public has accepted regulations which a year ago would have seemed impossible. The good effects are being demonstrated daily.

Coordinating Engineering and Enforcement in War Production Transport and Traffic Control

By CAPT. FRED H. GRABBE

St. Louis Police Dept., St. Louis, Mo.

We have the manpower to produce all types of war materials and we have the sources of raw materials from which to produce the implements of war. However, both will avail us little unless we can get the raw materials quickly and safely to their places of manufacture and to the people who will convert these materials into the finished product. This involves a serious problem of transportation which calls for revised methods of law enforcement and engineering.

Definite routes to and from our defense plants must be established and then properly maintained. Since the construction of additional routes will be held to a minimum, proper maintenance of routes becomes more necessary. In this connection we find it very important that the law enforcement officials cooperate with the engineering department to see that the rules and regulations regarding the flow of traffic of these routes are properly observed. We cannot discount the fact that mass production is mass transportation. This includes transportation of both materials and workers. Many of the problems in this connection have been handled fairly well up to date. But we should not lose sight of the fact that our production at present is but a small fraction of what will be produced within the next twelve months. This means more materials, more manpower, and, accordingly, bigger transportation problems.

In order to build up adequate transportation facilities, traffic engineering must again occupy a key position in this program. This problem is one that commands the fullest cooperation of engineering and law enforcement officials of every community.

The educational feature of the program has proven its value by the fact that motorists, upon request, have materially reduced using the arteries of traffic in our defense areas. Surveys can be made to show the number of employees of each plant who travel by passenger car, bus or street car, and the actual routes used by these workers. The survey would also show the number of vehicles serving each plant in the hauling of both raw materials and finished products. The survey would further show the time of movement of the bulk of both workers and materials and, accordingly, the police department can reinforce its manpower at these peak periods to expedite the movement of traffic.

In St. Louis we have materially aided our transportation problem by getting the officials of our larger business establishments to stagger the working hours of their employees. This has greatly reduced our traffic problem by eliminating a conflict between workers going to their jobs at defense plants and workers going to their offices and mercantile establishments. Several of our larger

department stores have gone a step farther to help solve the problem by opening their stores one night a week to give our defense plant workers an opportunity to shop without conflicting with the crowds of daytime shoppers. This called for a change in the assignment of traffic officers to handle this type of night traffic and we were agreeably surprised by the success of this plan.

We hope to solve our problems through the very close cooperation between the traffic engineering department and the police enforcement officials of our city. This cooperation can be done in several ways. Police officers, especially traffic and motorcycle officers, upon observing some traffic hazard, should make a detailed report of it to his commanding officer. A copy of this report would be forwarded to the office of the city traffic engineer for his information, and recommendation made to the department of streets and sewers for correction of the hazard. The hazards I am referring to might be—the need of painted pedestrian crosswalks—the erection of slow or caution signs—or perhaps the lack of stop signs or other devices or signals which might eliminate the

hazardous condition at the point in question. Our men in St. Louis are doing this constantly and we are getting the cooperation from our traffic engineer and the department of streets and sewers.

In St. Louis we have a sergeant who has been handling traffic education for the past six years. He has two weekly radio safety programs on which questions about traffic, sent in by the listeners, are answered. Safety lectures are given to civic clubs, parent organizations, commercial fleet operators and the like. Then a schedule of meetings at the 204 elementary grade schools is maintained at which safety practices are discussed with the children and the members of the school boy patrols. The main purpose of safety education work is to point out to the citizens that the arrest of motorists is secondary in the minds of police officers. Officers would much rather have drivers obey the laws and thus avoid arrests, because obedience to traffic laws means lower accident frequency. There are, however, some people who just won't learn to be safe through the medium of education. They have to be taught by enforcement.

Evacuation Planning and Operation

By LT. COL. C. I. KEPHART

Chief of Evacuation and Transportation Section, OCD, Washington, D. C.

While we all hope that there will be no bombing of our cities during the war, it would be gross negligence if bombing should occur and we are unprepared to care for the situation. Evacuation normally would be ordered only (a) in consequence of persistent bombing of military objectives or (b) to remove the population from certain coastal regions in the event of threatened invasion. No evacuation is planned in the event of sporadic or intermittent bombing only. Another type, which should be prevented, is panic evacuation.

In the case of persistent bombing of cities there would be no mass evacuation from the area affected but only removal of selected groups of non-essential civilians, such as mothers and their children, expectant mothers, sick, aged, and infirm people, inmates of orphanages, and perhaps inmates of other

institutions. This is known as "selective" or "priority" evacuation. The mere moving of essential workers from the hazardous areas to other parts of the same city or adjacent regions from which they might reach their daily work is what is known as rehousing and is wholly a local problem. Mass evacuation would occur only from certain designated areas along the coasts in the event of threatened invasion, in order that the residents might not interfere with the maneuvers of the contending forces.

Pre-evacuation Conditions

Prior to the evacuation of selected groups because of persistent bombing of military objectives in an area, there are serious conditions caused by the bombing itself that first must be relieved. There the local U. S. Citi-

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zens' Defense Corps enters the picture with all of its resources, its wardens, police and firemen, emergency medical service, emergency feeding and housing, gas and bomb reconnaissance, and engineering and utility repair service. Not until some semblance of order had been restored would the question of evacuation of non-essential civilians be decided by the military and civil authorities in cooperation. If approved, registration of all such priority groups would begin immediately under the supervision of the regional and state evacuation officers in cooperation with the transport officers, who would arrange for the necessary transportation.

Evacuation, Neutral, and Reception Areas

The determination of the vulnerable or hazardous areas in industrial parts of cities subjected to bombing is not difficult. Approximately 20 or 25 per cent of the inhabitants of such evacuation areas would comprise the selective or priority groups to be evacuated while the rest would be essential workers who would remain there or be rehoused in the same region. The evacuated persons must be directed to assembly stations at designated places and times and be transported by motor or rail carriers to predetermined reception areas some distance away, depending upon the territory. They would be accompanied by nurses, teachers, or other aides when necessary.

In the reception areas they would be placed in whatever accommodations are available in such areas, whether private homes, hospitals, camps, or elsewhere. This work of placement and care of evacuees in reception areas would be under the immediate direction of the state evacuation officer and the general supervision of our regional evacuation officer, but the actual field work would be performed by various federal and state agencies whose services would be integrated under regional directors of the U. S. Office of Defense, Health, and Welfare Services. In the removal, placement, and subsequent care of these people, federal funds would be made available by the Federal Security Administrator. Eventually, of course, the people would have to be moved back to their former homes.

Transportation

The question of adequate transportation

for evacuation of non-essential civilians in time of need is a serious one. The Office of Defense Transportation now has control of all commercial transportation, whether bus, truck, taxicab, or rail equipment, and the transport officers on the staff of the state defense coordinator and the regional director of the Office of Civilian Defense would look to that organization for whatever equipment might be needed at the designated places and times. The evacuees would be directed to assembly stations, where they would be taken aboard the equipment that would transport them to the reception areas.

In order to facilitate the movement of either troops in military convoy or the evacuation of non-essential civilians, the Office of Civilian Defense is now engaged in collaboration with the Office of Defense Transportation in organizing motor transport convoy units among the larger motor carriers of the country, especially in the coastal and other vital regions. Schools will be operated for training the leaders of these transport units in the logistics of convoy movement. This activity is meeting with favor in the industry, as it improves the esprit de corps of the employees of the companies and makes them feel that they are having a part in the war effort.

Our office is now negotiating with the Office of Defense Transportation to insure the immediate availability of required transportation equipment in the event that the district manager of that agency should be inaccessible for several hours when many injured people might be ready for transfer to outlying hospitals and were awaiting only transportation. The plan contemplates that the transport officer on the staff of the commander of the local defense corps shall act in such emergencies in the name of the district manager of the Office of Defense Transportation, on the advice of a local transportation committee if desired, and immediately afterward report to the district manager of that organization what he had done in this way.

Traffic Control

In order that there may be no traffic confusion on the highways, it is necessary to have surveys made of what might be called primary, secondary, and tertiary roads, which will be properly marked. It may be that

the army will be using the primary highways and that the secondary or tertiary routes will have to be used for evacuation from and the movement of civilian supplies to such affected areas. These maps are being made by the various state highway departments and cooperating agencies, including the State Highway Traffic Advisory Committee to the War Department, and in time of need they will be in the hands of military and civilian authorities who will require them. Thus, marked flexibility in the movement of traffic over the various highways should be assured.

During such emergencies, the state police will have a very serious task in preventing confusion and panic evacuation on the highways. Among the earliest people leaving the city will be voluntary evacuees, who normally will be permitted to move to destinations that they have in mind upon due registration, and it will be one of the duties of the police department to control such voluntary evacuation. In this connection, reference is made to the bulletin of the Office of Civilian Defense entitled "War Traffic Control." There must, of course, be proper coordination between the city, county, or state police and the military authorities in connection with convoy movements. It would be well

for all state and local traffic police authorities to offer their services to state and local defense councils in connection with their evacuation planning.

The Office of Civilian Defense is now developing a plan by which it is hoped that partial blackouts or inland dimouts may be had on the blue signal when hostile airplanes are in the region but not moving in the direction of places where such partial blackout is in effect. If the airplanes should suddenly turn in the direction of any such city, the partial blackout could then be changed immediately into a full blackout. In this way, substantially normal social activities might continue in such cities but at somewhat reduced speed.

In closing, it should be reiterated that the most serious phases of traffic control, if the need of evacuation of civilians should ever arise, is that of the prevention and control of panic evacuation, and on this subject it is the responsibility of the state and local traffic authorities in cooperation with the civilian defense services to plan and adequately develop their forces for the prevention of panicky movements of people out of cities during and following enemy action.

Coordination Among Agencies Planning for Emergency Traffic Control

By PROFESSOR J. L. LINGO

Director, Public Safety Institute, Purdue University

Home front planning activities during this war demands the working together of many agencies and services in complete harmony. No better word seems to be available to describe this problem than coordination.

The Office of Civilian Defense as an agency of our government has developed and recommended effective procedures for minimizing the effect of enemy action. Such action is most likely to involve the bombing of vital areas resulting in the disruption of traffic and the destruction of lives and property. All of the measures necessary to combat the efforts of enemy bombers require the highest degree of planning and coordination.

Local politics, petty jealousies, individual or group credit seeking, disputes over control or jurisdiction must be allowed to play

no part in the program of emergency planning or operation. Unfortunately the men manning enemy bombers have no regard for local shortcomings whether they be of a personal or technical nature. When bombs fall, unified control and operation over a wide area is essential. One of the major problems in which complete coordination is necessary is traffic control.

Efficient traffic control combined with effective planning and coordination means that the civilian services will be able to reach all parts of the emergency area without undue delay or accident. The police will be responsible for providing most of this traffic control and the police, more than any other agency, must assume the responsibility for the proper coordination of emergency plan-

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ning. Since most bombings occur at night, blackout conditions must be considered. The problem requires complete coordination between traffic officials, civilian defense services and the military services.

Lack of Coordination

During a recent trip which covered many cities in some twenty-six states, the writer had an opportunity to discuss the matter of traffic control planning with many city and state officials responsible for such planning. In general, the police have done a good job up to a certain point. Most police departments have made surveys of their city to determine what emergency equipment is available; where the vital industries, supplies, utilities and other important objectives are located; they have organized and trained auxiliary police; they have selected routes to be used by emergency vehicles, military vehicles and for evacuation of civilians; they have worked out detailed assignment programs for the police personnel and have designated the vital areas of the city. Going into the city fire departments, vital defense industries, civilian defense offices, hospitals and various public utility offices the same good planning work was observed. However, in many instances there was little or no coordination in the planning work that had been done by the various agencies.

In many cities the situation was extremely bad. Police routes, for example, leading to a vital defense plant likely to be the first objective of a bomber, were entirely different from the routes selected by the fire department, hospital or other services. Usually the police department did not know or did not care what routes the firemen or other services planned to use when an emergency occurred. The most common attitude was that we have done our part of the work, now let them come to us to find out about our plans. It is certainly true that route maps, assignment sheets or other planning materials—no matter how well executed—will be of no value in getting fire fighting equipment to the scene of a bombing if they are kept in a drawer at police headquarters and have never been seen by the fire department or other services.

When an emergency occurs the local control center, serving as the coordinating agency for actual operations, can do little to

make up for the lack of proper coordination in previous planning between the various services. Such planning must be completed before the emergency occurs.

Basic Needs

Based on observations in many cities and on the experience in Great Britain and Hawaii the following general suggestions should prove of value to all police departments interested in being ready for enemy action:

1. Select, study and condition routes for emergency vehicles, military vehicles and vehicles used for evacuation or other special purposes. All agencies using any of these routes should be familiar with them and with their limitations.

2. Recruit, organize and train a reserve traffic unit for use in emergencies. These men may be used to supplement regular officers at critical intersections, at bottle-neck points, along emergency routes and at other points as needed.

3. Work out detailed plans of assignment for various types of anticipated emergencies and inform all personnel of these plans.

4. Be sure that advance plans for coordinating the work of the police and other agencies are complete and that there is a minimum of wasted effort and overlapping functions. Take the responsibility for serving to coordinate all planning affecting other services.

5. Take the leadership in instructing and educating the civilian population in what to do when the air-raid comes. Much panic, hysteria and congestion can be relieved if the public knows what to do in all cases. Select those things that will help your traffic control operations, such as, pedestrian actions, driver procedures, etc., during an air raid and use every means of instructing the general public. Air raid wardens can be especially helpful in this regard.

The police are an old and respected service. The public expects more from them in the civilian defense program than from any other agency. If proper steps are not taken for coordinated planning and operation they, more than any other service, will be held responsible for whatever may happen.

THURSDAY MORNING SESSION

October 29, 1942

GROUP SESSION ON PUBLIC SAFETY EDUCATION

Presiding:—HERBERT B. SIMPSON, Executive Dir., Utah Traffic Safety Council, Salt Lake City, Utah

Educating the Public for Voluntary Observance of Speed Restrictions

By LINCOLN H. LIPPINCOTT

National Secretary "Not Over 50" Club, Consulting Safety Engineer, Lumbermen's Mutual Casualty Company

Automobiles are important to our war effort. Once we could truly boast that this was the only nation in the world that could evacuate every man, woman, and child at one time in private passenger automobiles. That statement can no longer be made. Our enemies have done that to us. If they could immobilize America they would increase our difficulty of winning the war speedily. Keeping automobiles rolling is not merely to provide convenience for our people. It is a war MUST!

Automobiles have another vital relation to our war efforts because they have contributed and continue to contribute largely to the destruction of material, man-power and morale.

The causes of these losses are many, but speed continues to be the outstanding cause. Speed reduction is of special importance now because speed regulates the length of time our cars will be usable. The administration has asked us to make 35 miles an hour the top speed throughout the entire country. This measure is primarily designed to lengthen the life of automobile tires. We might well regard it as a ceiling on the price that we will now pay for personal transportation.

Our problem then boils down to this: How can we keep 40,000,000 motorists under 35 miles an hour?

Three methods may be used; enforcement, public opinion, and voluntary individual action. Voluntary action is the bed rock on which the others must be built.

We cannot get aroused public opinion until a portion, and a rather large portion of the people are willing to follow the restriction

by voluntary action. This voluntary action makes and molds public opinion. Public opinion not only supports enforcement but it makes enforcement physically possible in two ways. It reduces the number of individuals who must be apprehended by the patrol authorities and it applauds the penalties assessed against those who will not conform.

In normal times policing force must be considered in relation to the area to be covered. This has special meaning when forces have been depleted through losses to the military or to industry. Industry is in a position to compete financially for the skilled officer. War brings many new and vital duties that must be discharged by the police organization.

The size of the police force becomes of particular significance when we relate it to the number of miles of highway each patrolman would have to cover. If we assume that all men are available for duty and are working on a three shift basis, each man in Illinois would have to cover 84 miles, in Indiana 138, New York 42, and Connecticut 33. Even where the mileage assignment is the smallest, under actual operating conditions many motorists will seldom see a patrolman on the road.

The volume of traffic also has a decided bearing upon this problem. As the volume increases, speed reduces. Increased volume in normal times was accommodated by increased highway width. War-time shifts in traffic patterns, because of construction difficulties, cannot be provided for as promptly. Volume increases now demand more patrolling man-power. The police job becomes largely the protection of pedestrians, the unsnarling of

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tangles, and the expediting of traffic, rather than the apprehension of speeders.

Particularly significant is the fact that speeding violations may occur at almost any point on the highway system. It is also a most difficult charge to prove. The officer must not set a trap for his victim. When his mere presence on the highway does not cause a reduction in speed, he must actually clock the violator for a distance sufficient to establish the evidence of violation. If not over 35 is to be made effective, most of us must become our own policemen in our own cars.

We must form habits of self-discipline. Habits are the result of learning processes. These processes may be planned and guided to a desirable end. They may be haphazard and accidental and the result highly undesirable from either an individual or community standpoint. All education is a habit building process. Education for voluntary obedience is a more complex problem than is the establishment of certain physical skills. This fact has frequently been overlooked and explains why some of the best drivers from the standpoint of knowledge of operation of a motor vehicle or muscular ability to put this knowledge into use are not our safest drivers.

Self-discipline arises when there is a conflict, when choice of action is possible. Then the long range value is opposed to the short value. The eventual good must be measured against the immediate benefit. Individual satisfaction must be compared with social good. Personal whim must be balanced against ultimate objective. Emotional instincts must be conformed to reasoned plan.

Many of the usual educational steps may be used in developing self-discipline. The motorist must be brought to know the facts. He must be reminded of these facts; but most important he must be motivated to act in accordance with them.

Undoubtedly great progress has been made in bringing to the motorist generally factual material such as the affect of speed upon braking distances and striking force and the relation of his own reaction time to his rate of travel. Even before the war brought us abruptly to a realization that we were wasting tremendous quantities of limited resources on the highway, many motorists had come to realize that they had individual ceilings be-

yond which they could not safely drive. Safety engineers were coming to appreciate that the human element is perhaps as important if not more important than blue prints and diagrams and rules and regulations. Facts alone are cold and powerless, like gasoline in a cylinder without a spark. The spark is the emotional element.

Speed is a deep human impulse tied up with the feeling. Men for centuries have struggled to conquer time and space. Crowding more into each day seems to be one way of adding to the span of life. It is this basic emotional drive that we seek to curb. The virus of speed is in the blood. We will not reduce the fever by merely applying a poultice of scientific facts and figures.

In Emerson's essay on history he says that we always read as superior beings. Even in the greatest recorded moments, we do not have a feeling that we are intruding. All that Shakespeare says of the king, the boy who reads in the corner feels to be true of himself. Here is a possible key to the problem. All men are hero worshipers and the hero we worship most is ourselves. Applying Emerson we would highlight the personal importance of each individual, make him feel that what he does really counts for victory. This method has been used in war industries to speed the production of armaments and munitions. It also can be used to slow down the same war worker when he leaves the plant.

A friend of mine was complaining to me one day in this fashion: "Why should the President be concerned with my tires?" he asked. "I've got sense enough to leave the car in the garage when the tires are too thin to use, then I'll use the North Shore railroad." His reasoning was faulty because he did not know that those who ride the "North Shore" frequently ride it in a vertical position and are glad even to get standing room. Of course, the North Shore railroad is crowded because we are building at Great Lakes the greatest naval training base in the world. We are enlarging the facilities of Fort Sheridan and it takes men to build and men must be transported to the camps when the building is available for use. Civilians must then step aside. This man was feeling so secure that when his tires were thin he would place himself an additional burden on the already over-

burdened public transportation system.

There is another possible approach. He has been complaining about the establishment of a second front. "Why doesn't Great Britain send 1,000 planes every night in the week over Germany?" he asked. I didn't know the answer until one day I read that it requires 1,250,000 gallons of high octane gasoline to send 1,000 planes over Germany and bring them safely back to England again. Now When I see him I shall tell him that if he reduces his speed to 35 miles an hour, the gasoline he saves for each 1,000 miles of operation will equal about seven gallons. If every motorist would save seven gallons for each 1,000 miles of operation, the total gasoline supply accumulated in a year would be sufficient to send a thousand raids each one of them numbering a thousand planes from England into Germany. This, we have been told, would hasten the victorious end of the war.

The State of Maryland had the correct idea I think when it ordered new speed limit signs to be painted in the National colors with a V for Victory together with the figures "35".

Many of our citizens have felt that the buying of war bonds is their contribution to victory. Perhaps we should tell them that saving in the cost of operating their automobile at a top of 35 compared to a top of 50 will give them for each 1,000 miles of driving enough money to buy a \$25.00 War Bond.

The greatest aids to self-discipline are the associations we make. What is the motorist's reaction when he sees an officer? Does he immediately think "There is my employee on the job working for me"? When the motorist sees a traffic light, does he look upon it as something that is interfering with his progress or a mechanical device to expedite and smooth out the flow of traffic? A man's citizenship can be gauged by where he looks when he sees a speed limit sign. If he glances at the speedometer he is a good citizen; if he looks first in the rear-view mirror, the quality of his citizenship is in question.

A strong appeal to parents and many other adults is the help that they can give to the youth at home through setting them the proper example. We are just beginning to realize that this war really began a long time ago.

For a generation the youth of Germany has been indoctrinated. For generations the youth of Japan has come to look upon death for the Empire as the supreme achievement. This war is also being fought in the realm of ideas. The basic idea that makes America and the American way worth fighting for is that the individual is the source of all governmental power. This idea begins to break and crumble when the citizen knowingly disobeys laws and regulations merely because no policeman is handy to apprehend him.

One day when I was on my way to a meeting in Bridgeport, Connecticut early in the morning with plenty of time, I was irritated because a truck was in front of me. I looked around the curving road and saw nothing in my path so I pulled out to pass the truck. At that instant my eleven year old son called out, "Daddy, it's against the law to cross a double white line in the State of Connecticut." I thanked him for reminding me and did not pass the truck. Something more valuable than life was in danger there; a boy's belief that laws are made to be observed and not broken.

How quickly our people responded to the need for air raid wardens and auxiliary policemen. They were willing to spend long hours in meetings, taking first aid, learning how to put out incendiary bombs. If these public spirited citizens alone could be made to realize the toll the automobile takes in manpower and material and the morale it destroys when it injures the father, mother, son or daughter, if they could be brought to realize that discipline in an emergency is built through discipline in the normal everyday acts of driving and walking, the power of the leadership of these people directed to our traffic problem would speed its solution.

This is but one of the many by-products that develop when obedience is voluntary as the result of individual self-discipline. Industry is coming to regard the worker and the problem of worker safety not as something of the plant alone but of the whole man in his whole life. With automobile accidents and fatalities constituting 40% of the problem of safety in industry, it is not surprising that this is so. Now that reduced speed is tied up with the problem of getting to work and getting home again, new avenues to worker motivation are provided.

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necessary activity, a possible activity and a long range valuable result.

What may we as safety workers expect if we do persuade the vast majority to slow down to 35 miles an hour? What is our objective if through fear of public disapproval or legal punishment we reduce our top operating speed to that figure? Certainly the results obtained so far this year when the emphasis was on the 40 miles an hour limit indicate that many lives may be saved. How many? Suppose the plan had been in vogue last year. Suppose even forty miles an hour had been our top limit. If this had been the case at least 15,500 people who are now dead would be alive. Some would be in our armed forces, some would be on the industrial front, and some would be cheering their fathers and mothers in the home, helping to maintain morale.

Seven years ago the Lumbermens Mutual Casualty Company organized the "NOT OVER 50" club to reveal to the individual motorists the inherent danger of high speed. Individual voluntary pledges were secured. Club emblems served as reminders. The Club magazine made many members safety missionaries and the idea began to take hold that the individual motorist could and should have a part in increasing highway safety. First, he disciplined himself. Then through example he influenced others to similar action. When war was threatened the Club's slogan was "Stop Accidents—Speed Defense." When war came it changed to "Stop Accidents—Speed Victory." Our membership was urged to observe 40 miles an hour for the duration. It was not difficult to drop from 50 to 40. Now they readily conform to the 35 mile an hour limit. They believe strongly in individual speed control as a means to victory because they have personally experienced its power to save lives and prevent accidents.

During the six years that I have been Secretary of the "NOT OVER 50" CLUB, I have seen this result achieved in several cities and counties through purely voluntary effort. In a number of instances where as small a group as 10% of the total motoring public voluntarily agreed to bring their speed under individual control and reduce it to a top of fifty miles an hour, mounting fatality trends were definitely stopped. I know that 340,000 members of the Club are solidly behind this speed reduction movement not only to save tires but particularly as it relates to the saving of lives and the prevention of injury.

Perhaps we should put our story something after this fashion.

Mr. American Motorist, you are smoking and listening to the radio one evening. The door bell rings. A Boy Scout stands there, "An Army plane is down in the field by the school house. It needs gas; can you spare five gallons?" he says. "Sure," you reply. You siphon the gas out of the tank. You carry it to the field yourself. Your neighbors are there with their quotas and you all get a thrill as the plane takes the air with the power you have supplied. You're in the war. You're fighting the enemy.

You come upon an Army jeep with a flat tire. The men and guns it carries are vitally needed to replace tired men on duty at the front. Will you loan it your spare tire? That's what you do when you slow down to thirty-five miles an hour.

We need to say to the motorists of America "the oil and gas you do not use, the tires you do not wear out—they are your immediate contribution to victory. Speed restrictions are your orders of the day, the rules of your post. It's your fight. When you slow down, military units can speed up."

THURSDAY-MORNING SESSION

October 29, 1942

DRIVER TRAINING—JOINT SESSION WITH STREET AND HIGHWAY TRAFFIC SECTION (MEETING REPORTED UNDER CHILD EDUCATION SECTION)

THURSDAY AFTERNOON SESSION

October 29, 1942

GENERAL SESSION

Presiding:—CARL J. RUTLAND, Chairman, Citizens Traffic Commission, Dallas, Texas

CHAIRMAN RUTLAND: Ladies and Gentlemen: This meeting this afternoon has been reserved for a very special purpose. The topics to be discussed are not specifically assigned, but here is a corps of men who have had a wide range of experience in this work. They have been speaking and presiding at many of the sessions. I think that they are going to correlate all of the thoughts, boil them down into some of these important war problems that have arisen during the Congress.

Your panel leader is Sidney Williams, and I will turn the meeting over to him.

... Mr. Sidney J. Williams assumed the Chair ...

CHAIRMAN WILLIAMS: The gentlemen on this panel other than myself are selected because of their superpreeminence in the traffic field. Furthermore, this panel is really unrehearsed and spontaneous. I did not know until last evening that I was to preside. I did not know until a few minutes ago who was to be on it.

I am going to start with the three-star general here, Leslie Sorenson, reelected yesterday as our Vice-President for Public Safety. What, Mr. Sorenson, would you say has been brought out in the sessions that you have presided over or have attended this week, of greatest importance from the standpoint of the war traffic problem, and what we can do about it?

MR. LESLIE J. SORENSON (Chicago): We all recognize (and our summaries concluded) that the transportation of men and materials is probably one of the most important phases of the war effort. We also have concluded that there are several things that should be done.

In the first place, previous panels concluded that we have certain existing facilities which we have used in the normal pursuit of our

economic life in peace time. Those existing facilities should be utilized to a hundred per cent efficiency in the war effort.

I mean by a hundred per cent efficiency that all of the things which we have always done in peace time, education, engineering and enforcement, should be applied to every phase of the transportation problem over those roads, those streets and those highways. Then, after we had formulated our plans, approaching a hundred per cent efficiency, we had to bring in the enforcement to see to the special regulations that would not perhaps be tolerated in peace times—prohibitions of parking, the elimination of certain stop regulations, and the imposition of stop regulations on other traffic not so essential, although it may have been of greater volume. Then we must have a hundred per cent enforcement of those regulations.

After we have done those two things, and we find we have a quart of liquid to put into a pint container, we approach the problem of substitute materials and the other things, but we could not apply it for those things. We do not ask for critical materials, do not even ask for secondary critical materials until we have to the greatest extent utilized our present existing facilities.

CHAIRMAN WILLIAMS: That is a good start, short and sweet.

I will call on my second ranking boss here, Mr. Rutland, who was reelected yesterday as chairman of the Street and Highway Traffic Section, and I will ask him the same question. You have presided over a number of these meetings and attended a great many. Have you anything to add to Mr. Sorenson's remarks about the nature of our war problems and our attack on them?

MR. RUTLAND: Well, Sidney, I have seen in this Congress what I think is a definite uplift to the safety movement not only

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in traffic safety but industrial safety as well. The Federal Government through the Department of Labor and the Bureau of Education are conducting safety training courses through the universities throughout the country. There are flowing into industry a great many trained men. This will be of great value.

All through these meetings we have sensed the fact that the various agencies of the Federal Government, the United States Engineers have made definite requirements in the contracts that are issued in the setting up of bureaus for provisions for safety, both in public safety and industrial safety.

That means, as I see it, that the safety movement is being gravitated upwards. It is reaching industrial executives more. I think we can truly say that the safety movement was started from the bottom and went up, and not from the top down.

A note of alarm or caution has been reflected here and there in these meetings, and I would like to have this question answered by Don Stiver, Chairman of the State and Local Police Commission: "Are you apprehensive at all of the possibilities of adverse legislation as these legislatures meet next year, from the standpoint of maybe doing a little wrecking of some of the uniform laws that we have tried to build up over a long period of time?"

Perhaps they might think of such action in terms of economy or abolishing some of the acts which are regulatory statutes. They may take the position, "We are not going to have any traffic, as automobiles are going off the highways."

Do you think they might reduce the effectiveness of some of the drivers' licensing laws or other laws?

CHAIRMAN WILLIAMS: This is a good question, directed to Mr. Stiver, who is head of the State Police of Indiana, and chairman of two or three committees of the National Safety Council, as well as many other organizations.

MR. DON F. STIVER (Indianapolis): Yes, I am apprehensive of that very thing. I've mentioned about continuing on with these enforcement, engineering and educational programs, but already within my own department—the police themselves, I have sensed

the thought that this problem is going to be solved for us overnight through gasoline rationing, reduction in traffic, and the thirty-five mile speed limit.

A very prominent newspaper columnist called me a couple of weeks ago after this thirty-five mile limit went into effect. He was definitely of the opinion that we should immediately start to take down our numerous stop and go signs, the theory being just the conservation of rubber, the starting and stopping of cars.

Immediately, my mind went back to realize how hard it was to get so many of those stop and go signals, especially at railroad crossings, and here was the effect of tearing that down immediately, together with the danger, as you pointed out here, of adverse legislation.

We have in all these conferences usually aimed our sights at future legislation. I think now we should start a program definitely defensive, and retain it. I am thinking of the emergency, for example, within our state already. There have been numerous requests to our office to in some way lower the public chauffeurs' license age, which is twenty-one. They are unable to get drivers for school buses. If we go ahead in the next session of the legislature and repeal that statute, then we may have trouble getting it back on the statute books.

I would like to see a program backed by the National Safety Council, for these next legislatures to think in terms of giving the chief executive broad powers to act on these emergencies as they arise, but for the duration only, and retain on the statute books the things we have gained over a period of years.

MR. RUTLAND: Do you think people in this room, as they go back to their communities, can do anything constructive now? Would you suggest that they approach their governor, for example, who will address each legislature at the opening session, to bring out that point, or had they better wait until the National Council, if it does, communicates with the governor along those lines?

MR. STIVER: It would be helpful to have the governor enlightened. He may not be fully aware so far as the traffic picture is concerned, but you naturally have to attack

not only the governor but also the legislature.

MR. RUTLAND: You do think we have got to fight a defensive degree of legislation.

MR. STIVER: Definitely.

CHAIRMAN WILLIAMS: The Governor of Indiana and every member of its legislature, not to mention every other state in the country, are aware that we living in Chicago do not vote in Indiana, and the Governor and the legislators of Indiana do not pay much attention to advice from the outside.

Doesn't it come down to this, that the pressure to do or not to do a particular thing in any state must come from the voters and taxpayers and influential people in that state? Then, of course, if they see fit to call somebody in from the National Safety Council or any other organization to give technical information, to back up the pressure with technical information, then that is where we may come in. You agree with that, Mr. Stiver, don't you?

MR. STIVER: Yes, of course.

In looking back again, our entire safety program has been sponsored by the large Indiana Safety Council, while the National Safety Council has played a large part in sponsoring and assisting in the development of the program.

CHAIRMAN WILLIAMS: I must put in a plug for that. If we had in every state a state organization in which the officials and the people came together and worked together, as they do in the Indiana Traffic Safety Council, the handling of all of these things would be very much simpler. That organized approach in Indiana has been very effective in putting across things that needed to be put across.

I want to pick you up on one other thing, Don. You said you have been under pressure to take down some traffic signals or stop signs. Would you say that due to the shifting of traffic volumes some stop signs and maybe even some signals could be taken down?

MR. STIVER: Certainly not until after a careful engineering survey and study of this situation, with the men approaching the thing on a wholesale state-wide basis.

CHAIRMAN WILLIAMS: I understand you oppose the enactment of a thirty-five mile speed limit which would automatically carry through after the war until it again might be repealed. In place of that you propose the granting by the legislature to the governor of emergency war time powers to set a speed limit or limits for the state. Is that correct?

MR. STIVER: That is right.

JUDGE HUGH L. SMITH (San Francisco): May I interject here? We haven't a problem that is peculiar to the Middle West or the East or Southeast, but it is general, it is nation-wide. Of necessity there must be general legislation enacted so as to take care of a condition that obtains throughout the entire country.

Certain suggestions as to war time remedies should come from the national capitol. We get our original thirty-five mile limit from the office of Mr. Ickes, as I take it, or from the rubber administrator, Mr. Jeffers.

CHAIRMAN WILLIAMS: As suggested by the Baruch Committee, of course.

JUDGE SMITH: They are not only interested in keeping the rate of speed down to thirty-five miles an hour, but they are also interested in the enactment of other emergency legislation. Wouldn't it be wise, so that we would have a uniform practice throughout the country, to have the persons in charge of the National Safety Council, the Street and Highway Section, particularly, take up with the national authorities and see what their desires are, so that we would have general recommendations that would obtain throughout the country?

CHAIRMAN WILLIAMS: I think, again, you can answer that in terms of the recent informal agreement in regard to a model law on this speed limit.

MR. STIVER: The Office of Defense Transportation is thinking in terms of working through the Council of State Governments and of just that type of legislation.

CHAIRMAN WILLIAMS: There will be prepared very shortly a model act conferring emergency powers on the governor to set a speed limit, and if necessary to modify it from time to time during the war emer-

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agency only. That will be issued and promoted through the Council of State Governments. I agree, Judge, that the National Safety Council and everybody here should get behind that kind of thing.

I want to turn for a moment to Commissioner Bowes of the city of Portland, Oregon. What do you think, sir, as a city official, about this specific question of the taking down of stop signs and traffic signals, and possibly moving them to other places, as a result of the change in both the volume and the character of traffic in certain places?

MR. BOWES: The tremendous industrial program that was just developed in many communities undoubtedly is changing our volume of traffic and creating the necessity of certain signalization at intersections of streets that have heretofore carried a big volume.

Certainly, any engineering department that is up on its toes and trying to do a job in that community must coordinate its program to the needs of the community. If that means taking a traffic signal out on this intersection and putting it over on another intersection, if it means moving stop signs from one street over to another, certainly we must do it to conserve rubber and to move the volume of people going to and from industry during this emergency.

I have sensed through the whole program, both here and at the recent A.M.A. Congress, a feeling on the part of public officials—of the lack of this thing that Government talks so much about—coordination. It is a fine thing to say that we are going to adopt a new set of traffic regulations with all of the gadgets necessary to operate them, and this morning in the panel that we just finished we noticed various gadgets for the control of traffic, both pedestrian and auto, under dim-out and black-out conditions. I believe the federal people who are making these investigations, whether it be the Army, the Navy, Maritime Commission or what not, have forgotten the size of the city budgets to supply these things, also the lack of man power to produce them, also the lack of critical materials to get them in any community which is in a danger zone.

Out on the Pacific coast we are still waiting for gas masks, still waiting for helmets, still waiting for materials to manufacture and

even to find a manufacturer who will make the implements for dim-out and black-out regulations operative.

As I see it, these things mean just what they say. Then it means the elimination of traffic signals and street lights for many communities, for they have neither the man power to carry on nor the critical materials to make them with, so what are you going to do?

CHAIRMAN WILLIAMS: Captain Bote of the Pennsylvania State Police gave at least a partial answer to that the other day in one of your committee meetings. Part of Pennsylvania is in the dim-out area, and they knew that the Army engineer board has developed specifications for a very fine new type of head light for use in black-out and, presumably, dim-out situations, the manufacture of which cannot possibly do any more than take care of Army vehicles for quite a long time. So how about civilian vehicles? Captain Bote told us that in Pennsylvania they did not wait for Washington to do the impossible. They went ahead and developed a type of mask that could be applied to the present standard head lamp and reduce the output of light to a satisfactory degree. In other words, they used their local initiative to meet this situation.

MR. BOWES: Yes, but Mr. Chairman, you overlooked the fact that in each state they have provided an illumination committee under the direction of the Commander-General in that particular area, and that group tells us that these are the specifications laid down by the Army, laid down by the corps commander, and this is the thing that is approved.

CHAIRMAN WILLIAMS: Is that a competent technical committee that does that?

MR. BOWES: Yes, illuminating committee. When you go to that committee with some new gadget or something your own initiative has developed, they immediately say it does not conform to the Army specifications, or doesn't conform to the regulations laid down by the area commander. Then you go into a tail spin to find out where materials are, where man power is, and in about a year or a year and a half they will tell you they can deliver at a cost that a city budget cannot possibly meet.

CHAIRMAN WILLIAMS: You are referring to signals, not automobile head lamps.

MR. BOWES: Yes, I am referring to automobile head lamps.

CHAIRMAN WILLIAMS: I have no further answer to that question. Has anyone in the audience?

MR. BOWES: I would like to read to you the regulations laid down on the Pacific coast. This affects traffic signals.

"Traffic Signs and Signals. Illuminated signs and signals which are authorized or maintained by governmental authority for the purpose of controlling or directing street or highway traffic shall be shielded so that no direct rays from the light source are emitted above the horizontal in respect to lights mounted ten feet or more above the ground, or above an angle of more than six degrees above the horizontal in respect to lights mounted less than ten but more than three feet above the ground, or above an angle of more than twelve degrees above the horizontal in respect to lights mounted less than three feet above the ground. Relative variations in the upward limit of light are permissible to compensate for grades." (Copied from Public Proclamation No. 12, October 10, 1942, Headquarters Western Defense Command.)

Not being an engineer, I had to engage the services of one to figure it out, and I found out that the Army has approved a certain type of device to do this very trick, but it costs about \$3.50 a unit. Well, when you are dealing in thousands of lights, we operate on a budget basis.

VOICE: How about some black paint?

MR. BOWES: That is not permitted. They go into the detail of the thing later on. These are the regulations. This Committee I spoke about comes back and says this is the device approved by the Army. I submit to you that there is a problem for local governments, even state governments, to think about.

CHAIRMAN WILLIAMS: That is a regulation of the particular Army command area in which your city is situated? (Assent.)

MR. SORENSON: I might offer one solution to that regulation. The regulation put out by the corps area commanders does not

say that traffic signals must be operated during a black-out or dim-out. There is a permanent device. We found they were unsatisfactory for normal traffic during certain times of the day when the sun's rays blocked out certain things so we did the very next simple thing, and during black-outs just turned off all our signal lights. The regulation does not say they have to be operated.

JUDGE SMITH: In San Francisco the authorities have adopted the rule that there shall be no traffic moved during a black-out except emergency vehicles, so apparently this particular gadget, so styled, recommended by the Army authorities, is not intended to be used during a black-out. Is that correct?

CHAIRMAN WILLIAMS: Let us distinguish between a black-out and a dim-out. You on the Coast have dim-outs regularly, and you wouldn't suggest turning off all of the traffic signals regularly every night during the normal dim-out, would you?

MR. SORENSON: It all depends on the extent of those dim-outs. If the operation was continuous at all times from sundown until sunup, then you have another problem, but the specification of the Army, put out by the service command, is intended for the black-out primarily.

CHAIRMAN WILLIAMS: I do not want to spend too much time on this point, but Commissioner Bowes, as I understand, you read this as being effective regularly during your normal dim-out conditions.

MR. BOWES: That is in effect every day from now on.

CHAIRMAN WILLIAMS: That makes it a little tougher.

MR. SORENSON: It does.

JUDGE SMITH: Let us distinguish between stationary equipment and equipment on moving vehicles.

CHAIRMAN WILLIAMS: We are talking, for the moment, about illuminated signs and signals and street lights. Has any one in the audience any bright idea on how to dim traffic signals?

MR. BOWES: We developed something that costs about forty cents. We are trying to get it approved; it has been approved by

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the State Committee, now it is up to the Corps Commander's office to approve it. We have one of the gadgets here, and I would like to have you take a look at it. This just fits inside of the shield over the traffic signal, and there are several diffusing shields on the inside. Under actual test, that fits right inside the signal. (Demonstrating.) You get enough light for the pedestrian or the motorist to determine whether it is red or green. It is made out of water-proof, light fiber board and water-proof heavy cardboard inside, and will last about a year or a year and a half.

CHAIRMAN WILLIAMS: Now it is a question of getting that approved? (Assent.)

Is there anything more to be said from the platform or the floor about what to do with the automobile head lamp? That was what I referred to in saying that the State of Pennsylvania had developed a masking device which would meet, as I understand, either dim-out or black-out conditions, without waiting for the manufacture of this brand new type of black-out head lamp. Does any one want to ask or contribute anything further on that?

JUDGE SMITH: Some time ago on the Pacific coast when General DeWitt, head of the Western Defense Command, first issued his order, he stated that moving vehicles in the dim-out area when they were approaching the coast line (that is, approaching any point from which the lights could be seen at sea) should have a strong lamp of not more than 250 candlepower.

In certain areas of San Francisco, after you reach a certain point where the moving vehicles are observable from the sea, the people turn off their headlights, both high and low, and they drive with their parking lights. The street lights are dimmed towards the sea. They painted the lamps so there is no glare going to the west at all, and all the light you get is towards the east.

CHAIRMAN WILLIAMS: Mr. Stiver, among other things, you are chairman of our Committee on Tests for Intoxication. Can you say something about the problem of the intoxicated driver and/or pedestrian, as a prominent item in this war program?

MR. STIVER: From our own observation, based upon our own records in our own

Department, we find that drinking driving—at least our arrests for the first nine months of the year—jumped sixty-one per cent. We have made over 1,800 arrests as against about 1,100 in the comparative period a year ago.

Undoubtedly, it is attributable to the fact that the workers have more money to spend and are looking for recreation, resorting to this type of relaxation. I have checked with the members of my patrol and I thought possibly it was merely a matter of better enforcement. They said not. It was definitely a step-up in drinking driving.

CHAIRMAN WILLIAMS: What do you think is the answer?

MR. RUTLAND: I would like to ask this question. In the sessions of the judges and court prosecutors, did you come to any definite conclusion as to degrees of leniency on the part of men in the military forces, visiting their homes or other places, and getting intoxicated?

JUDGE SMITH: The matter was discussed on two or three panels. There were several papers read, and it was generally agreed that the members of the armed forces who were arrested on not only drunken driving charges but on any traffic violations would be treated just as you would treat the ordinary civilian. If it was a serious charge involving negligent homicide, manslaughter, etc., we are all agreed you should communicate with the officer having charge of that particular individual, whether that be the personnel officer in the Navy or the provost in the Army. If the Army wants him, they will make a demand for his delivery. If not, we will proceed in the usual way. I think the majority of judges felt that he should be treated with no greater severity or no more leniency than you would treat the average private citizen.

MR. RUTLAND: If you did not do that, you would not have certainty of punishment; therefore the accidents would increase more, perhaps.

JUDGE SMITH: The boys in uniform would think they had special license.

CHAIRMAN WILLIAMS: Isn't the war worker violator a bigger problem?

JUDGE SMITH: Our experience on the

Coast has shown that we do have a great many war workers arrested on speeding and reckless driving charges. We do not find any great increase in drunken driving. Due to the big wages that are being earned by all persons today, the boys go out for a good time a little more often, and, as a consequence, you have a greater number of arrests for drunken driving. I would not confine that only to the men engaged in vital defense work.

CHAIRMAN WILLIAMS: I meant not only drunken driving but general violations, speeding, etc., on the part of the war worker. How do you deal with those?

JUDGE SMITH: They are brought into court in the usual way. It has been suggested in some of our discussions that in certain areas night courts be established, the purpose being, of course, not to take the man away from vital work that he is needed in. When I go back to the Pacific Coast I am going to recommend to the presiding judge of the Municipal Court. (I happen to be the presiding judge of the Criminal Division, more or less under the control of the presiding judge) I am going to suggest that we follow the system established by Judge Frey, of Cleveland. He gave a very interesting talk this morning on court procedure, court planning, etc.

In the city of Cleveland they have night courts twice a week. If a man is arrested up to Friday morning, he has a choice of appearing on a daytime calendar or an evening calendar. If it occurs up to Friday, he goes on the Tuesday evening calendar; after Tuesday, he goes on the Friday evening calendar but he is only permitted to come in in an evening session if he intends to plead guilty. If he wants a trial the usual way, he will take his trial in the daytime, the same as everybody.

MR. BOWES: In our city where a war worker comes in and is fined and is given a sentence, served in jail, the judge gives him the opportunity of working in the daytime but spending an equivalent number of hours at night in jail. In other words, if he gets a ten-day sentence he spends twenty nights in jail.

CHAIRMAN WILLIAMS: That helps to solve the housing problem, no doubt.

I have heard a number of judges from a number of different places state the same policy. I have heard some high Army officers say, "Turn over the military violator to the Army and we will deal with them a good deal tougher than you would in your court."

MR. LINCOLN H. LIPPINCOTT (Chicago): We have been hearing about rationing of gasoline, controlling the tire situation, and also the speeder. I wonder if rationing liquor would help with this intoxicated driver problem.

CHAIRMAN WILLIAMS (interrupting): I think that is a sensible thing.

MR. LIPPINCOTT: I offer it seriously, although, of course, it gets a laugh.

JUDGE SMITH: I was complaining about the one cup of coffee (if I may respond to Mr. Lippincott) and I was told that I could get up and go to another restaurant. What about the fellow rationed to one drink? What is going to keep him to one drink?

MR. SORENSON: We have a certain capacity to move over our street and highway system. Those capacities at times overtax, sometimes one hundred per cent, the capacities of the road. If we staggered those loads, made maximum use throughout twenty-four hours of the day, we could carry those same traffic volumes without any excessive movements. In other words, the staggering of hours, the shifting of peak loads, leveling them off, will accomplish equivalent of perhaps an equal construction of highway materials that we know we cannot obtain.

We build a plant structure. That structure must pay dividends to its owner, and when it is necessary to operate on three shifts a day or two shifts, that building of that structure is dependent upon that operation. In other words, we do not build if we have a three-shift operation to do a shift that will do three shifts in one, we do it in three shifts. I think the same thing applies on our street and highway system.

We have been awfully lax and awfully generous with the taxpayers' money in providing roads to service a few rush hours of the day. I think that out of this will come in the future an economy in highway and street construction; we will utilize to better advantage the facilities at hand without trying

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to plan on the peak, but plan on how much traffic we can put through that capacity structure.

I think there is one other thing, Mr. Chairman, that comes into the same category. That is the elimination of certain of the things that retard traffic, and, by retarding traffic, we retard its volume and reduce its volume.

A bus or a street car that is carrying eighty or ninety or a hundred, or even some of these new buses that take 140 workers, should not be considered any longer a unit in determining what control we have. It should be on the basis of the number of people it is moving, so where we sometimes favored the largest volume of vehicles (speaking strictly of vehicles as a unit) we now have got to revamp our thinking and begin to think of the volumes of people that a certain artery is moving.

MR. RUTLAND: I would like to ask Mr. Sorenson this question. It ties into that. There are some mayors and city managers who are taking the position that we are not going to have any traffic problem tomorrow, and are beginning to trim their budgets both in police work and traffic engineering work. As I understand it, we are told pretty well that we are going to have 20,000,000 automobiles of the 29,000,000 passenger cars on the highways. Perhaps we are not expanding like we were in peace times, but we have a new problem.

In an authoritative report, published a few months ago by the Brookings institution at Washington, written by Charlie Deering, contained an analysis which led to the conclusion that to keep this country going for war purposes on the most cold-blooded basis, we must keep in circulation some 20,000,000 vehicles.

The second point is that just recently Mr. Jeffers recognized that fact by saying over the radio that this country is not only a nation on wheels but must remain a nation on wheels. The basis for both of those statements is the fact, well known to most of you, that the mass transportation equipment of the country, buses and street cars, cannot possibly take over very much of the load now carried by private cars and private trucks for definite war purposes.

The third point I have in mind is this, that, according to recent studies we have made of current accident statistics, the reduction in traffic accidents this year over last year is chiefly among non-workers. We are still killing in traffic, currently, almost as many workers this year as we did last year.

MR. SORENSON: I think the best answer to Mr. Rutland's question is a statement of Mr. Horner in one of the panel discussions day before yesterday, in which he said that eighty per cent of the passenger load of the Nation is carried on free wheels, and then he said (he is chief of the Highway Transport Corps of the U. S. Army) that if that transportation system fails, our war effort will fail. I think that answers the question.

We are going to have our traffic problems, and we are going to have more pedestrian exposures than we have ever had in times past, for the massing of certain private passenger car riders on public vehicles, buses and street cars, is going to create pedestrian problems we never had. We have got to have those controls, and while our traffic pattern may change, I am sure any budget maker that cuts traffic control out of his budget is certainly doing a very harmful thing to the war effort.

JUDGE SMITH: Could I interject a question here, on the staggering of hours? Is it your idea that industry generally should stagger the hours of its workers?

MR. SORENSON: That all depends, Judge. You have a certain street pattern. You know your tight spots in transportation facilities. You certainly have to relieve those tight spots. That might mean in a certain community or a certain locality or certain district of a mile square territory that you would have to shift the hours of employment to relieve the peak load, and tight spots on that transportation system.

You cannot write a blanket ticket in any large city of what those hours may be. You cannot put down a yardstick of measurement except the tight spots on your transportation system. Staggering the wrong way would make a bad condition worse, the right way would make it better. It has got to be done on a scientific study, and relief for those tight spots.

JUDGE SMITH: In and around San Francisco we have a number of ship-building plants. Those plants are working around the clock. They are working on three eight-hour shifts, so there is definitely a staggering of work there.

CHAIRMAN WILLIAMS: Yes, except that if the day shift goes on at eight o'clock in the morning, and all the usual shifts go on at eight in the morning, that does not help any.

JUDGE SMITH: You have a crowd coming in, we will say, at half past seven or a quarter of eight, and you have the others going out at eight o'clock, so you do not have two-way traffic at the same time.

MR. SORENSON: But that seven o'clock load coming in may interfere with other loads going to other plants, and other important war work, and it congests things so that both are retarded, where, if one was pushed a little ahead and one a bit back, you would lay out the peak over a period of two hours, and make your transportation facilities better.

JUDGE SMITH: That is what you have in mind, I see, in the war industries, in the ship-building plants, and others. Now what about industry generally, like, for instance, in lower Market Street where we have several big industrial organizations employing a vast number of office workers? Their work is so planned that one department has to be there so that the other can function. How would you suggest relaying the work in a plant of that sort?

MR. SORENSON: Your staggering of hours has got to be done by industry. In other words, if you were to take in this city, your needle industry, for instance, you would have to have your cloth people, thread people, button people, etc., all shift their hours to meet it. You could not have a tailor shop open up if you could not get material. You have got to stagger industries.

In your larger plants where you have a continuous assembly line, there is no reason why you could not come an hour later than you do and relieve the man at your post. We have a certain industry here in Chicago which, when it is operated in strictly war development, under the present facilities, it would take three and a half hours to change a shift of men. That is utterly impossible.

Anything tolerated along that line would be equivalent to sabotage. A staggered hour plan fits in after you have used all road facilities and increased their efficiency.

JUDGE JOHN L. NIBLACK (Indianapolis): You spoke about cutting down the budgets and going to have much traffic. Now, if something is not done by the National Safety Congress to freeze the policemen into their present role, you will not have anybody to control this traffic. We have, instead of thirty-five trained motorcycle men like we had a year ago, twenty-one, and the rest have been drafted or have enlisted.

CHAIRMAN WILLIAMS: I am going to ask Mr. Stiver to answer that, in terms of our Committee discussion yesterday afternoon, or the day before.

MR. STIVER: It is a problem, and it is Nation wide, affecting both city and state forces. It is reaching a point where it is becoming very critical. Frankly, the final answer I do not think any one has, and in discussion yesterday in the Committee, it was decided that under the present selective service law they have gone as far as they can go. They have issued a memorandum. No. 405 states that both police and fire are essential services, but nevertheless, it comes down to each individual board, and when you find a local board taking a man, immediately, the next man in line, fearing that he will be drafted, proceeds to enlist. The result is that the administrator of a police force today is gradually seeing the force eroded, and, at the same time, there is additional responsibility placed on the police department, both municipalities and state, by the Army, or O.C.D. The only thing that our committee yesterday could conclude was that we should attempt to obtain immediately all of the publicity we could possibly obtain, through every source, using, again, the channels of the National Safety Council, to enlighten the local boards of the critical situation.

CHAIRMAN WILLIAMS: And at the same time, to impress upon the head of every police department that he is not doing a patriotic service in letting his men go or even encouraging them to go, that their patriotic job is to stay on the job and his is to keep them on the job to the maximum possible extent.

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MR. JASPER (Utah): The state police have lost many of their better officers. In the southern part of the state, where they have many state troopers, there is practically no traffic on the highways. In other words, the traffic problem is not so great in some areas of the state as it is in other parts. In other parts, around Salt Lake and Ogden, because of war industries the traffic problem has become very acute. The state police in Utah have transferred many of their officers from the southern part of the state where there is little traffic to the Salt Lake and Ogden area, where the war industries have created a tremendous problem.

While I am up here I would like to make one more comment concerning the staggering of hours for large industries. I know of at least one place where they have been able to keep on a skeleton office force during certain hours of the day when other departments were fully open, and then most of the office workers came at later time.

CHAIRMAN WILLIAMS: As you may know, the OPA is taking typewriters away from business offices right now, including the office of the National Safety Council, and says if you have not enough typists to use your typewriters on one shift, to use them on two shifts. Mr. Jasper's remarks simply emphasize that we must certainly put our police manpower where it is most needed. Just as Mr. Sorenson said at the beginning, we must put our critical materials where they are most needed, and use substitutes and use our ingenuity, and not give up and say we cannot face this. See if we haven't as much as our forefathers had, who used to get along, and do a lot without nearly the facilities and conveniences.

MR. WILKER (Forest Park): In our small town west, under OCD we have auxiliary police, a little over a hundred men, uniformed and qualified as first-aid workers and marksmen. The plans are that where there are losses, the men are put in as specials in the police department, and it helps our small force of twenty-three men.

JUDGE EDMUND B. SMITH (Kansas City): There is one suggestion made here, Mr. Stiver, about the national recommendation of the uniform state law delegating power to the governor. You may find in some states that the governor does not want that

power, and will not have it. I have one in mind where he has publicly announced that. Have you thought about the advisability of an alternative proposal of a state law which would remain in force until six months after cessation of hostilities? We have city ordinances now in Kansas City that are so worded.

CHAIRMAN WILLIAMS: And which would contain a numerical limit such as thirty-five.

JUDGE SMITH (Kansas City): Yes, and would be automatically repealed six months after cessation of hostilities.

CHAIRMAN WILLIAMS: The only objection to that is that we are not yet sure that thirty-five will be the limit through the war. That thirty-five may have to be raised for reasons I have not time to go into. It may have to be raised for certain types of vehicles or possibly for all vehicles. Conditions may develop which will require thirty-five to be lowered, so the flexible provision is very much better.

May I say with all due respect to the governor, whom you did not name, that if he does not want that emergency power he is simply wrong, and somebody has got to show him he is wrong, and maybe Mr. Jeffers or somebody in Washington, plus the local people, will show him he is wrong. He cannot dodge taking that emergency responsibility, if the public welfare demands it.

JUDGE NIBLACK: A lot of state constitutions do not give the governor war power, and I doubt seriously if the majority of the states would adopt emergency war-power.

CHAIRMAN WILLIAMS: We haven't time to go into those legal questions, but the point is that that flexible power is certainly the desirable thing, and you can do a lot of things in war time, if you want to.

MR. BOWES: In Portland, all our city ordinances of a war nature having to do with the emergency go into what we call the war code, and will be repealed six months after the termination of the emergency. At that time they will bring back into effect all the existing rules and laws we have on the books.

THURSDAY AFTERNOON SESSION

October 29, 1942

JOINT SESSION OF TRAFFIC COURT JUDGES AND
PROSECUTORS AND CITY AND STATE POLICE

IMPROVING TRAFFIC ENFORCEMENT IN WARTIME

Presiding:—DR. DAVID G. MONROE, Director of Research, Northwestern University Traffic Institute, Evanston, Ill.

Improving Traffic Enforcement in Wartime

By JAMES M. GLEASON

Chief of Police, Greenwich, Conn.

Several problems confront me as a Chief of Police respecting traffic control and enforcement during the present crisis. I have written them down in what I consider their order of importance:

First—The most difficult problem seems to be the tremendous drain on the police for non-traffic duties which has caused a loss of trained personnel in arrests and traffic activities, plus the difficulty of replacement.

Second—The question of routing and escorting troop convoy, Army and Navy movements, transportation of explosives.

Third—The necessity of abating some old established motor vehicle laws during war time. Examples: overweight, motor vehicle inspection, adequate lighting on vehicles, height of vehicle, relaxation of parking restrictions in small communities.

Fourth—General public apathy and devil-may-care attitude toward traffic safety in

view of the present crisis and no appreciation of the seriousness of the problem.

Fifth—Neglect during practice blackouts of vehicles and bicycles, most of which are used in civilian defense service of the particular community. Examples: high speeds, bad lights, obstructions in highways.

Sixth—Fleet operators and specific drivers as a whole take undue advantage of present emergency crisis in the matter of high speeds, heavy overloads, ganging of trucks.

Seventh—"Share the ride" plan and using ancient jalopies for it.

Eighth—Tolerant attitude of the Court towards defense workers and members of the armed forces who appear before same for traffic violations of all types.

Ninth—Tremendous concentration of vehicles in certain locations at certain times due to new war plants and industries.

Improving Traffic Enforcement

By JUDGE GEORGE J. GRELLNER

City Court Two, St. Louis, Mo.

We have approximately 500 cases daily in our two courts. About 70 per cent of this number are traffic cases, so with the experience we have had in the past year and a half I am going to endeavor to give you my idea

as to what I deem necessary to solve the problem before us today.

According to statistics, pedestrians have been very much to blame for many of the

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traffic accidents which have resulted in injury and death, and it is my recommendation that a pedestrian law be passed in every state making it an offense for pedestrians to cross the streets anywhere but at the designated cross walks and also not to permit crossing of the streets "cat-a-corner."

Also, at all intersections where automatic signals are located, pedestrians should not be allowed to cross against the signal. Some cities now enforce this law; however, a great number do not have a law making it an offense to cross the street against the red light. In St. Louis for the first eight months of this year 72 pedestrians lost their lives by reason of their carelessness as compared with 38 during the first eight months of 1941. This situation in St. Louis is not only our trouble, but I believe is the trouble throughout the United States and this is a matter that should be rectified at once in order to save lives by the adoption and passage of a uniform pedestrian law, and to enforce it strictly.

Inspection and Licensing

We all know that since the automobile industry has been frozen no new cars are being manufactured, so it now becomes necessary for us to be more careful with the cars that are on the streets and it appears that it is high time that a compulsory motor vehicle inspection law be passed in every state of our Union, as there are many machines today that are unfit and unsafe. The drivers of these machines, in my opinion, are potential murderers, and we who sit idly by and are doing nothing to bring about the passing of a motor vehicle inspection law can well be classified as aiding and abetting in the commission of all careless driving resulting in accidents.

A great help today would be if each state would have a driver's license law with "teeth" so that when you have a person who is convicted of driving negligently or carelessly, or one who is an habitual offender, or who has been convicted of driving while intoxicated, then this person's driver's license should be suspended or revoked according to the offense. As it is now where no driver's license law is in effect, after the fine has been paid the party is permitted again to go about driving his or her automobile. I also advocate that no license to

drive an automobile be issued to anyone unless he or she shall pass a driving test and a physical examination.

This examination should determine whether the applicant has an impairment which would affect his driving. We know that there are thousands of people who today drive automobiles who have bad eyesight. Others who are subject to epileptic fits, many who have other physical impairments which tend to make them unsafe and dangerous drivers. So if we would see to it that our driver's license laws were such as to correct these evils we would be doing the public a great deed.

Continuances

A bad practice exists in many of our cities which also existed at one time in St. Louis, that of promiscuously permitting traffic cases to be continued from time to time. Today in St. Louis in order for one to get a continuance in a traffic case it must be proven that the defendant is under the care of a doctor or can show good cause for not being in court. Then the case is continued for a short time and when it appears on the docket for a second setting it must then be tried without any further continuances.

By eliminating all these continuances we not only do away with the crowded dockets but we also relieve the police officers from spending most of their time in court when they could be out on the street doing their duty.

Another reason why continuances are bad is that you may have, for example, a defendant appear before you with a serious charge against him of which he is guilty. To allow that man to continue his case from time to time is only permitting him to go out and drive while his case is pending, and in many instances he will probably be the cause of someone else's being injured or killed while his case is pending. Whereas, if his case is brought to trial quickly without any continuances, the Judge can take the proper steps to revoke that man's driver's license, thereby avoiding further trouble.

There is a need in cities where traffic is heavy to establish one-way streets. On these one-way streets there should be no parking permitted as this tends to slow up traffic. Another way to eliminate a lot of unneces-

sary accidents is to do away with angle parking and only permit parallel parking. Then again, I believe that pavement markings as to speed, school stops, boulevard

stops, etc., is a good way to warn motorists as well as pedestrians, of danger and the more pavement markings that we have the safer it will be for all of us.

A Prosecutor's Views on Law Enforcement

By ALLEN WILSON

Asst. City Attorney, Lincoln, Nebr.

Although the actual mechanics of prosecution work may not be materially affected, the prosecutor of today is faced with a greater responsibility to the end of law enforcement; and more particularly, to the end of traffic safety. The prosecutor has a very definite place and part in the traffic safety program. Today, we must be more vigilant than ever in our efforts for better enforcement and control of traffic.

To me the term "prosecutor" is misleading as applied to the position. To prosecute, implies a one-sided endeavor. Yet, the prosecutor's true purpose and endeavor is not merely to get a conviction. He should be as much interested in protecting the accused as he is in prosecuting the case against him. In the final analysis, the proper end to be achieved in a traffic court is cooperation and understanding, and certainly this can never be achieved by bull-doing or brow-beating the defendant, or taking advantage of his nervousness or inexperience. In the absence of counsel for the defendant, which is generally the situation, if the prosecution sees that both sides of the case are fairly presented and that neither side takes an unfair advantage, he is properly fulfilling his duty. In my opinion, being on "constant guard" to protect rights and to see that the defendant gets a fair and impartial trial is a big step to the end of traffic enforcement, and safety gains thereby. When it becomes generally known to the driving public that the traffic violator in court has protected rights and gets a fair and impartial trial, a long stride will be taken toward respect for and enforcement of traffic laws.

We are hesitant to admit it, but there does exist a feeling by many violators and the public that you have at least two strikes against you before you enter the courtroom. Many of you have heard these expressions in open court, such as "There is no use in

contradicting the policeman" or "I might as well plead guilty." A good answer to such a statement is that the officer's word is no better than that of a citizen; still, it is just as good. When it is possible to do so, the arresting officer should have present any lay-witnesses to corroborate his testimony. Then you have heard the defendant when arraigned for a plea say, "Oh, I'll plead guilty," and then in almost the same breath say, "I really wasn't speeding," or other utterances to the effect of innocence. Such a plea cannot be taken, and the violator's rights should be clearly pointed out to him. In my opinion, if the defendant continues to enter such a plea of guilt together with protestations of innocence, as many do, a not guilty plea should be entered for him and trial had.

If we, as prosecutors, can help in any way to create an attitude and feeling of greater respect for our traffic courts we will see greater results in our efforts toward traffic safety. As a lawyer, I have always had the feeling that the public should have a sense of greater respect for all courts, regardless of their jurisdiction. And, in this regard, if we can do anything to establish a greater feeling of respect and dignity for our traffic courts, dividends in traffic enforcement and safety will result from our efforts.

While in Colorado last month, I had the pleasure of attending a traffic session in the City Court of Denver. I was very much impressed with the manner in which the cases were presented and disposed of in that court. No doubt the traffic violator on departing from this courtroom has a great respect for this Court and for the traffic ordinances of the city.

We have an Air Base close to Lincoln with something over 10,000 men, the exact number being unknown to me, and no doubt, a military secret. The officials of the Base

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have entered into an arrangement with us which has worked out very nicely. The treatment and penalties are the same for the soldier as the civilian with one exception. In the event the soldier is not able to pay his fine, his plea and fine are set aside, a not guilty plea entered, with continuance until such time as he can pay the fine. At the same time he is placed in the custody of the Provost Marshal. From my observations, considering the number of soldiers driving in Lincoln, we have very few violators and apparently we are getting proper observance

for our traffic ordinances.

The vital importance of enforcement, and particularly today, is emphasized by traffic surveys and reports from all parts of the country, which still indicate that traffic violators are involved in at least half of our traffic accidents. We must get the full cooperation of the public for traffic regulation and safety in driving. A long step toward that goal is through the proper function of the prosecutor and court.

Improving Traffic Enforcement in Wartime

By L. G. TRIPLETT

Supervisor, Operator's License Section, Dept. of Revenue, Frankfort, Ky.

It has been my observation that an effective safety program depends largely upon how successfully we educate all agencies dealing with the various phases of the program. We have spent considerable time during the last four years working with the various peace officers, prosecutors and courts throughout Kentucky encouraging the enforcement of our motor vehicle laws and educating these officials in reporting motor vehicle violations to our department. I have found most of these agencies willing to cooperate in our program.

As a result of our continued effort along these lines we have shown a tremendous increase in the number of convictions and reports received in our department. With the President and the various governors throughout our country appealing to citizens to drive within a thirty-five mile an hour limit and with most law enforcement agencies cooperating with this program, we should show a decided improvement in traffic enforcement.

Further to emphasize the statement made at the outset of this letter that we have an unusual opportunity to encourage more rigid traffic enforcement, there will no doubt be a decided decrease in motor vehicle violations and convictions and the reporting of such convictions will not be of such a volume as

to discourage such reporting, therefore, if we officials who are primarily interested in traffic safety will apply ourselves to educate the law enforcement agencies in traffic safety and encourage the reporting of motor vehicle violations. Those of us in the drivers' licensing divisions may be able to retain driver's records on motor vehicle violators which we otherwise would not be able to do.

The centralized maintenance of driving records can be very effective in removing the reckless and incompetent driver from our highways. It has been the policy of this department to record each motor vehicle violation against the individual involved upon receipt of a report of such violation. Minor violations result in letters being written to the violator warning him that further violations will endanger his driving privilege. More serious violations result in the suspension or revocation of the violator's privilege to drive. We feel this procedure effective not only from a psychological viewpoint, but the driver is informed of the department's action and this tends to encourage the violator to drive more carefully.

If we place more stress on encouraging the reporting of motor vehicle violations we can accomplish much in reducing traffic accidents and improving traffic enforcement.