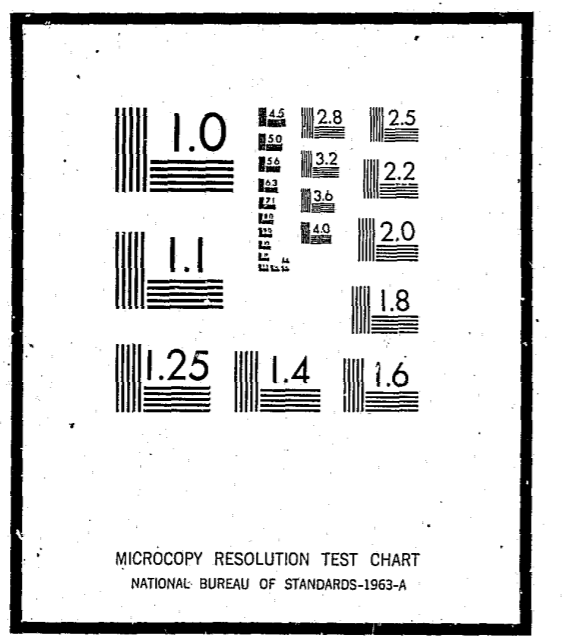


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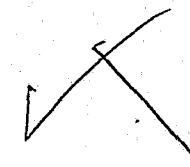
## ECTIVE TRAFFIC LAW FORCEMENT MANUAL



HIGHWAY SAFETY DIVISION  
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE

SELECTIVE TRAFFIC LAW ENFORCEMENT MANUAL

iii



This manual was prepared under the International Association of Chiefs of Police, Inc. Contract DOT-HS-036-2-226, funded by the National Highway Traffic Safety Administration. The opinions, findings and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration. This manual does not constitute a standard, specification, or regulation.

JANUARY 1972  
REPRINT - JULY 1973

HIGHWAY SAFETY DIVISION  
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE

## FOREWORD

One major responsibility of the International Association of Chiefs of Police is to constantly develop and improve techniques and methods that will aid the police administrator and his staff in fulfilling their sworn duties.

While we do not accept credit for the concept of "selective enforcement," we believe that there are things brought together within this document, that have not previously been compiled. Perhaps for the first time, the police administrator can plan a successful selective traffic enforcement effort, regardless of the size of his department, utilizing what appears on these pages.

Selective enforcement, as a concept, is not new. It has been used in police work for many years. Even though administrators may not have used the term "selective enforcement," when they assign manpower to those places, and at those times, in response to those types of incidents requiring action as indicated by past records, the concept of selective enforcement is brought into play.

In a selective traffic enforcement effort, the same holds true. Selective traffic enforcement is, simply, directed in accordance with needs as indicated by the study of traffic accident records. Mere quantities of manpower will not produce needed results. If officers are deployed where, when and how they should be, the results can be extremely effective.

This manual can be used in obtaining results in any police agency. Should anything between these covers require further clarification, IACP, as always, is prepared to assist.

Participants in this effort include:

William H. Franey, Director, IACP Highway Safety Division

Norman Darwick, Assistant Director, IACP Highway Safety Division

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In addition, Captain Palmer Stinson, Commander, Research and Development Division, Oakland, California Police Department, was retained to serve in the capacity of special consultant during the development of this manual.

Assistant Director Norman Darwick was the Project Director. Consultant Frank D. Roberson was the Assistant Project Director. Douglas C. Battram of the IACP Field Operations Division assumed responsibility for editing. Final manuscript review and approval was the responsibility of Highway Safety Division Director William H. Franey.

## ACKNOWLEDGEMENTS

Efforts of this nature would be inadequate and incomplete if the views of prominent police executives were not solicited and included.

The National Highway Traffic Safety Administration recognized this fact and commissioned the Highway Safety Committee of the International Association of Chiefs of Police to provide guidance to the IACP staff in the development of this document. This Committee is composed of a cross section of well-qualified administrators from city, county and state police agencies. Each member brings to the Committee a distillation of many years of study and experience.

The history of this group indicates that it has been an active, productive vehicle. Continuous in nature, the work of this body is international in scope. The objectives are to provide guidance to all persons dedicated to the improvement of police traffic management, develop more effective support and to encourage balanced, comprehensive highway safety programs at all levels of government.

We wish to acknowledge with deep appreciation the contribution of the members of the 1971 Highway Safety Committee.

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## CHAPTER 1

### INTRODUCTION

#### Selective Enforcement Defined

Selective enforcement is that part of a traffic safety program which involves the planning, directing, implementing and evaluating of traffic law enforcement activity. The ultimate goal of selective enforcement is to reduce traffic accidents by systematically improving the manner in which available police manpower and equipment resources are used.

Maximization of resources is achieved through the scientific, geographical/chronological assignment of personnel and equipment and the establishment of preventive patrol to deal with specific categories of unlawful driving behavior, according to needs which are based on accident statistics, enforcement activity records, traffic volumes, and other local traffic conditions.

Although selective enforcement schemes and rationales are sometimes complex and controversial, the classic definition applied to traffic law enforcement is concise and to the point:

Selective enforcement is enforcement which is proportional to traffic accidents with respect to time, place, and type of violation.<sup>1</sup>

#### Selective Enforcement Rationale

It is obvious that the complete elimination of traffic accidents is an unrealistic objective. The massive application of traffic law enforcement measures cannot prevent vehicle component failures, animals from running in front of autos, road washouts, and many forms of driver behavior resulting from inadequate training or a lack of intelligence. On the other hand, it is possible for police officials who are responsible for traffic

<sup>1</sup> International City Management Association, Municipal Police Administration, 6th ed. (Washington: International City Management Association, 1969), p. 115.

law enforcement to reduce traffic accident rates through the judicious use of selective enforcement techniques applied by adequate manpower resources, properly deployed.

The standard definition of selective enforcement is phrased in easy-to-understand language. However, when too literally interpreted, it has frequently led to an over-zealous, self-defeating application of the principle. Traffic law enforcement depends upon public as well as judicial acceptance and, as a consequence, it must be fairly applied. The spectacle of uniformed motorcycle officers hiding around corners or behind signboards cannot be justified under the guise of selective enforcement.

The selective enforcement principle must also be examined and interpreted within the total context of today's environmental problems. The use of generalists, specialists or teams is an increasingly critical decision bearing on the effectiveness of selective enforcement programs.

A burgeoning new crop of electronic gadgets ranging from speed measuring devices to traffic surveillance television cameras should be evaluated and given a role in appropriate traffic safety programs. It is also important that the selective enforcement principle not be indiscriminately applied so as to pervert the traffic law enforcement purpose and create public doubts concerning the credibility of the enforcement rationale.

Traffic laws, as well as the penal statutes, permit wide discretion in their application by police officers. The failure of police management to establish guidelines for the exercise of enforcement discretion has been justifiably criticized by a variety of critics including the President's Commission on Law Enforcement and Administration of Justice. Accordingly, the uniform interpretation and application of traffic laws is an extremely vital element of a selective enforcement program.

Many state police agencies have developed excellent policy manuals which interpret the law and provide guidelines on traffic enforcement tolerances.<sup>2</sup> Unfortunately, there are too many examples of urban, suburban and rural police departments (both large and small) which tend to overlook this important form of management guidance. Agencies which lack the resources necessary to develop their own documentation of policy should take advantage of the many well-written enforcement guidelines which are available.

It is clear to even a casual observer of traffic law enforcement practices that there is occasionally some validity to a complaint about "ticket quotas." Too often an agency's concern over revenue from traffic law violators results in excessive emphasis on quantitative enforcement. This misguided approach, coupled with the failure of many police administrators to recognize the need for management direction and special training in traffic matters, are responsible for a number of bad enforcement practices which continue to exist in some police jurisdictions.

<sup>2</sup> Wisconsin, California, Kansas, North Dakota, etc.

The most visible result of quantitative, revenue-oriented, nonselective traffic law enforcement policies is the persistent use of "sitting-in" enforcement techniques. Sitting-in usually occurs at locations which, in police jargon, are referred to as "duck ponds" or "cherry patches." The sitting-in practices are particularly objectionable when two or more enforcement units group together to work an intersection which generates frequent driver violations. Usually, where this situation occurs, the officers are doing nothing more than reaping the harvest of inadequate or poor traffic engineering. These locations frequently encourage noncompliance by the motorist to traffic signals or turning regulations. Very often, however, the real culprit is faulty traffic engineering rather than the driver. Poor positioning of signals and channelization deficiencies are characteristically present at the "duck ponds."

Frequently, quantitative traffic law enforcement is the object of contemptuous ridicule at the patrol operating level. This attitude is well illustrated by the pragmatic phrase, often heard in locker rooms, "A citation a day keeps the sergeant away."

Malpractice in traffic law enforcement is, happily, diminishing, and the intelligent application of selective enforcement is upgrading the quality of traffic law enforcement generally by providing sound motivation and guidance to the uniformed officers.

Notwithstanding occasional invidious comments from the public about "quotas" and the "numbers game," the quantitative measurement of traffic citation activity is properly a concern of traffic officer supervisors. Both quantitative and qualitative emphasis are integral parts of selective enforcement.

After allowances are made for collateral police tasks, it is reasonable and necessary to look at each officer's productivity and to make comparisons with norms. What may be normal will vary, of course, according to season, time of day, traffic density, and a host of other factors. Nevertheless, the establishment of minimum quantitative performance standards is a thoroughly defensible supervisory function. Cynicism at the operating level will be minimized wherever administrative traffic law enforcement policies are oriented towards safety and service to the public.

The reduction of traffic accidents is perhaps a too generalized statement of the objective of selective enforcement to be meaningful, and it may be helpful in understanding the selective enforcement rationale if the technique is considered in another frame of reference.

Traffic accidents are most often the result of aberrant driving behavior, and it follows that a most desirable goal for all police jurisdictions would be to create a "climate of compliance" by motorists to all laws governing the operation of a vehicle. Our culture is based upon a system of reward and punishment. Relationships between a child and parent, student and teacher, employee and employer are all founded on an understanding that good performance merits a reward, while bad behavior will result in punishment. The structure of American society as well as our police and judicial systems rests on this cultural constraint. In the simplest terms, it is axiomatic that intentional unlawful acts by drivers can be discouraged by fair, consistent enforcement.

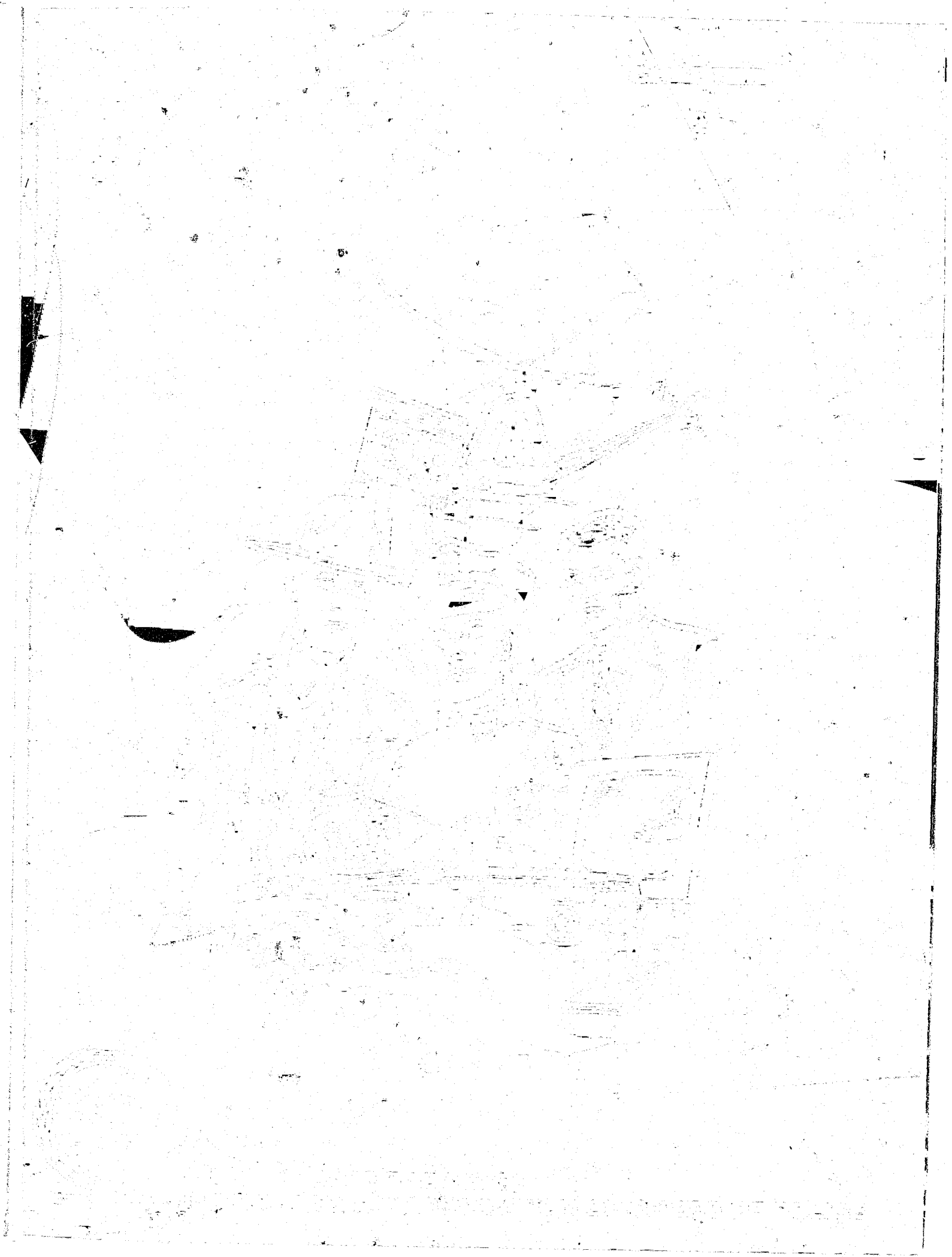


Most states have recognized the importance of identifying problem drivers, and towards this end have created point systems. The value of a point system is directly proportional to the quality of each agency's traffic law enforcement program. Accordingly, one of the more important objectives of enforcement attention to accident-causing driver behavior is the identification of these problem drivers. Although the threat of apprehension with punishment will inhibit most drivers from indulging in unlawful acts, there will always be a significant number of emotionally inadequate or improperly trained drivers who should have their driving privilege curtailed.

The selective enforcement program should cause the motorist to believe that traffic officers are everywhere and that if he violates a law he will be caught. Such a program, operating in concert with an enlightened traffic court, will most certainly encourage the development of a "climate of compliance" by causing drivers who are traffic-violation prone to anticipate apprehension and the application of judicial sanctions.

#### Highway Safety Program Standards

Included in the appendix to this manual are Highway Safety Program Standards 4.4.1 through 4.4.16. The National Highway Traffic Safety Administration is currently revising and consolidating the Highway Safety Program Standards.



CHAPTER 2

ELEMENTS OF SELECTIVE ENFORCEMENT

The key elements of a selective enforcement program are:

- Traffic Accident Data Base
- Traffic Accident Analysis
- Training for Selective Enforcement
- Technical Implementation

Traffic Accident Data Base

Need for Accident Statistics

Nearly everyone concerned with traffic safety agrees that there is a need for better accident statistics. The research efforts of police traffic management to establish relationships between enforcement programs and vehicle accident experience are often handicapped by imprecise methodology and inadequate vehicle collision data.

Shallowness and superficiality are also, on occasion, much too evident in public announcements wherein officials, anxious to gain recognition for their programs, will point to a fatality or injury rate decline as proof of their program's success. Entirely ignored by the publicity seekers will be changes in the environment which are unrelated to the safety project. Improvements in medical services, traffic engineering and vehicle safety, weather, and plain chance are just a few of the important factors for which allowances should be made when evaluating accident statistic trends. Accordingly, police officials should exercise caution when comparing accident rate trends with enforcement programs. The statistical techniques described in this manual will, however, provide practical means whereby selective enforcement needs can be determined and program results fairly evaluated.

### Accident Investigation Responsibility

The application of selective enforcement in a reasonably sophisticated form does require the development of a sound data base. To achieve the essential facts, vehicle collision reporting levels must be kept reasonably constant. Too often the number of accidents reported in a given jurisdiction will be a product of the interest and/or resources devoted to accident investigative activity. For example, in a medium-sized city, the shift of accident investigation responsibility from a specialized unit to generalist patrolmen is virtually certain to affect reporting ratios unless the organizational change is accompanied by an effective training program.

There is also an ever-spreading police crisis which is increasingly impacting systems for the collection and analysis of accident facts. The problem, faced by police managers responsible for traffic safety in virtually every police agency, is "How to assign priorities to competing demands for police service?"

Expanded law enforcement responsibilities and sky-rocketing crime trends in all urban areas have resulted in a public clamor for augmented patrol forces. Nearly every city police administrator, however, is caught in a financial squeeze created by the inflationary economy and a shrinking tax base. Most of our major cities have been hard pressed to meet growing demands for service which are aggravated by the socioeconomic population shift currently underway in the larger cities. With a limited supply of manpower, any strengthening of patrol forces is usually at the expense of other specialized operational units.

And so it is that wherever crime in the cities has reached epidemic proportions, the handling of accident investigation by specialists is often one of the early casualties of any reorganization involving a realignment in police service priorities. A very definite trend towards curtailment of accident investigative service is observed in many police jurisdictions. In the larger metropolitan areas, trained accident investigation squads ordinarily respond only to fatal or likely-to-be fatal accidents. In most big cities, routine accident reporting is being handled by uniformed patrol officers, if they are not otherwise occupied in general crime prevention activities.

The use of generalists for traffic law enforcement and accident investigation in these circumstances cannot be faulted if adequate reporting ratios are maintained. There is general agreement among traffic safety experts that whenever a reporting ratio drops below five to one (five property damage accidents to each injury or fatal accident), the agency is not providing the minimum accident reporting service necessary for intelligent analysis of selective enforcement needs. The ultimate goal should be the required reporting of every motor vehicle crash involving unintentional damage or injury. However, current resources cause this to be impractical.

In spite of the manpower limitations confronting law enforcement, there are practical measures which will assure the continued existence of an adequate accident data base. The pressure of competing demands for police service upon traffic law enforcement and investigative activities can be eased by administratively controlling the degree of police involvement in minor traffic collisions.

### Accident Investigation and Reporting

Traffic accidents can be either reported or investigated. Obviously, the amount of time expended in any police investigation should depend upon the seriousness of the crime or incident. Accordingly, the approach to a minor "fender bender," as opposed to a fatal battery versus a homicide. Administrative instructions which outline a clear separation between reported and investigated accidents and provide streamlined reporting methods are a necessity in the real world of urban and rural policing.<sup>3</sup>

The use of structured statement forms<sup>4</sup> can significantly reduce the amount of time expended by an officer at the accident scene. The format of these questionnaires enables each principal to complete his own statement of facts relating to the collision. The answers to the series of questions will assist the persons involved in settling the civil issues that often establish the elements of a vehicle code violation. The following reporting procedure is recommended when structured statements are used:

1. Determine the severity of the accident and request additional help or equipment if needed. Order tow service if indicated.
2. Obtain driver licenses from drivers.
3. Provide each driver with a structured statement form. Instruct each person to fill out the form and explain that you will review the forms with each driver when they are completed.
4. Check vehicle brakes and other equipment, such as lights, wipers, steering gear, when appropriate. Note any defects, in the description of accidents, only when they are determined to have contributed to the collision.
5. Complete accident report while statement forms are being filled in by each driver.
6. Include in the description of the accident and circumstances leading to it any pertinent environmental factors that, in your opinion, contributed to the accident (lighting, bad conditions, defective vehicle, etc.).

<sup>3</sup> See appendix for example of general order on traffic investigation policies.

<sup>4</sup> See appendix for example of a structured statement form.

7. Collect, read, and countersign the questionnaires filled out by each principal. Permit each person to make corrections if necessary. Review the statement for legibility and completeness in the presence of the person who filled it out. Unreadable answers should be re-written by the officer. In the event an illiterate driver is involved in a minor accident, the reporting officer will ask the questions and write in the responses made by the person being questioned.

By carefully designing the collision report<sup>5</sup> so as to eliminate nonessential information, and by utilizing driver questionnaires to eliminate handwritten narrative statements by the officer, it is possible to reduce consumed time in accident reporting. Estimates of time savings accomplished by streamlined reporting range from 20 percent to 50 percent.

#### Traffic Accident Analysis

Traffic accident analysis should never be considered a part-time activity. Traffic patterns, accident rates and violation levels are dynamic in nature and, as a result, must be continuously studied. The traffic administrator, through this staff activity, should be provided with regular reports which will enable him to identify enforcement problems and effectively deploy manpower.

The size of a jurisdiction and the number of accidents occurring within its confines will affect the choice of a data processing method. In all police-oriented analyses of location, time and violation factors in vehicle collisions, it is necessary to work with a numerically significant quantity. In rural or suburban areas it may be necessary to base these studies on annual accident experience. As traffic densities and accident rates increase, however, the reporting period will necessarily become compressed. In most urban areas there are sufficient numbers of accidents reported to justify a monthly reporting cycle.

Analysis based on monthly reports permits adjustments for radical changes in traffic patterns due to the seasonal influence of tourism, weather extremes, or spectator sport activity.

#### Analysis by Time

The procedure for establishing optimum deployment patterns for selective enforcement is the same for both large and small police agencies. Although the data collection method may range from hand entries on tally sheets to third-generation computer programs, the first step, tabulating the hours of occurrence, is the same in all systems.

Traffic accident frequency patterns are uniquely related to the day of the week. For this reason, accidents occurring on Monday should never be compared with accidents

<sup>5</sup> See appendix for copy of Collision Report.

occurring on Tuesday, Wednesday, etc. It is more appropriate to consider all accidents occurring on Monday as falling into a distinct category, and so on with the other days of the week. It is sometimes simpler, for purposes of statistical analysis, to consider the distribution of accidents by the hours of the week—168 hours—rather than on a daily basis. Graphs 2.1 and 2.2 illustrate a typical graphic charting technique for two days of the week (Thursday and Sunday).

Police departments committed to the use of general patrol units for traffic accident reporting and selective enforcement must reconcile these activities with other demands for service. The profile of all called-for services should therefore be developed and considered along with vehicle collisions when analyzing the chronological deployment need. (See Graph 2.3.)

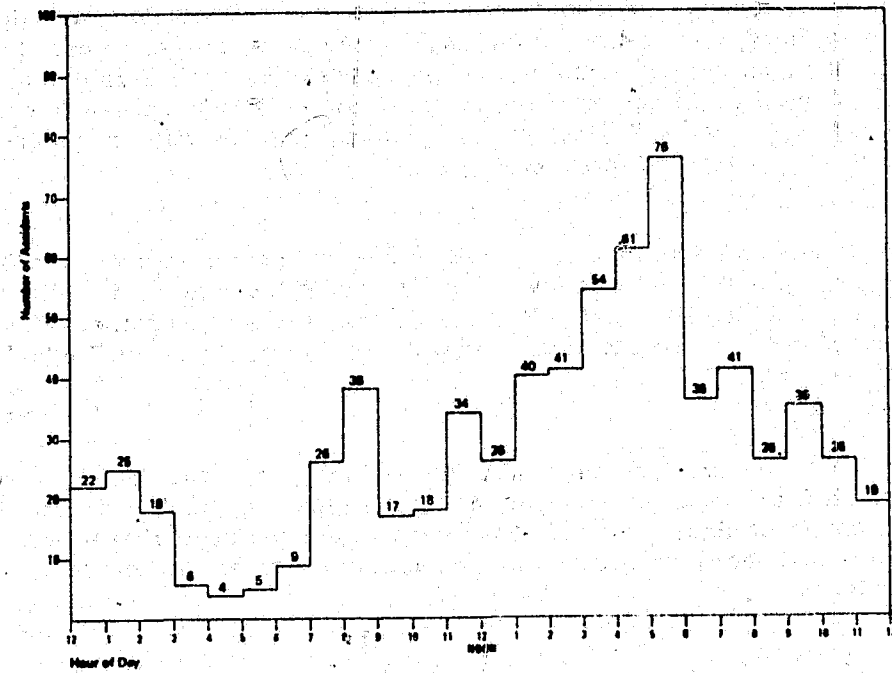
After charting the chronological distribution of incidents, the police manager can then design the shift arrangement and assign units so that the number on duty is proportional to the incident distribution curve. (Agencies which use specialists for traffic law enforcement and accident investigation need only consider the accident charts when making shift arrangements.)

The activity peaks peculiar to vehicle collisions do not always lend themselves to the three conventional eight-hour shifts (8-4, 4-12, 12-8). The solution to the problem lies in the use of an overlapping shift plan. Two to ten p. m. and seven p. m. to three a. m. are commonly used as backup shifts.

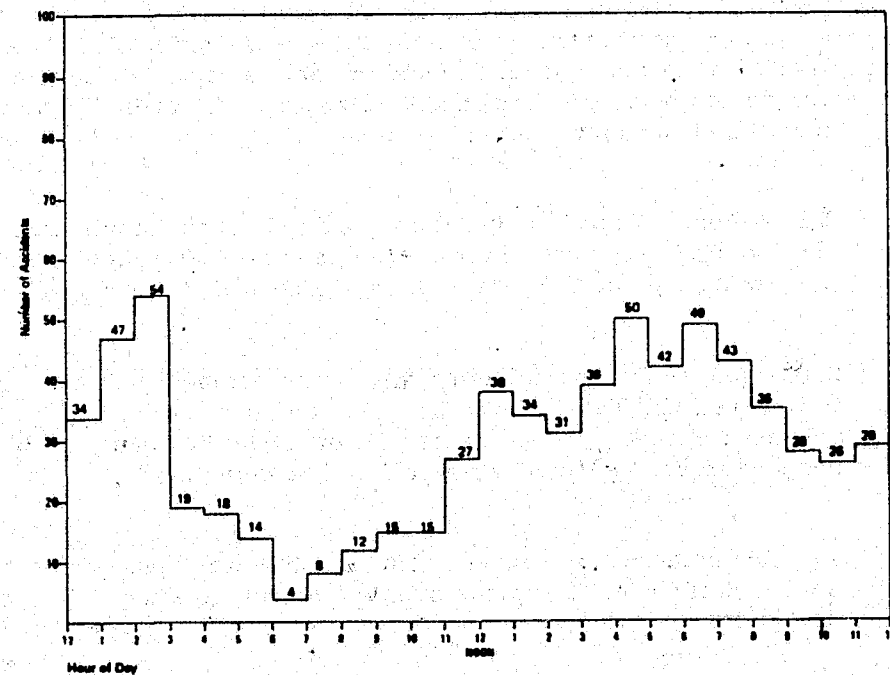
Overlapping shifts are, however, ordinarily only justified in those larger cities in which there are a substantial number of field units dedicated to traffic activities. There are, in addition to the general demand for police service, morale and practical problems which should be considered in shift planning. Accordingly, the following guidelines should be observed whenever possible:

- Shifts should not be changed during periods of maximum activity. Ideally, units intended to handle the peak periods should come on duty immediately prior to the time they are needed.
- Shift changes for specialized traffic units ordinarily do not require a face-to-face relief. They should therefore be offset from regular patrol unit shift changes. The offsets will improve the agency's ability to respond to emergencies when reliefs are being made.
- Working relationship between officer and police management will be improved if the shift scheme avoids frequent rotation or changing of time slots.

**GRAPH 2.1**  
Comparison of Number of Accidents  
By Hour of Day  
Thursday\*



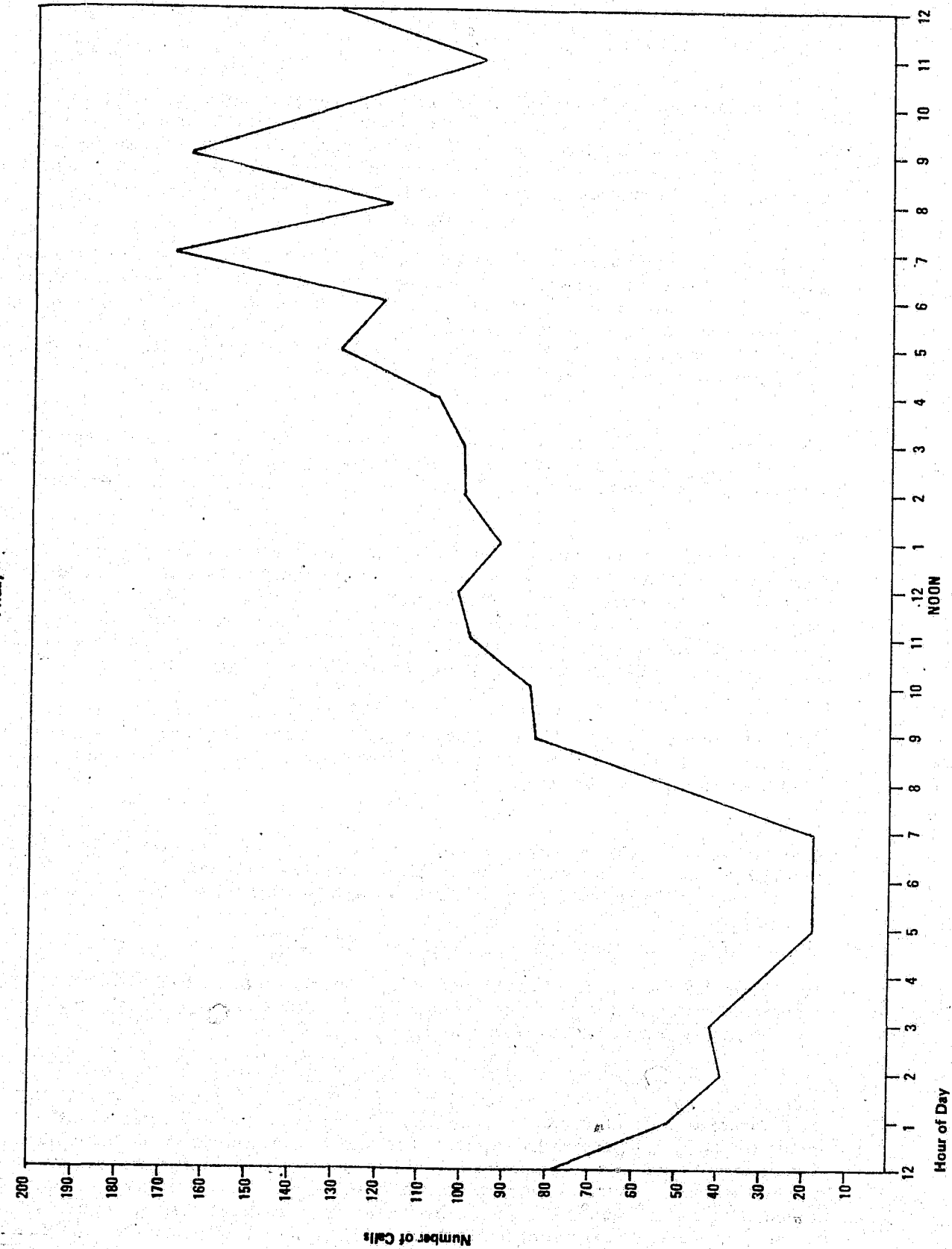
**GRAPH 2.2**  
Comparison of Number of Accidents  
By Hour of Day  
Sunday\*



These two graphs illustrate the day to day differences in traffic accident patterns. A marked dissimilarity can be observed during the early morning hours.

\*Totals represent actual reported accidents reported on Thursdays and Sundays during a four-month period in a city of approximately 370,000 population.

**GRAPH 2.3**  
Comparison of the Total Number of Calls for Police Service  
By Hour of The Day  
Friday



Analysis by Location

The second procedural step in organizing traffic accident data is to plot the location patterns. The information gained is then used to determine beat assignments for units with primary responsibility for traffic law enforcement. Accident location data should also influence the geographic distribution of general patrol units, even though their interest in traffic matters is coincidental to their regular patrol duties.

Small- and medium-sized agencies will find that a large-scale map provides the best means for graphically recording the location of accidents. Map pins or a dot marker may be used to record the location of each reported traffic accident. Large police agencies with data processing resources can conserve man-hours by programming location print-outs. (See example printout illustrated in Figure 1.) This data can either be analyzed in tabular form or transferred easily to wall maps.

The patterns which emerge will shape the area assignments of traffic specialists. At first glance, a spot map may suggest that accidents are diffusively distributed. Close examination, however, will reveal clusters which represent problem locations.

Larger agencies with higher volumes of accidents should maintain limited time span maps. The increments may be as low as four hours and should be no longer than eight hours. This enables the analyst to identify accident patterns unique to certain times of day. Many streets which carry a heavy burden of traffic during commuter hours are nearly deserted during the midday and nighttime hours. Other streets, usually servicing entertainment facilities, begin to be crowded only after night falls.

Selective enforcement units should be assigned to areas reflecting the greatest concentration of accidents. The areas experiencing fewer accidents would then become the responsibility of general patrol units.

Ordinarily, line patrol assignments are the most appropriate means of ameliorating, through selective enforcement, the accident problems on arterial streets. Neighborhoods with moderate traffic and many uncontrolled intersections are more suited to random zone patrol.

It is important that traffic beats be clearly defined so that radio dispatchers can conveniently determine which units should respond to accidents, handle traffic congestion, and respond to other calls for service.

Generally, traffic patterns change slowly, and it is not advisable to weaken the impact of enforcement attention in high-density problem areas by periodically moving traffic beats to secondary streets for control of temporary increases in traffic volumes. Exceptions to the rule do, however, occur as a result of major street construction, special events or other temporary traffic dislocations. The opening of a major freeway through an urbanized area is one of the few situations where a single factor will justify a complete re-examination of the traffic accident picture. Spot maps should be kept

T - 53A

SAMPLE CITY  
HIGH ACCIDENT LOCATION REPORT  
LISTED BY NUMBER OF INTERSECTION ACCIDENTS

Page 1

CONTROL DATES: 07-01-70 TO 06-30-71  
INTERSECTION CONTROL LIMIT: 10 ACCIDENTS

RUN DATE: 09-22-71

| Rank No | Street Codes | Street Names       | *** Number of Accidents *** |    |    |     |      |       |     | TOTAL |    |
|---------|--------------|--------------------|-----------------------------|----|----|-----|------|-------|-----|-------|----|
|         |              |                    | RA                          | RE | LT | PED | MISC | NIGHT | DAY |       |    |
| 001     | 00162-02684  | 27th St            | 45                          | 6  | 1  | 3   | 10   | 3     | 10  | 45    | 55 |
| 002     | 00162-03410  | 27th St            | 13                          | 9  | 1  | 12  | 8    | 27    | 8   | 27    | 35 |
| 003     | 00100-02166  | 18th St E          | 13                          | 4  | 4  | 17  | 7    | 27    | 7   | 27    | 34 |
| 004     | 00076-01906  | 14th St E          | 8                           | 12 | 4  | 6   | 13   | 17    | 13  | 17    | 30 |
| 005     | 00356-00633  | 73rd Ave           | 12                          | 10 | 1  | 6   | 10   | 18    | 10  | 18    | 28 |
| 006     | 00022-00804  | 5th St             | 6                           | 10 | 1  | 9   | 8    | 18    | 8   | 18    | 26 |
| 006     | 00030-02030  | 7th St             | 18                          | 1  | 7  | 7   | 7    | 19    | 7   | 19    | 26 |
| 009     | 00076-00406  | 14th St E          | 9                           | 13 | 4  | 4   | 8    | 18    | 8   | 18    | 26 |
| 009     | 00406-03134  | 98th Ave           | 10                          | 10 | 5  | 5   | 9    | 16    | 9   | 16    | 25 |
| 009     | 01732-01834  | Grand Ave          | 18                          | 3  | 4  | 4   | 9    | 16    | 9   | 16    | 25 |
| 011     | 00062-00072  | 12th St E North Pl | 13                          | 5  | 6  | 6   | 9    | 15    | 9   | 15    | 24 |
| 011     | 00162-00804  | 27th St            | 11                          | 7  | 1  | 5   | 6    | 18    | 6   | 18    | 24 |
| 011     | 01734-01776  | Grand Ave W        | 18                          | 3  | 3  | 3   | 6    | 18    | 6   | 18    | 24 |
| 014     | 00062-00172  | 12th St E          | 19                          | 1  | 3  | 3   | 5    | 18    | 5   | 18    | 23 |
| 014     | 00062-01630  | 12th St E          | 13                          | 4  | 6  | 7   | 7    | 16    | 7   | 16    | 23 |
| 016     | 02320-02796  | McArthur Bl        | 7                           | 7  | 1  | 8   | 9    | 13    | 9   | 13    | 22 |
| 016     | 03138-03306  | San Pablo Ave      | 8                           | 9  | 1  | 4   | 8    | 14    | 8   | 14    | 22 |
| 018     | 00030-00804  | 7th St             | 12                          | 3  | 6  | 6   | 6    | 15    | 6   | 15    | 21 |
| 018     | 01734-03410  | Grand Ave W        | 8                           | 4  | 9  | 9   | 5    | 16    | 9   | 16    | 21 |
| 018     | 01906-02320  | High St            | 8                           | 6  | 1  | 6   | 9    | 12    | 9   | 12    | 21 |
| 018     | 02322-02872  | McArthur Bl W      | 12                          | 4  | 5  | 4   | 4    | 17    | 4   | 17    | 21 |

Figure 1

Sample Printout

Codes: RA = Right Angle  
RE = Rear End  
LT = Left Turn



in archival files for at least two years. Comparison of a current spot map with retired maps will reveal the existence of new traffic accident patterns.

#### Analysis by Type

The concluding procedural step in analyzing traffic accident reports for selective enforcement purposes is to identify, categorize and tabulate the types of violations causing accidents. Some experts are inclined to engage in semantic debates over the proper definition of "causal factors." Terms such as "proximate, mediate and ultimate" are used to label accident causes. Delayed perception or inattention have also been employed to identify the triggering element in a collision. All of these expressions have some value, particularly in the investigation of accidents. None of the terms, however, rests on firmer thesis than the following statement concerning traffic law violations as a causal factor in accidents:

- Compliance with traffic laws can be reasonably defined as driver behavior suited to the driving environment.
- A driver's obedience to signs, signals, and other regulations governing the operation of a motor vehicle, clearly facilitates the use of evasive maneuvers to avoid an accident whenever a hazard develops.
- The threat of enforcement action and subsequent sanctions inhibits the intentional violation of traffic laws by drivers.

On the basis of these self-evident facts, it can be stated with confidence and authority that there is a cause and effect relationship between driver violations and vehicle accidents.

The first two steps in accident analysis provided the information necessary to intelligently deploy manpower. The last procedure makes possible the identification of enforcement actions which will yield the greatest returns by modifying accident-causing driver behavior.

Recent changes in laws concerning misdemeanors committed out of the presence of an officer have greatly reduced the number of enforcement actions which are taken at the accident scene. Accordingly, the recording of possible violations in most accidents must be based on the expert opinion of the reporting officer. Tabulations of traffic accident violations are ordinarily limited to the 10 or 12 most common contributing factors. In small police agencies this task can be accomplished manually on a simple chart.

Large organizations, however, must have access to data processing resources in order to organize the data in a form suitable for study. In-depth analysis and control

of the selective enforcement program also necessitates the maintenance of accurate activity reports for each traffic officer. The information from the activity reports should be arranged in a format which can be compared with the accident data. Data processing techniques can easily convert the officer's activity report into two useful reports reflecting type and time of enforcement action taken (Figures 2 and 3). The percentage distribution on these reports can be directly compared to the time of accidents and type of violation involved. Figure 4 shows how activity data can be organized from the same report. Conversion of category totals to percentages is desirable due to the numerical disparities.

Under ideal conditions, a close match between enforcement action and violations in accidents would be anticipated. There are, however, some violations which present special enforcement problems. One of the more difficult violations to enforce is "right-of-way." This is particularly true in states in which the right-of-way may shift from one driver to another after certain yield requirements are met. An officer on moving patrol ordinarily does not witness all of the elements constituting the offense and, as a result, he cannot make a sound judgment regarding a possible violation.

Certain equipment violations also fall into the problem violation area since they cannot be confirmed while the vehicle is in motion. In the absence of reasonable cause to stop the vehicle, an equipment check cannot be made in some police jurisdictions. Violation matching, accordingly, must be only approximate. Major distortions will, however, signal the need for training and/or new selective enforcement directives.

#### Training for Selective Enforcement

There are many excellent traffic enforcement training guides<sup>6</sup> which can be used to good advantage by agencies interested in upgrading the quality of their selective enforcement programs.

#### Specific Areas of Enforcement Training

The selective enforcement training course should not be limited to elements of traffic law violations and apprehension techniques. Instruction in the following areas should be included.

Drinking Driver. A tragic correlation has been shown to exist between intoxicated drivers and fatal traffic accidents. A high priority should be given to training dealing with driving while under the influence violations. The curriculum should develop a thorough understanding of the law and procedures necessary to gain conviction. Surprisingly, there is a need to provide even experienced policemen with specific information which will help them recognize a drunk driver. The observable indications of drunkenness are sometimes subtle in drivers whose ability to drive is definitely impaired. The role playing technique and controlled drinking experiments are very useful in training officers to spot drinking drivers with impaired judgment.

<sup>6</sup> Northwestern University Traffic Institute.  
International Association of Chiefs of Police.

OFFICER ACTIVITY – TRAFFIC ENFORCEMENT BY VIOLATION  
SAMPLE POLICE DEPARTMENT

| OFFICER              | BEAT | ENFORCEMENT ACTIVITY |            |              |               |            |                    |
|----------------------|------|----------------------|------------|--------------|---------------|------------|--------------------|
|                      |      | Total                | Speed      | Right of Way | Drunk Driving | Drunk Ped. | Wrong Side of Road |
| Smith, T.F. 0551     | 1    | 148                  | 34         | 1            | 35            | 5          | 2                  |
| Jones, A.B. 0709     | 16   | 196                  | 71         |              | 25            | 3          |                    |
| Brown, F.G. 0789     | 28   | 147                  | 47         | 1            | 4             | 1          | 23                 |
| Johnson, K.D. 0993   | 7    | 81                   | 15         | 4            | 7             | 3          | 9                  |
| McCormick, T.F. 1234 | 19   | 4                    | 4          |              |               |            |                    |
| Stinson, P.H. 1256   | 29   | 1                    |            |              |               | 1          |                    |
| Dunn, S.M. 1279      | 13   | 111                  | 13         | 45           | 2             | 1          | 1                  |
| Medolo, R.K. 4579    | 8    | 125                  | 23         | 1            | 4             | 3          | 8                  |
| Steinburg, R.D. 4580 | 6    | 224                  | 105        | 15           | 4             | 34         | 3                  |
| <b>TOTAL</b>         |      | <b>10780</b>         | <b>832</b> | <b>56</b>    | <b>234</b>    | <b>110</b> | <b>45</b>          |

OTHER CATEGORIES INCLUDE THE FOLLOWING:

Following Too Closely, Lane Changing, Improper Turning, Improper Passing, Improper Starting, Improper Lane, Impeding Traffic, Pedestrian Right of Way, Pedestrian Violation, Brakes, Lights, Other Equipment, Stop Signs, Stop Lights, Hazardous Parking, Hit-Run, Other Hazardous, Weight, Size, Muffler, Smoke, Registration, Other Non-Hazardous.

Figure 2  
Sample Report

OFFICER ACTIVITY – TRAFFIC ENFORCEMENT BY HOUR OF DAY  
SAMPLE POLICE DEPARTMENT

| OFFICER              | BEAT | TIME      |           |           |           |           |           |           |            |             |    |
|----------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------|----|
|                      |      | 0001-0100 | 0100-0200 | 0201-0300 | 0301-0400 | 0401-0500 | 0501-0600 | 2301-2400 | NOT STATED | TOTAL       |    |
| Smith, T.F. 0551     | 1    |           |           | 1         |           | 4         |           |           |            | 1           | 26 |
| Jones, A.B. 0709     | 16   | 1         | 4         | 5         |           | 2         |           | 1         |            |             | 17 |
| Brown, F.G. 0789     | 28   |           | 3         | 5         | 1         |           |           | 1         |            | 3           | 14 |
| Johnson, K.D. 0993   | 7    |           |           | 1         |           |           | 1         |           |            |             | 2  |
| McCormick, T.F. 1234 | 19   |           | 1         |           |           |           |           |           |            |             | 12 |
| Stinson, P.H. 1256   | 29   | 1         |           | 9         | 16        |           |           | 1         |            |             | 29 |
| Dunn, S.M. 1279      | 13   |           | 5         |           |           | 7         |           |           |            | 1           | 20 |
| Medolo, R.K. 4579    | 8    | 1         |           | 4         | 1         |           |           | 1         |            | 1           | 15 |
| Steinburg, R.D. 4580 | 6    | 1         | 1         |           | 6         |           |           | 5         |            | 4           | 20 |
| <b>TOTAL</b>         |      | <b>13</b> | <b>12</b> | <b>21</b> | <b>24</b> | <b>34</b> | <b>34</b> | <b>43</b> | <b>10</b>  | <b>1073</b> |    |

Figure 3  
Sample Report

ACCIDENT/ENFORCEMENT SUMMARY  
SAMPLE POLICE DEPARTMENT

Page 1

| MONTH/YEAR OF XXXX/XXXX | LOCATION         | ACCIDENTS BY CAUSE VS ENFORCEMENT ACTIVITY BY RELATED GROUPS |                   |                      |              |               |                    |  |  |  |  |
|-------------------------|------------------|--|-------------------|----------------------|--------------|---------------|--------------------|--|--|--|--|
|                         |                  | Total  | Basic Speed Limit | Posted or Stat Limit | Right of Way | Drunk Driving | Wrong Side of Road | OTHER CATEGORIES INCLUDE THE FOLLOWING:  |  |  |  |
| Beat 1                  | ACCIDENTS        | 100  | 29<br>29.0%       | 3<br>3.0%            | 1<br>1.0%    | 6<br>6.0%     | 7<br>7.0%          | Improper Passing, Improper Turning, Unsafe Lane Changing, Following Too Closely, Improper Starting, Stop Signs and Signals, Brakes, Other Equipment, Pedestrian Violations, Pedestrian Right of Way, Hazardous Parking, Lights, Other Hazardous, No Violation. |  |  |  |
|                         | ENFORCEMENT ACT. | 815  | 69<br>8.5%        | 267<br>32.8%         | 3<br>.4%     | 11<br>1.3%    | 36<br>4.4%         |  |  |  |  |
| Beat 2                  | ACCIDENTS        | 47   | 11<br>23.4%       | 2<br>4.3%            | 8<br>17.0%   | 3<br>6.4%     | 2<br>4.3%          |  |  |  |  |
|                         | ENFORCEMENT ACT. | 362  | 11<br>3.0%        | 69<br>19.1%          | 15<br>4.1%   | 4<br>1.1%     | 42<br>11.6%        |  |  |  |  |
| Beat 3                  | ACCIDENTS        | 238  | 38<br>16.0%       | 16<br>6.7%           | 39<br>16.4%  | 12<br>5.0%    | 22<br>9.2%         |  |  |  |  |
|                         | ENFORCEMENT ACT. | 1402   | 162<br>11.6%      | 170<br>12.1%         | 35<br>2.5%   | 14<br>1.0%    | 82<br>5.8%         |  |  |  |  |
| Beat 29                 | ACCIDENTS        | 39   | 8<br>20.5%        | 1<br>2.6%            | 1<br>2.6%    | 0<br>0%       | 0<br>0%            |  |  |  |  |
|                         | ENFORCEMENT ACT. | 1017   | 401<br>39.4%      | 369<br>36.3%         | 0<br>0%      | 5<br>.5%      | 21<br>2.1%         |  |  |  |  |

Figure 4  
Sample Report

Accident Investigation and Diagramming. Instruction should cover methods and procedures to be employed in investigating traffic accidents. Such topics as parking at the scene, questioning witnesses, observation of drivers, checking of vehicles involved in accidents, checking the roadway, observation of signs and signals, and taking of measurements are important training areas. Special emphasis should also be given on the proper completion of accident reports.

Traffic Direction and Control. A course covering the mechanics of traffic direction and control should include field training under the direction of an experienced officer.

Stopping and Approaching Violators. The safety of the traffic officer has been greatly jeopardized by ever-increasing traffic densities. Hostility growing out of social turmoil is also a serious personal safety consideration. Instruction must therefore be given in the proper methods to be followed when stopping a suspected traffic violator or a misdemeanor or a felon who is driving a vehicle.

Traffic Engineering. Although traffic engineering is a profession which demands the completion of a technically oriented rigorous college education, there are suitable training materials written in easy-to-understand language which can provide police officers with an understanding of basic traffic engineering problems and solutions.<sup>7</sup>

Very often, substandard signals, signs or pavement markings, may be primarily responsible for an unusually high accident experience in a particular location. Failure to give due consideration to such factors can lead to faulty interpretation of vehicular accident statistics by officers involved in selective enforcement. For these reasons, traffic engineering concepts should be a part of the traffic officer's education. In police jurisdictions which do not have support from a qualified traffic engineer, the inclusion of highway engineering principles in the training program is absolutely essential to the development of sound selective enforcement programs.

Essentials of Enforcement Training

Traditional traffic law enforcement training methods have emphasized technical aspects of the function. Today's social conditions, however, clearly reflect a need for increased attention to the friction potential in officer/violator contacts. The objective of a good training program must be to develop traffic officers who are:

- Motivated to do the job
- Technically competent

<sup>7</sup>Institute of Traffic Engineers, Manual of Traffic Engineering Studies, 1964 3rd Edition.

### Human relations oriented

Success and public acceptance of selective enforcement programs depend, in great part, on replacing the image of the "rigid authoritarian traffic cop"—where it exists—with that of a humanistic officer performing a necessary public service.

Police officials must be on guard against complacency in regard to the need for traffic law enforcement training and direction. Periodic printouts or tallies of each officer's enforcement activity will dramatically spotlight individual idiosyncrasies. Unless there is continuous supervisory and management control, officers tend to focus their attention on just a few specific traffic regulations. More often than not they will issue citations for failing to obey stop signals or signs because the violations are relatively common and easy to spot. Other officers become defective-equipment specialists and confine their traffic ticket writing to operators of vehicles with faulty tail lights, mufflers, etc.

A new or untrained officer's ability to recognize traffic violations and take appropriate enforcement action is greatly accelerated through the use of field training officers. Experts generally agree that good traffic officers develop a unique awareness to the dynamic traffic environment while patrolling. The assignment of new officers to work as partners with an experienced traffic officer yields gratifying results in the development of this special skill. Quality control of field training requires supervision by a program monitor. This individual evaluates field training progress, corrects apparent training deficiencies and generally maintains the integrity of the program. Only the most highly qualified traffic enforcement oriented officers should be assigned as field training officers.

Recognition should accompany the responsibilities assumed by field training officers. A formal letter of appointment from the agency head and special insignia are inexpensive forms of recognition which can be used to attach special status to the position.

Admittedly, top quality training requires special skills and facilities which may be out of the reach of many police agencies. Video tape recorders and closed circuit television systems are excellent, albeit expensive, aids to training. Wherever size or financial constraints make in-house training impractical, police officers should be encouraged through the use of incentives, if possible, to attend specialized traffic courses featured by local colleges, zone police schools and institutes.

### Technical Implementation

#### Visible Patrol

Traffic patrol for selective enforcement must be visible patrol. Although justification for concealment or the use of unmarked vehicles may exist for certain situations, rationales for the use of unmarked cars for general traffic enforcement patrol are not readily

accepted by the motoring public. In some states distinctively marked patrol cars are required by law. The "fair play" concept was the initial reason state legislatures passed statutory requirements that traffic enforcement vehicles bear prominent markings.

Visible patrol is a proven deterrent to the potential accident-causing violator. It also makes the officer accessible to motorists who need assistance.

#### Electro/Mechanical Speed Measuring Devices

Radar and other electronic or mechanical speed measuring devices have been a boon to law enforcement. Their relative infallibility has led to both public and judicial acceptance insofar as accuracy is concerned. Agencies using modern equipment to apprehend speeding drivers have benefited greatly by a reduction in the number of court appearances by officers.

There are, however, pitfalls to be avoided by agencies using these devices. Improper and overzealous speed law enforcement has kept alive the specter of speed traps in the minds of the public and legislators. If this concern over the manner in which technological aids to enforcement are used by the police is to be laid to rest, all agencies must operate within the following constraints.

First, an understanding of the traffic engineering method by which speed limits are established is a prerequisite to a reasonable and fair speed enforcement program. This knowledge is necessary because posted speed limits are often set at unrealistic levels (either too high or too low).

Prima facie posted speed limits are ordinarily set according to the "85th percentile" technique. Table 2.1 illustrates a mathematical formula for deriving the 85th percentile from speed measurement studies. The engineering philosophy behind this approach is that 85 percent of all drivers will travel at safe speeds considering the road environment (surface, lane widths, cross traffic and weather). A large majority of the remaining 15 percent will exceed the posted prima facie limits by tolerable limits (5 to 8 MPH), leaving only a relatively small number of drivers traveling at truly dangerous speeds.

In metropolitan areas composed of many police jurisdictions, uniform policies in regard to the actual speed which should trigger enforcement action are also of prime importance. A study of radar speed enforcement in a group of cities comprising a large metropolitan area revealed a gross differential in tolerance policies or enforcement latitudes.<sup>8</sup> A hapless motorist, conditioned to certain enforcement practices in his home town could, under the circumstances existing in the metropolitan area, travel a short distance into a neighboring city and be penalized for driving behavior which was acceptable in the jurisdiction he had just left. Coordinated enforcement policies are an important consideration when setting up programs in population centers policed by multiple agencies.

<sup>8</sup> Bay Area Traffic Executives Committee (BATEC), California, 1962.

TABLE 2.1  
 FREQUENCY TABLE  
 FOR GRADE PERCENTILE DETERMINATION

| <u>Classes*</u><br><u>(Intervals)</u> | <u>Frequency</u> | <u>Cumulative</u><br><u>Frequency</u> |
|---------------------------------------|------------------|---------------------------------------|
| 96-100                                | 3                | 30                                    |
| 91-95                                 | 7                | 27                                    |
| 86-90                                 | 6                | 20**                                  |
| 81-85                                 | 3                | 14                                    |
| 76-80                                 | 3                | 11                                    |
| 71-75                                 | 2                | 8                                     |
| 66-70                                 | 3                | 6                                     |
| 61-65                                 | 3                | 3                                     |

30(N)

To obtain the 85th percentile, multiply as follows:

$.85 \times N = 25.5 \dots 25.5$  equals 93.93 MPH (by interpolation)

The median, or average speed, is the figure above which half of the classes appear and half below. It is obtained by dividing the total frequency (N) by 2. The median also equals the 50 percentile and can be obtained by multiplication (.50xN).

\* Each class consists of speed measurements in increments of 5 MPH  
 \*\* In this frequency table the median is the lowest grade in the 86-90 class interval (86 MPH).

Enforcement units with speed measuring devices should primarily be assigned as follows: (1) to routes where the rising accident trend is accompanied by a persistent pattern of speed violations; and (2) to neighborhoods where a citizen complaint of speed has been received. If sustained radar enforcement (one to two weeks on a citizen complaint and one to two months on a high accident route) fails to markedly reduce the number of violations, the help of a traffic engineer should be obtained. Some officers assigned to radar enforcement without explicit assignment directions will maintain their productivity levels by "milking" locations (i. e., radar enforcement for brief periods in areas which generate moderately high speed patterns for many years). This technique is not selective enforcement and it should be discouraged by traffic supervisors.

#### Special Vehicle Enforcement

Motorcycle. The solo motorcycle is uniquely suited to enforcement on multilane roadways carrying high density traffic. They are also especially useful in

the presence of vehicle congestion where their mobility remains relatively unimpaired. A patrol automobile can easily become trapped and ineffective under the same conditions.

The cost of training (which is considerable in terms of time), amount of intemperate weather, and nature of the traffic problem are all trade-off factors which must be considered when deciding on the extent to which solo motorcycles will be used in selective enforcement.

Helicopter. Like the solo motorcycle, the helicopter has enforcement capabilities which cannot be equaled by any other mode of transportation. Cost/effectiveness, however, when the aircraft is exclusively devoted to traffic matters, is exceedingly difficult to justify in most police jurisdictions.

Rotary wing aircraft are more often successfully employed in multipurpose aerial patrol programs. (See appendix for typical operating procedures in a multipurpose helicopter patrol program.)

#### Electronic Surveillance in Selective Enforcement

The possibilities of using television technology in selective enforcement have not been fully exploited. The following is a partial listing of potential applications:

- Evidence of impairment in DWI arrests. (See program description in Chapter 5.)
- Remote observation of driver violations on toll ways or toll bridges with appropriate enforcement follow-up at toll collection stations.
- Driver violation studies. (See program description in Chapter 5.)

#### General Enforcement Policy and Procedures

A sample highway patrol directive on enforcement policy is contained in the appendix.



THE FEDERAL BUREAU OF INVESTIGATION  
OF THE DEPARTMENT OF JUSTICE



## CHAPTER 3

## SELECTIVE ENFORCEMENT: STANDARDS AND RATES

For years, professional police administrators have tried to establish a set of standards whereby the effectiveness of their traffic law enforcement programs could be measured. It was anticipated that warrants, similar to those developed by traffic engineers, could trigger or justify enforcement against selected violations. This admirable objective has not yet been attained, and there is reason to believe that easy-to-use rates or formulas for enforcement evaluation purposes will always have limited validity. The measurement of cause and effect in any situation involving human, mechanical and environmental factors is an enormously complicated task. If selective enforcement studies are to mean anything, they must be managed by trained and experienced statisticians using advanced statistical techniques.

Rates

While it is true that some rates have been articulated by traffic safety professionals, the scale of measurements is merely the product of an official consensus based on empirical observations and subjective experience. Most texts, when quoting the rates, disclaim their validity as standards by stating that they represent generally the best informed opinions.

Enforcement Rate. This rate, more often referred to as the Enforcement Index, is expressed as an equation:

$$EI = \frac{\text{Conviction with Penalty for Hazardous Moving Violations}}{\text{Personal Injury and Fatal Accidents}}$$

The minimum effective rate is declared to be 20.

In theory, the rate is set at a point where additional enforcement fails to produce a corresponding decrease in motor vehicle accidents. This is assumed to be the point of diminishing returns beyond which the application of enforcement is not warranted.

Two problems severely limit the usefulness of the Enforcement Index: (1) it cannot be applied by agencies with a small accident data base; and (2) it presumes a cause and effect relationship without due consideration to other factors which influence traffic accident statistics.

Use of the Enforcement Index has been supplemented by more modern statistical methods which are now used to analyze the impact of enforcement on accidents.

Accident Reporting Ratio. The generally accepted proper reporting ratio is 1:55:200 (55 personal injury accidents per fatal accident, and 200 property damage accidents per fatal accident). Law enforcement and traffic engineering professionals recognize the importance of a numerically adequate accident data base and support this formula. Whenever the property damage accident rate drops substantially below 200, it can be concluded that the agency is not providing an adequate level of service to the motoring public and that the accident statistics will not furnish enough information to analyze the traffic problems.

Accident Arrest Rate. The recommended rate of 55 arrests (or citations issued) per 100 accidents investigated is virtually impossible to attain in many urban jurisdictions which must limit the time officers devote to the less serious accidents. However, if relatively minor crashes, which are merely recorded on a collision report, are not defined as "investigated" accidents, even the busy, big city departments should be able to meet or exceed this rate.

A refinement of this rate considers the number of persons arrested or cited per 100 investigated accidents. The recommended level of 60 is attainable by most jurisdictions when only "investigated," and not "reported," collisions are counted.

Hit-and-Run Clearance and Arrest. These rates are 85 and 80, respectively, per 100 cases reported to the police. Both are set very high, particularly since court decisions, beginning with Miranda, have altered the art of police interrogation. A new survey is needed to establish more realistic arrest and clearance rates for hit-and-run cases. A limited number of inquiries<sup>9</sup> designed to sample current rates has suggested that 60 percent would be a more appropriate rate. This percentage figure can be attained by even the urban departments if they develop and take advantage of computerized known vehicle files.<sup>10</sup>

<sup>9</sup>Five West Coast cities ranged from a low of 30 percent to a high of 60 percent hit-and-run clearance rate.

<sup>10</sup>The known vehicle file is a listing of all cited vehicles over a 90 or 120-day period. The data is organized so that it can be accessed by any number of vehicle description factors. The known vehicle file computer, for instance, can provide a listing of all white Fords, a listing of 1962 white Fords, or a further refined listing of 1962 white Fords if any of the license digits are known.

Conviction Rate for Accident and On-View Arrests and Citations. This rate of 95 percent, although set very high, is usually attainable wherever the court system gives appropriate attention to traffic problems by creating a sufficient number of special courts to handle the volume of traffic cases. If the rate drops below the standard, it usually means that officer training in courtroom presentation and case preparation is needed.

It must be acknowledged that these "rates," discussed above, have only a limited utility, and they cannot be considered validated standards.

Safety officials who continue to seek "standards" which would provide an easy way to measure their traffic enforcement efforts must reconcile themselves to the fact that such "standards" do not exist. States, cities, police policies, training, resources, weather, roads, traffic densities, and laws are not standard from one jurisdiction to another. Any attempt to establish criteria, rates, etc., which would be valid for comparison purposes is predestined to fail.

#### Other Statistical Techniques

There are, however, statistical techniques which, when used with carefully designed base line data, will permit the evaluation of the effect of new safety programs or identification of program needs.

The accuracy of conclusions based on traffic accident and enforcement analysis is largely dependent on the existence of a sizeable data base and access to automated or electronic data processing equipment. The measurement and reporting of increases or decreases in the recorded data is a simple task once the relevant data items have been defined. The analytical task becomes much more complicated, however, when it comes time to declare whether or not the increase or decrease is significant and what factors contributed to the change.

Idiosyncratic variations in accident levels at isolated locations can ordinarily be ascribed to environmental changes which are unrelated to traffic law enforcement.

When a traffic accident increase displays an area or line pattern, the probability of increased enforcement activity being needed may be assumed.

If there are no important seasonal environmental or engineering changes affecting the figure, a closer look at the violation patterns and the development of an enforcement strategy is in order.

In order to determine the significance of traffic accident patterns, the base line data should be organized into collision sub-lists. A description of six listings which are basic to traffic analysis follows.

Intersection Accident Frequency (Table 3.1). Intersections are listed in order of descending frequency. A minimum of three years' experience should be shown for comparison purposes. Intersections with insignificant frequencies (less than four accidents annually) can be dropped from the list.

TABLE 3.1

SAMPLE CITY - 1970 TRAFFIC ACCIDENTS  
RANKINGS OF INTERSECTIONS BY ACCIDENT FREQUENCY

| Position | Intersection                   | Number of Accidents |      |      |
|----------|--------------------------------|---------------------|------|------|
|          |                                | 1970                | 1969 | 1968 |
| 1        | 14th St. & Grove St.           | 31                  | 31   | 22   |
| 2        | Peralta Oaks Blvd. & Helen St. | 31                  | 24   | 19   |
| 3        | 7th St. & Broadway St.         | 31                  | 20   | 33   |
| 4        | Market St. & Athens St.        | 30                  | 30   | 26   |
| 5        | 14th St. and Broadway St.      | 29                  | 18   | 22   |
| 6        | Haven St. & Feil St.           | 24                  | 25   | 16   |

Intersection Accident Rates (Table 3.2). All of the intersections appearing on the Intersection Accident Frequency Report will also appear on this listing. They will be arranged, however, in different order according to their relative accident rate. The accident rate is expressed as accidents per million vehicles entering the intersection. Obviously, congestion will influence the number of accidents. This listing, by taking into account the relationship of volume to accidents, helps equate the low volume intersections with more heavily traveled intersections. (The relevance of volume is mostly confined to the busier intersections and for this reason intersections having less than eight accidents per year should not be included on the list.)

TABLE 3.2

SAMPLE CITY - TRAFFIC ACCIDENTS  
RANKINGS OF INTERSECTIONS BY ACCIDENT RATE\*

| Position | Intersection                   | Rate |      |      | Number of Accidents |      |      |
|----------|--------------------------------|------|------|------|---------------------|------|------|
|          |                                | 1970 | 1969 | 1968 | 1970                | 1969 | 1968 |
| 1        | Peralta Oaks Blvd. & Helen St. | 3.86 | 3.45 | 1.15 | 21                  | 14   | 5    |
| 2        | Oak St. & Madison St.          | 3.81 | 1.11 | 1.45 | 10                  | 2    | 5    |
| 3        | 22nd St. & Grand St.           | 3.60 | 1.01 | .45  | 9                   | 2    | 1    |
| 4        | Market St. & Broadway St.      | 3.11 | 2.85 | 1.90 | 9                   | 6    | 4    |
| 5        | Grand St. & Loop Blvd.         | 3.10 | 2.40 | 1.97 | 28                  | 20   | 17   |
| 6        | Maple St. & Park St.           | 2.94 | 2.35 | 1.82 | 17                  | 16   | 9    |

\*Based on accidents per million entering vehicles. (Only intersections with eight or more accidents.)

Alphabetical Intersection Accidents (Table 3.3). This is simply a printout of all accidents in alphabetical order. In very large cities it is desirable to eliminate from the listing locations with three or less accidents. It is very helpful in dealing with citizen complaints about allegedly dangerous intersections.

TABLE 3.3

SAMPLE CITY - 1970 TRAFFIC ACCIDENTS  
ALPHABETICAL INTERSECTION LISTING

| Intersection           | Accidents |      |      | Frequency Ranking |      |      |
|------------------------|-----------|------|------|-------------------|------|------|
|                        | 1970      | 1969 | 1968 | 1970              | 1969 | 1968 |
| 1st St. & Aaron St.    | 4         | 5    | 1    | 283               | 287  | 592  |
| 1st St. & Apple St.    | 2         | 4    | 3    | 528               | 305  | 421  |
| 1st St. & Alta St.     | 2         | 1    | 8    | 565               | 561  | 43   |
| 1st St. & Broadway St. | 5         | 7    | 2    | 178               | 95   | 489  |
| 1st St. & Boston St.   | 5         | 8    | 4    | 170               | 37   | 265  |
| 1st St. & Charles St.  | 2         | 4    | 7    | 522               | 264  | 87   |

Classified Street Accident Rates (Table 3.4). This listing groups accidents by routes which consist of the important through streets. They are classified as prime arterials, major streets, and collector streets. The route limits are distances between interceptions of the classified streets. Supplementary information provided by the listing includes route length, traffic volume, number of accidents, accidents per mile and accidents per million miles for each route section.

TABLE 3.4

SAMPLE CITY  
1970 ACCIDENT RATES ON CLASSIFIED STREETS

|  | CL | MI  | ADT   | Accident Rate |
|--|----|-----|-------|---------------|
| 1st Ave. /14th St. - 15th St.          | M  | .07 | 2000  | 19.52         |
| 1st Ave. /Broadway St. - Telegraph St. | M  | .07 | 4000  | 9.76          |
| 1st Ave. /Frank St. - Washington St.   | M  | .07 | 4500  | 8.67          |
| 1st Ave. /Hano St. - 40th St.          | M  | .07 | 5000  | 31.23         |
| 1st Ave. /22nd St. - 32nd St.          | P  | .25 | 11000 | 9.94          |
| 1st Ave. /Bend St. - Front St.         | C  | .05 | 7000  | .00           |

Code: MI = Number of Miles, ADT = Average Daily Traffic, CL = Classifications (M - Major, P - Primary, C - Collective)

Accident Rates by Street Classification (Table 3.5). All classified streets (prime arterial, major, collector) and unclassified streets have their cumulative accident experience reported on this list. The accident figures are jurisdiction-wide averages. By comparing these rates with the specific classified street route rates, significant deviations from normal experience can be spotted. Analysis of the particular violation pattern on the high-accident routes will then shape the selective enforcement effort to be applied.

TABLE 3.5

SAMPLE CITY  
1970 ACCIDENT RATES BY STREET CLASSIFICATION

| <u>Class</u>   | <u>MI</u> | <u>ADT</u> | <u>Vehicle<br/>Mi. Daily</u> | <u>ACC</u> | <u>Acc. Mi.</u> | <u>Acc. Rate<br/>(MVM)</u> |
|----------------|-----------|------------|------------------------------|------------|-----------------|----------------------------|
| Prime Arterial | 41.27     | 18400      | 760000                       | 918        | 22.24           | 3.30                       |
| Major          | 219.02    | 12600      | 2754000                      | 7122       | 32.52           | 7.06                       |
| Collector      | 250.84    | 4000       | 995000                       | 3293       | 13.13           | 9.04                       |
| Unclassified   | 1227.00   | 700        | 807000                       | 4238       | 3.45            | 14.34                      |

Classified Streets/Above-Average Rates (Table 3.6). Programming a print-out of all routes with above-average accident rates greatly simplifies the task of identifying routes with significant deviations from normal.

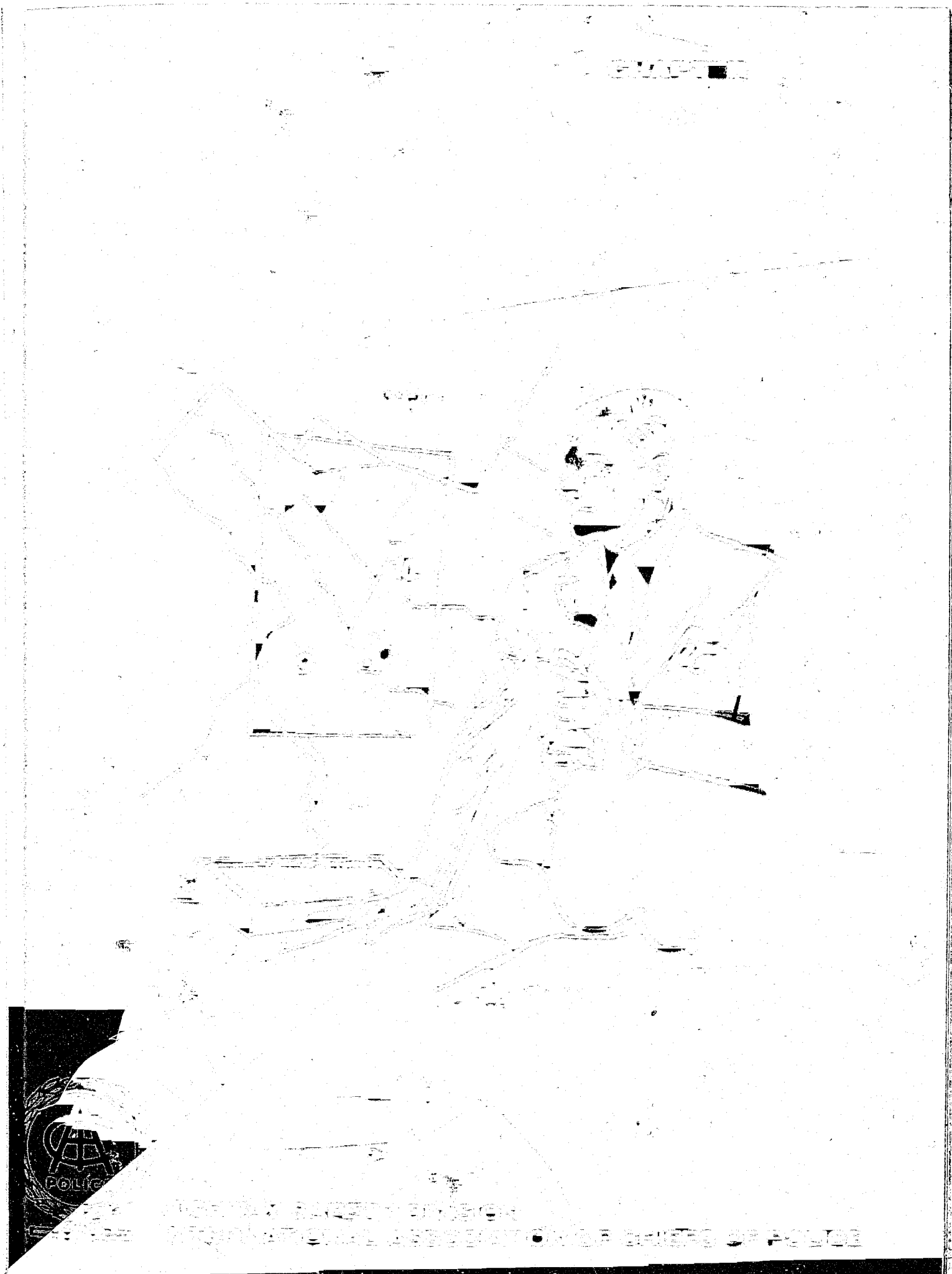
TABLE 3.6

SAMPLE CITY  
1970 ACCIDENT RATES - CLASSIFIED STREETS  
WITH ABOVE-AVERAGE ACCIDENT EXPERIENCE\*

| <u>Route</u>                  | <u>Miles</u> | <u>ADT</u> | <u>Veh Mi</u> | <u>ACC</u> | <u>Acc. Rate</u> |
|-------------------------------|--------------|------------|---------------|------------|------------------|
| Prime Arterials<br>Averaged   | 53.46        | 19700      | 1074000       | 1341       | 3.41             |
| Mission St. /Rand<br>to Helen | .73          | 66100      | 48253         | 69         | 3.91             |
| Major Streets<br>Averaged     | 234.98       | 12600      | 2956000       | 7587       | 7.00             |
| 7th St. /Broadway<br>to Oak   | 2.13         | 9100       | 19383         | 94         | 13.25            |

\*Only one example shown in each street classification

The routes with above-average accident rates are the pointers or triggers for selective enforcement. The data processing system will then, when properly programmed, provide the type of violation and time distribution of accidents on each route which is selected as a target for selective enforcement. Armed with this kind of information, the traffic police administrator can systematically and efficiently assign his traffic enforcement units, identify the principal violations requiring enforcement emphasis, and favorably influence accident rates.



THE POLICE DEPARTMENT  
OF THE CITY OF NEW YORK

CHAPTER 4  
IMPLEMENTATION OF  
SELECTIVE TRAFFIC ENFORCEMENT

The primary purpose of traffic laws and traffic law enforcement is to regulate traffic flow, reduce traffic accidents, and make streets and highways safer for drivers and pedestrians. This is accomplished by directly and indirectly controlling driver behavior and attempting to assure their compliance with traffic laws and ordinances.

The regulation of traffic and the prevention of accidents are, of course, major responsibilities of the police, and fulfillment of these responsibilities is largely dependent upon the active participation of patrol officers as well as those assigned to specialized traffic enforcement units.

The majority of highway and street users voluntarily comply with traffic laws, but there will always be some who ignore their responsibilities. The opportunities to violate laws are so numerous that the ideal goal of achieving full compliance by society is practically impossible to achieve. Therefore, traffic enforcement should be broadened to include all those actions that the police can take to bring about the desired results in traffic safety. The degree of success in controlling today's massive highway system depends upon the quality and quantity of services to the public designed to facilitate traffic flow and provide maximum safety. Therefore, it is imperative that selective traffic enforcement techniques be applied to assist in bringing about the desired results and objectives.

Accurate and complete accident frequency data must be available to determine the amount of selective enforcement needed in a community. If proper investigative and reporting procedures have been developed and an adequate information storage and retrieval system is available, effective analysis of data is possible.

Before a selective enforcement program is implemented, analysis and evaluation of all pertinent data should occur, including discussions with police personnel familiar with high-accident frequency locations. Such evaluations will permit factual determinations as to when and where selective enforcement is necessary to reduce the causes of accidents and improve traffic safety.



### Selection and Training of Personnel

Personnel selection is of paramount importance in developing a selective enforcement program. Prime consideration should be given to those officers who show a special interest in traffic safety, and have a clear understanding of the need for effective enforcement of traffic laws.

Personnel with above-average qualifications should be given top consideration in the selection process. Those interested in traffic safety and have displayed the ability to communicate with the public would be an asset to an enforcement program. Other assets would include a working knowledge of motor vehicle mechanics, familiarity with psychological and physiological reactions of operators and pedestrians in crucial situations, and a general knowledge of the conditions and characteristics of the area.

Officers selected for assignment to a selective enforcement program should be given thorough training in all those procedures designed to reduce the number of accident causing violations. Training in accident investigation diagramming, traffic direction and control, stopping and approaching violators, and traffic engineering is essential for selective enforcement officers. Officers must be trained to recognize violations and instructed in the elements of each offense. Apprehension of speeders and drinking drivers also requires special training.

The development of a selective enforcement program will require special equipment to aid traffic enforcement officers in accomplishing program objectives. Adequate training in the use of such equipment should be included in the training program.

### Enforcement Techniques

#### Visible Patrol

In order to achieve greater compliance with traffic regulations and to make selective enforcement more effective, traffic units should participate in visible enforcement. Visible enforcement is a deterrent to criminal activity as well as to traffic violators. A motorist assesses his driving habits at the moment he perceives a police unit. Unlike the sitting-in approach, moving patrol provides a greater deterrent effect because the police vehicle is observed by a large number of drivers.

In some situations, visible off-street observation in strategic locations has some value in traffic enforcement. When conducting off-street observation, it is important to park the patrol vehicle legally. Deliberate violations by patrol vehicles must be avoided.

When conducting visible patrol, officers often establish patterns in their patrolling procedures. Methodically, the officer goes from one end of his beat to the other, appearing at the same place at the same time each day. This practice should be avoided. Set patrol patterns permit motorists to anticipate police presence at a given location at a specific time and they regulate their driving conduct accordingly. To overcome this problem, random patrol procedures should be employed. This has the affect of creating the belief that the police are everywhere.

Active and visible patrol affords better supervision of traffic and, since a greater area is covered, an increased deterrent effect results. By maintaining visible patrol during peak accident periods, traffic accidents can be decreased and accident-causing violations reduced.

Active, visible enforcement creates the belief in the mind of the driver that if he violates the law, he will be caught.

#### Violator Detection

An efficient traffic enforcement officer should not only be able to recognize a violation that is committed in his presence, but to detect the driver who is going to violate, or who is committing a violation that cannot be detected without stopping the driver and investigating.

When a patrol officer detects a potential violator and maneuvers so that he can observe and apprehend the violator, other motorists witnessing the apprehension, will draw appropriate conclusions regarding the efficiency of the patrol.

#### Assignment Techniques

Assignment of selective enforcement personnel should be made in such a manner that the public will believe that patrol units are omnipresent. Accident data will help to determine the type of assignment, whether it be line/linear patrol, area patrol, or point/spot assignment. Generally, point/spot assignments produce better results if they will be observed by a greater number of people than a moving patrol unit.

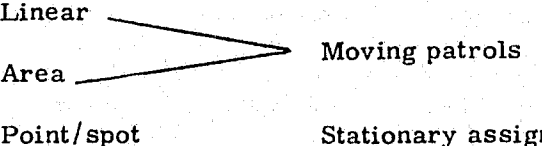
In order to attain a high level of enforcement, consideration must be given to a number of factors including the area to be enforced, the kind of traffic, types of accidents and the times the accidents occur. These factors must be known before methods of enforcement can be determined.

The squad concept is an effective method of assigning personnel to selective enforcement tasks. Under this system, supervisors and patrol personnel work together on the same shift, and rotate together with the same days off.

If the supervisor and officers function as a team, their efficiency and effectiveness are greatly enhanced.

### Types of Deployment

Selective enforcement is accomplished through the deployment of personnel in several types of patrols:

- Linear
  - Area
  - Point/spot
- 

Linear or line patrol is the assignment of personnel on a street or highway from one point to another fixed point. Patrol units move between the two points concentrating on the prime accident locations in their efforts to apprehend motorists committing accident-causing violations.

Area patrol is the assignment of selective enforcement personnel to an area which may include several streets or highways. It may be referred to as a beat patrol but may not have the same beat configuration established for routine police patrol. Personnel assigned to area patrol should move about the entire area placing particular emphasis on those locations where the frequency of accident-causing violations is high. Moving patrols in selective enforcement are effective when this type of assignment will be observed by a greater number of motorists.

Point or spot assignment is most effective in selective enforcement when the accident-causing violations are concentrated at a single location, or when a stationary post will be observed by a greater number of street/highway users.

### Temporal Assignment

Specialized units require substantially the same type of operational data as those units assigned to perform in a generalist capacity. The significance of information utilized by specialized units for purposes of resource allocation is the emphasis placed on a specific problem. In the case of traffic law enforcement the real problem confronting the police executive is reduction of the accident frequency.

To determine the extent of the problem, complete accident reporting is desirable. To be effective, as it concerns traffic manpower distribution, the day of week and the hourly distribution of accidents must be clearly identified. One year's experience should be examined in order to provide data that includes all seasons of the year. This is important because of the variation that occurs as a result of weather,

population shift, increase or reduction of traffic volume, etc.

Assignment of available units should be such that at any given hour the percentage of units on duty approximates the percentage of accident experience, i. e. perfect selective assignment will require exact matching of the hourly percentage of accidents and the hourly percentage of units on duty. As a practical matter this is impossible but should be sought in principle. Of course, the more units available the closer the matching can be accomplished.

There are two ideal conditions in the temporal assignment of traffic manpower.

1. There will be enough personnel assigned to complete all required police traffic assignments.
2. Available traffic personnel will be distributed in time exactly in proportion to need.

Most police traffic operations fall short of these ideals.

The assignment of police traffic services personnel by time is complicated by a number of factors which must be taken into consideration. Some of these factors are:

- There is a fluctuation in the demand for police traffic services by hour of day, day of week and in some cases, months of year.
- There is a difference between the gross manpower employed and the manpower available for routine assignment.
- Police availability is further reduced by leave time, court time, training time, special assignments, etc.

The first procedure in the temporal assignment of traffic personnel is to determine the hourly variation in accident frequency (workload). This involves the extraction of time of accident frequency and the times of occurrences are tallied by hour of day. The percentage of the total daily workload for each hour is then computed.

Secondly, the optimum distribution of manpower must be determined. The objective of traffic personnel distribution is to keep the disparity between work and assigned manpower to the absolute minimum. This is done by first establishing reasonable shift change times. Shift changes should be accomplished when traffic problems are stable or declining. Experience suggests shift changes between 6 a. m. and 8 a. m., 2 p. m. and 4 p. m. and 10 p. m. and 12M.

The median percentage of workload for the resulting eight-hour spans of time is computed. This percentage applied to the available manpower will determine the number of men to be assigned for the period in question. For example if 20 percent of the accidents occur during the 4 to 12 shift and 50 men are available for assignment, ten should be scheduled to work the 4 to 12 shift.

See Graph 4.1 for example of unit assignment by time compared to accident frequency. Other examples of two and three unit assignment are shown in Graphs 4.2 and 4.3.

#### Geographic Assignment

The assignment of personnel by geographic area is a condition imposed by the necessity to provide police traffic services over an extended jurisdiction. Ideally, there will be enough personnel to provide for all called-for and on-view services and provide a full measure of preventive traffic patrol. Personnel should be distributed by area in proportion to the existing need in each area. Again, most traffic police operations fall short of these ideals. Improper assignment procedures weaken traffic patrol effectiveness.

The jurisdiction should be divided into sections so that traffic units available for assignment will have an equal workload. Areas will change as the number of available units increases or decreases. For example of geographic assignment see Maps 4.1 and 4.2.

Continuous assessment and follow-up is necessary in order to maintain area distribution on an effective basis. Full use of officer activity reports, enforcement statistics and accident data is required.

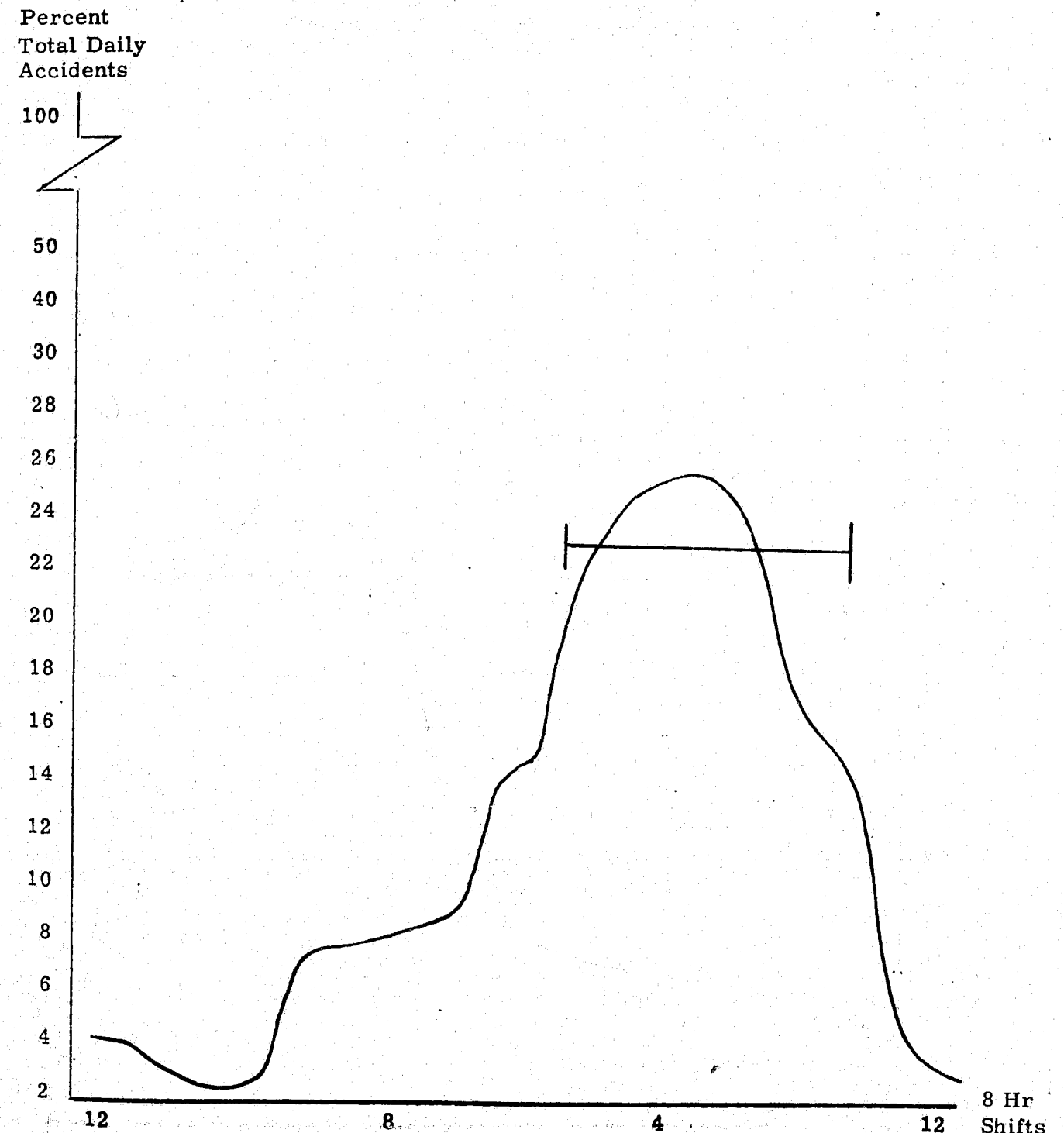
#### Use of Traffic Accident Analysis

#### Assignment of Priorities

Assigning priorities as to the kinds of violations needing attention by enforcement units is critical to the success of the selective enforcement program. The objective is to obtain the kind of enforcement effort which is directed toward violations in proportion to which they occur in accident situations. Meeting the objective depends upon making the best use of good accident facts and properly processed enforcement data. For example data should be evaluated after being viewed in proper perspective. See Table 4.1.

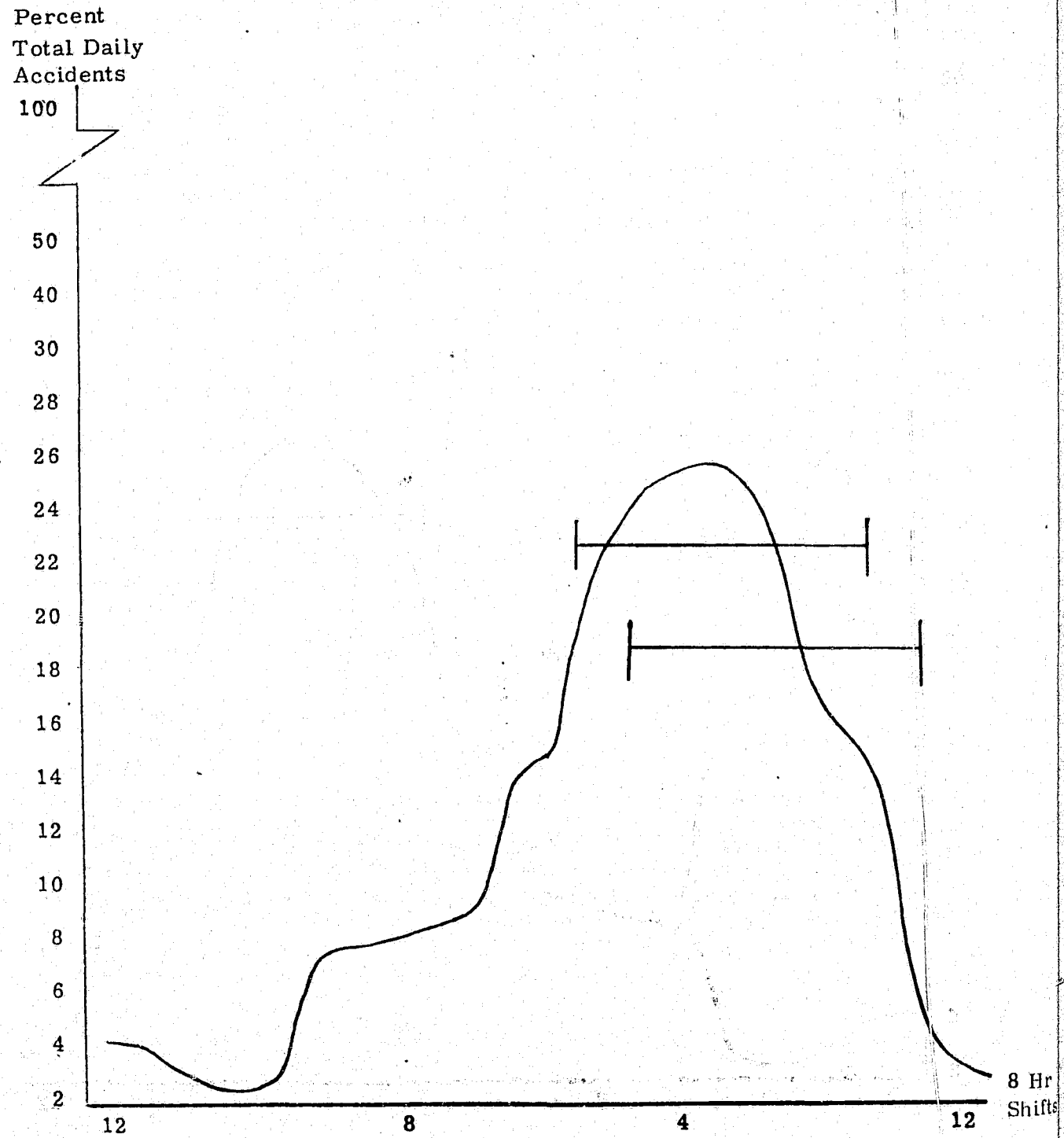
Graph 4.1

Example of One Unit Assignment



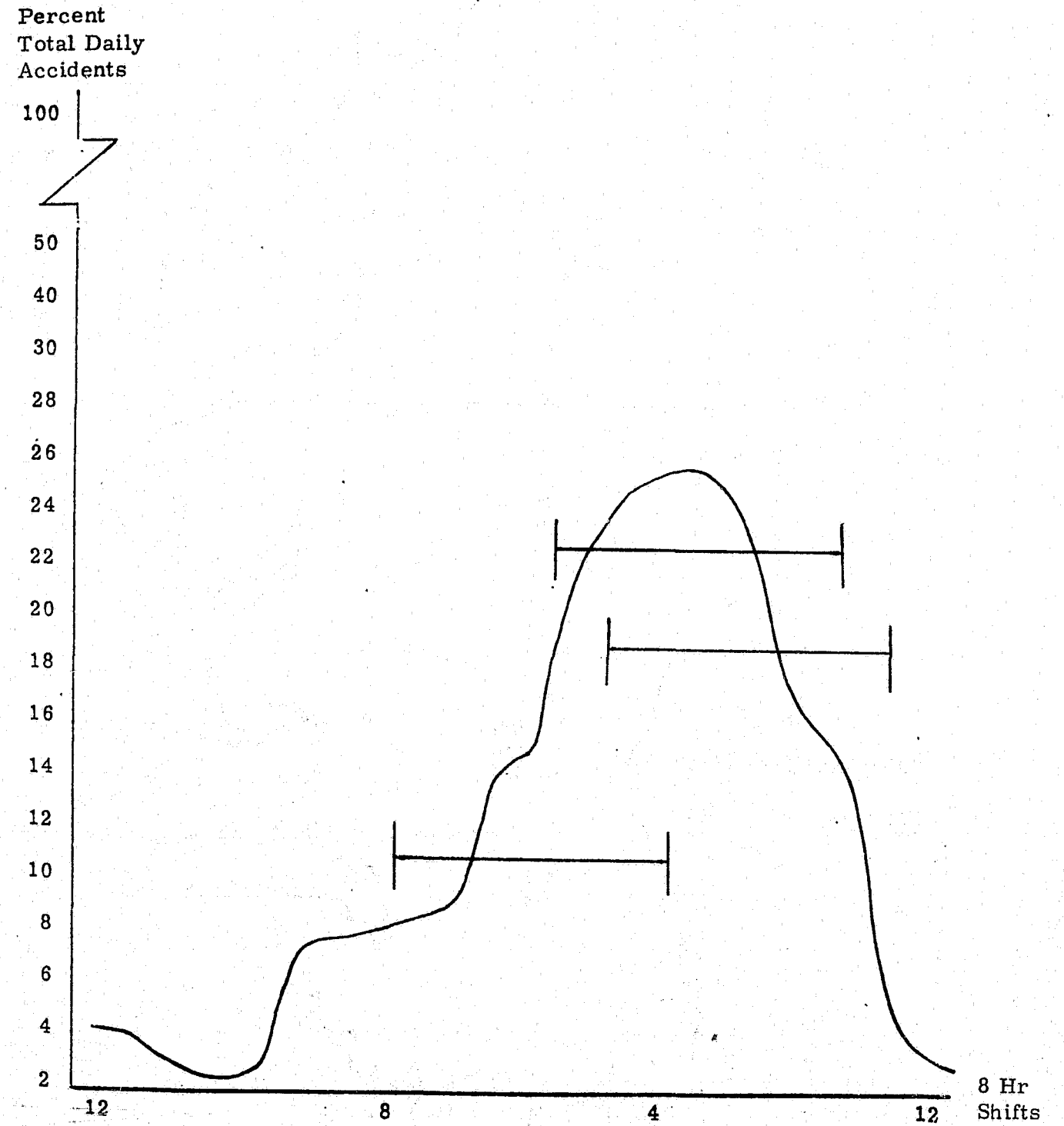
Graph 4.2

Example of Two Unit Assignment



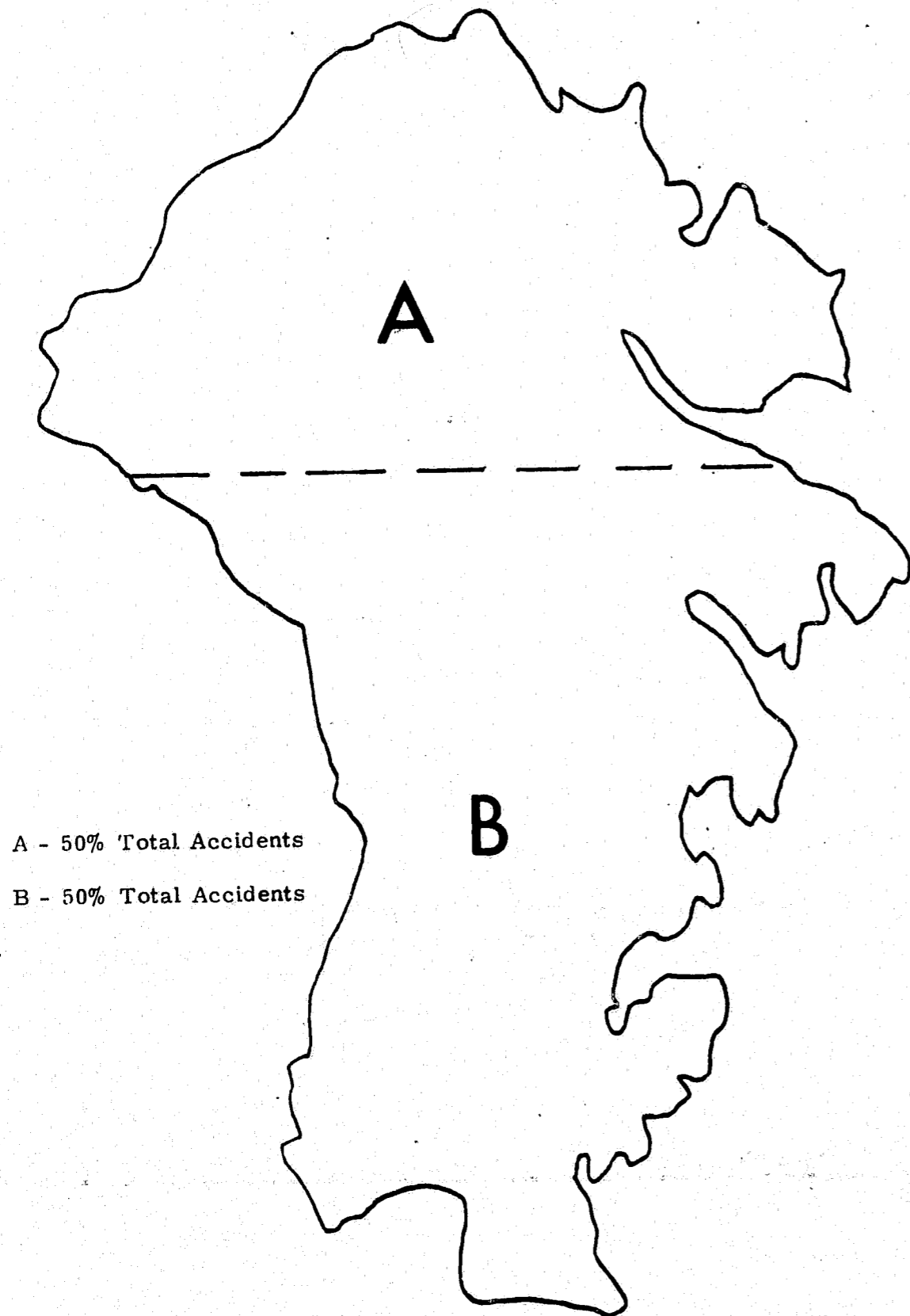
Graph 4.3

Example of Three Unit Assignment



Map 4.1

EXAMPLE OF GEOGRAPHIC ASSIGNMENT



Map 4.2

EXAMPLE OF GEOGRAPHIC ASSIGNMENT

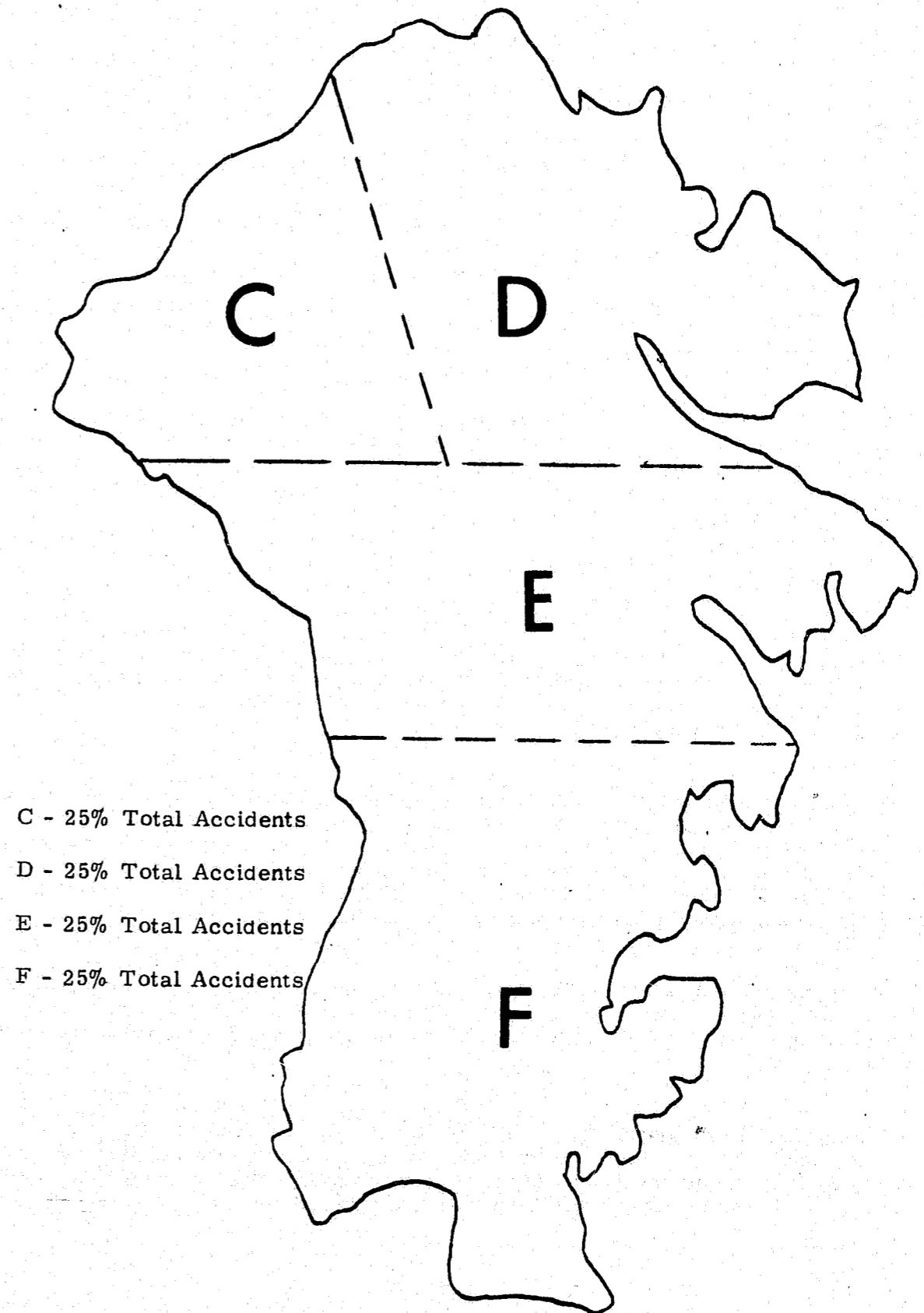


TABLE 4.1

|                  | <u>Accident Violations</u> |                         | <u>Violation Arrests</u> |                         |
|------------------|----------------------------|-------------------------|--------------------------|-------------------------|
|                  | <u>Number</u>              | <u>Percent of Total</u> | <u>Number</u>            | <u>Percent of Total</u> |
| Speeding         | 500                        | 50                      | 1,000                    | 20 (Low)                |
| Stop Sign        | 100                        | 10                      | 3,000                    | 60 (High)               |
| Improper Turns   | 100                        | 10                      | 600                      | 12 (Adequate)           |
| Improper Passing | 300                        | 30                      | 400                      | 8 (Low)                 |
|                  | <u>1,000</u>               | <u>100</u>              | <u>5,000</u>             | <u>100</u>              |

In some cases there may be significant variation in one area compared with another area of the city as to the distribution of the type of accident-causing violations. Such differences are usually found in comparisons of rural and urban areas. This problem can be resolved by treating each such area as a special problem and matching data on an independent basis.

#### Accident Patterns and Violations Analysis

The procedure for establishing optimum deployment patterns for selective enforcement is substantially the same for both large and small police agencies. Although the data collection method may range from hand entries on tally sheets to sophisticated computer programs, the information is basically the same.

Three main traffic accident frequency patterns should be analyzed. These are: time (which includes day and hour); location of the accident; and the type of violation that contributed to the accident. It is commonly found that traffic accident frequency patterns are uniquely related to the day of the week and the time of the day. After charting the chronological distribution of accidents, police shift arrangements can be designed so that police units are assigned proportionally to the incident distribution curve.

The second procedural step in organizing traffic accident data is to plot the location patterns. The information gained is then used to determine beat assignments. Selective enforcement units should be assigned to areas reflecting the greatest concentration of accidents.

The concluding procedural step is analyzing traffic accident reports. For selective enforcement purposes this procedure is to identify, categorize and tabulate the types of violations causing accidents. Under ideal conditions, a close match between enforcement action and violations in accidents would be anticipated.

The first two steps alone in accident analysis provide at least the information necessary to deploy selective enforcement manpower intelligently. (Adjustments should be made to compensate for radical changes in traffic patterns caused by tourism, spectator sports, or extreme weather conditions.)

If selective enforcement units are not used, these two steps determine where and when the beat officer should concentrate his effort. The third procedure makes possible the identification of enforcement actions which will yield the greatest returns by modifying accident-causing behavior.

Traffic accident spot maps have long been recognized as valuable tools in city, county and state accident prevention programs. The primary purpose of a spot map is to aid in the identification of high accident locations and areas. It furnishes a quick visual index to concentrations of accidents which warrant detailed analysis. Many police administrators prefer to keep several different spot maps for the same period. Maps are broken down by time of day, kind of accident, type of vehicle, and other pertinent information. Experience suggests that the greater the mass of information compiled on one map, the more accurate the forecast will be.

It is impossible to predict exactly when and where accidents will occur; making close approximations is the best that can be expected. Law enforcement cannot expect to match precisely their enforcement with accident experience by time, place or type of violation. This suggests that a single spot map, kept for a long period of time will show significant accident experience and distribution. This type of map is better than several different maps or maps for short periods of time that will give inadequate and possibly false pictures of what may be expected in the future. A spot map does not replace, but rather, supplements a location file of reports and is therefore only one of the tools in studying hazardous traffic locations.

In addition to the maintenance and use of accident spot maps and location files, a correct interpretation of accident statistics is essential. Through the use of these several tools it can be determined with some assurance where the high accident locations are and what are the peak periods of the day and the week. Subpeaks and low volume accident periods are also clearly identifiable. Those violations associated with accidents and how they compare in frequency will also be disclosed.

Police administrators will be able to obtain the necessary data to attack the accident problem through enforcement if they can achieve:

- Maximum accident reporting by the public
- Thorough and complete investigation by officers
- Intelligent and orderly analysis



With the data compiled from reports, the administrator must decide what manpower is available for selective enforcement activities. The administrator must clearly establish through carefully expressed department policy, and through command and supervisory personnel, that selective traffic law enforcement activities be given prime consideration.

Manpower allocation should be utilized where it can best fulfill the need. It is a budgeting of time, effort and ability so that a department can obtain the optimum effort from its manpower.

### Evaluation of Selective Enforcement Efforts

#### Effects of Enforcement

Observational Effect. If a driver sees a police officer or identifiable police vehicle he is reminded that he must obey the law or suffer the consequences. Few drivers violate traffic laws when they are in the presence of a police officer. The officer is a symbol of authority that inhibits certain types of driving behavior. While he is present, the risk of being apprehended and penalized for his violation is high. How long this effect will last after the officer leaves the immediate vicinity depends upon:

- The strength of the symbol of enforcement authority
- The frequency with which the driver sees such symbols.

The strength of the authority symbol is determined principally by what enforcement officers do. If they take action each time a violation is observed, the deterrent effect of seeing an officer tends to be high and more lasting. If action is infrequent, it is low and short-lived. The frequency of observation depends, of course, on how many police officers are available.

By Reputation. The long-range effect of enforcement programs in a community create general beliefs concerning police and enforcement which do not depend directly upon seeing a police officer. If enforcement is steady and active over a long period of time, drivers develop the feeling that the risk of being apprehended at any time is high. If the estimate of risk is high, drivers do not take chances frequently. As a result, long-term changes in the driving habits of the community gradually begin to take place.

It is the "influence by reputation" that enforcement strives to attain. It is usually these long-range effects which lead to permanent improvements in the driving habits of a community.

The type of traffic has a great deal to do with the effectiveness of enforcement effort. Long-term driving habits are usually affected most by the enforcement climate which exists in the community where the driver lives and works—not where he is driving at the moment. Thus, if a great majority of traffic on a given highway or in a given community is transient, it will be more responsive to director observational effect than to the reputation for enforcement action.

The amount of enforcement determines the effectiveness of both immediate and long-range enforcement effort. The amount of enforcement may be measured in two different ways:

- The number of police officers or patrol units patrolling in a given community at any time.
- The frequency with which actions such as arrests, citations or warnings are taken against drivers who commit violations.

The number of police officers visible determines the frequency with which drivers are reminded of the presence of enforcement authority. The frequency of enforcement action determines the strength of the reaction to the symbol of authority. Both play an important part in the development of long-range enforcement efforts.

How enforcement is applied helps to determine its effectiveness. Certain kinds of law violations are more hazardous than others in terms of producing accidents. By directing special attention to such violations, specific changes in driving behavior can be effected. Violations are more plentiful at certain times and places, as are accidents. The application of maximum enforcement effort at the times and places where violations are most plentiful makes the most effective use of available enforcement units.

#### Evaluating Selective Enforcement Activity

Once a traffic selective enforcement program has been implemented, periodic evaluations should be conducted to determine if enforcement efforts have been fruitful. Tabulation of all accident information including traffic violations and other pertinent data necessary to analyze the accident picture should be accomplished.

After an analysis of the accident data is completed, then a thorough evaluation of the enforcement activity including warnings, verbal and written, and citations should be accomplished. When a complete tabulation of selective enforcement activity has been compiled, then the selective enforcement program can be evaluated.

A comparison of work required (selective traffic enforcement) against work accomplished (traffic enforcement efforts) will determine the results of a traffic enforcement program.



SELECTIVE ENFORCEMENT  
FORMS

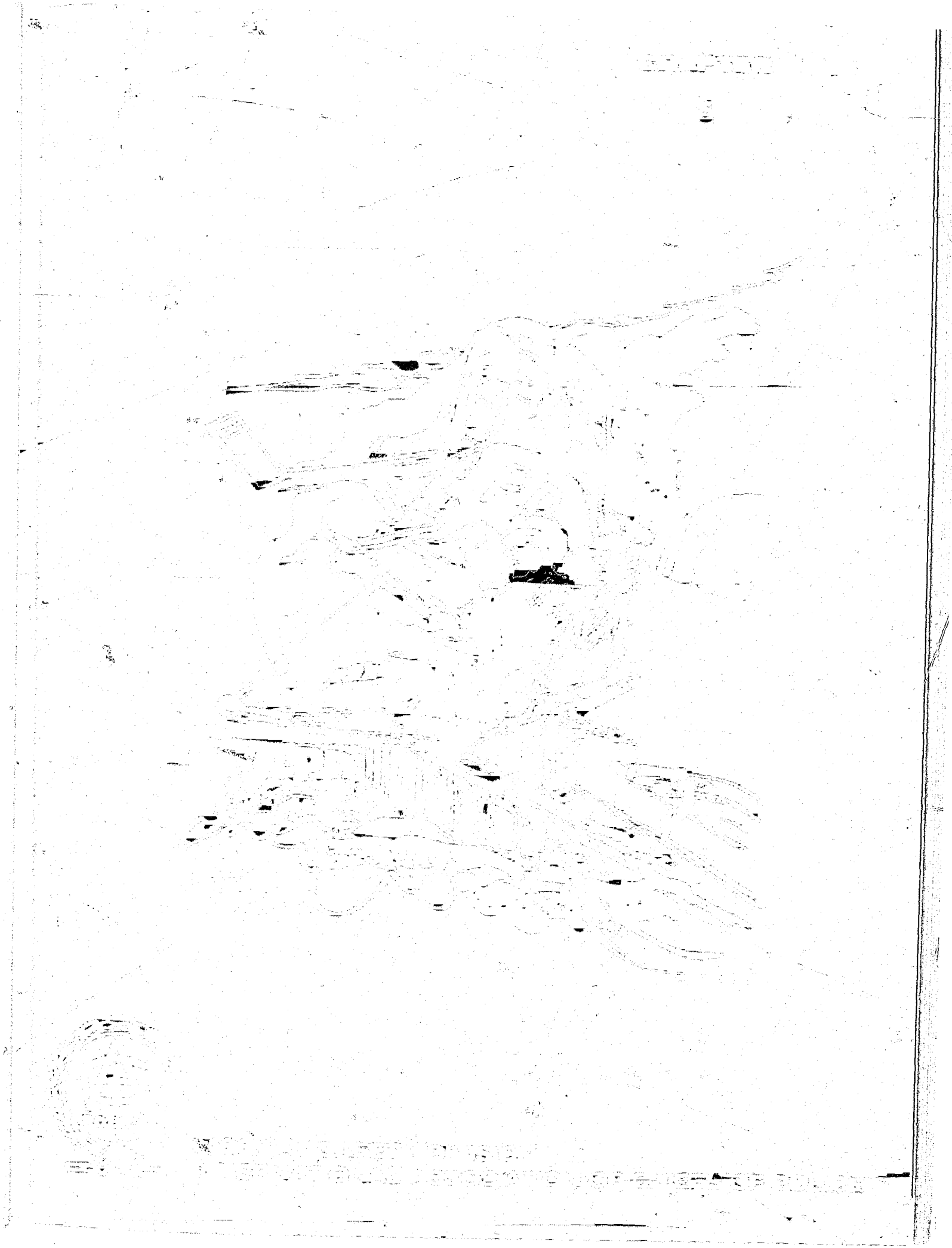
MONTH \_\_\_\_\_

SCHEDULE "D"

| Month & Year     | 1971      |   |             |   | 1972      |   |             |   |
|------------------|-----------|---|-------------|---|-----------|---|-------------|---|
|                  | Accidents |   | Enforcement |   | Accidents |   | Enforcement |   |
|                  | No.       | % | No.         | % | No.       | % | No.         | % |
| Time of Day      |           |   |             |   |           |   |             |   |
| M - 12:59        |           |   |             |   |           |   |             |   |
| 1:00 AM - 1:59   |           |   |             |   |           |   |             |   |
| 2:00 AM - 2:59   |           |   |             |   |           |   |             |   |
| 3:00 AM - 3:59   |           |   |             |   |           |   |             |   |
| 4:00 AM - 4:59   |           |   |             |   |           |   |             |   |
| 5:00 AM - 5:59   |           |   |             |   |           |   |             |   |
| 6:00 AM - 6:59   |           |   |             |   |           |   |             |   |
| 7:00 AM - 7:59   |           |   |             |   |           |   |             |   |
| 8:00 AM - 8:59   |           |   |             |   |           |   |             |   |
| 9:00 AM - 9:59   |           |   |             |   |           |   |             |   |
| 10:00 AM - 10:59 |           |   |             |   |           |   |             |   |
| 11:00 AM - 11:59 |           |   |             |   |           |   |             |   |
| 12:00 N - 12:59P |           |   |             |   |           |   |             |   |
| 1:00 PM - 1:59   |           |   |             |   |           |   |             |   |
| 2:00 PM - 2:59   |           |   |             |   |           |   |             |   |
| 3:00 PM - 3:59   |           |   |             |   |           |   |             |   |
| 4:00 PM - 4:59   |           |   |             |   |           |   |             |   |
| 5:00 PM - 5:59   |           |   |             |   |           |   |             |   |
| 6:00 PM - 6:59   |           |   |             |   |           |   |             |   |
| 7:00 PM - 7:59   |           |   |             |   |           |   |             |   |
| 8:00 PM - 8:59   |           |   |             |   |           |   |             |   |
| 9:00 PM - 9:59   |           |   |             |   |           |   |             |   |
| 10:00 PM - 10:59 |           |   |             |   |           |   |             |   |
| 11:00 PM - 11:59 |           |   |             |   |           |   |             |   |
| Total            |           |   |             |   |           |   |             |   |

SCHEDULE "E"

| Year & Month | 1971      |   |             |   | 1972      |   |             |   |
|--------------|-----------|---|-------------|---|-----------|---|-------------|---|
|              | Accidents |   | Enforcement |   | Accidents |   | Enforcement |   |
|              | No.       | % | No.         | % | No.       | % | No.         | % |
| Day of Week  |           |   |             |   |           |   |             |   |
| Monday       |           |   |             |   |           |   |             |   |
| Tuesday      |           |   |             |   |           |   |             |   |
| Wednesday    |           |   |             |   |           |   |             |   |
| Thursday     |           |   |             |   |           |   |             |   |
| Friday       |           |   |             |   |           |   |             |   |
| Saturday     |           |   |             |   |           |   |             |   |
| Sunday       |           |   |             |   |           |   |             |   |
| Total        |           |   |             |   |           |   |             |   |



## CHAPTER 5

## MANPOWER ALLOCATION AND DISTRIBUTION

Careful analysis of motor vehicle traffic accident frequency at specific locations will reveal certain patterns and trends. A determination of problem areas can be developed quickly with the use of measures already discussed.

Enforcement activity must occur at those times and places where accidents are frequent and action should be taken against those violations which contribute to the collision frequency. Arbitrary assignment of traffic police officers to broad, general areas is inefficient and ineffective. The basic "consumed time" concept which is employed in the allocation of general patrol resources is the same as that utilized for selective enforcement.

Relationship Between Traffic and Patrol Activity

The major thrust of this manual is directed toward the police role in accident prevention and police traffic services. Specialized resource allocation was discussed in the previous chapter for utilization by those agencies with traffic divisions, bureaus, etc. For those departments not able to specialize to the extent that a separate and distinct traffic unit can be "fielded", a general manpower allocation and distribution scheme is presented in this chapter.

Over 37,000 police departments in the United States report that they have 100 police personnel or less and over 31,000 indicate a total sworn personnel strength of less than five. (See U. S. Bureau of Census Table.)

Traffic operations, as an integral part of the enforcement system, is, in fact, a non-separable element. On this premise, we will proceed in what we consider a practical approach to police manpower resource allocation.

SIZE OF POLICE DEPARTMENT BY UNIT  
OF GENERAL LOCAL GOVERNMENT, 1967

| General units of governments<br>having    | No. of<br>Gov. Units | Percent<br>of Total | No. of police<br>personnel | Percent<br>of Total |
|---|----------------------|---------------------|----------------------------|---------------------|
| 0-4 full-time equivalent<br>policemen     | 31,442               | 82.3                | 14,884                     | 4.4%                |
| 5-9 full-time equivalent<br>policemen     | 2,504                | 6.5                 | 16,579                     | 4.9                 |
| 10-24 full-time equivalent<br>policemen   | 2,463                | 6.4                 | 37,387                     | 11.0                |
| 25-49 full-time equivalent<br>policemen   | 942                  | 2.5                 | 31,752                     | 9.4                 |
| 50-99 full-time equivalent<br>policemen   | 481                  | 1.3                 | 33,378                     | 9.8                 |
| 100-199 full-time equivalent<br>policemen | 203                  | .5                  | 28,081                     | 8.3                 |
| 200-299 full-time equivalent<br>policemen | 71                   | .2                  | 16,977                     | 5.0                 |
| 300+ full-time equivalent<br>policemen    | 116                  | .3                  | 160,302                    | 47.2                |
| Total                                     | 38,202               | 100.0               | 339,340                    | 100.0               |

Source: U.S. Bureau of the Census. Compendium of Public Employment. 1967 Census of Governments, Vol. 3, No. 2, Table No. 19.

Because specialization is not always permitted due to restricted and limited resources, the IACP in 1970 adopted a position concerning Specialization versus Generalization:

SPECIALIZATION VERSUS GENERALIZATION  
1970

WHEREAS, The decision to specialize is extremely critical to the police administrator and has a great effect on the total operation of the police agency; and

WHEREAS, Law enforcement executives are aware that when specialization is carried to excess it seriously affects departmental operations; and

WHEREAS, All departments regardless of size generally offer the same services and perform similar functions, it is imperative to maintain a delicate balance as it relates to specialized and generalized units or divisions within the organizational structure; therefore be it

RESOLVED, That due to the many complex variables which are responsible for jurisdictional problems, the International Association of Chiefs of Police recommends the following guidelines for use in determining the need for specialized traffic units:

1. Every agency regardless of size should have someone either in a staff capacity or in the line function, trained in the areas of highway safety management and in a position to stimulate and evaluate effective action.
2. In the event that a specialized traffic unit is determined to be necessary, careful evaluation should be made in terms of public protection, cost and benefits to determine what duties should be performed by the functional units (Patrol-Traffic-Investigative).
3. Regardless of the degree of specialization within the department, most street-traffic duties should be performed by the motorized patrol division.
4. Specialization should be limited to need. Some specialization is necessary, but police manpower is limited and increased specialization usually results in diminished patrol. Again, public protection and cost benefits should be considered.

Police agencies generally do not function in a manner which permits an absolute separation of traffic activity and general patrol operations. That is, a traffic officer or supervisor is often assigned to both areas of operation simply by virtue of the fact that he is a sworn police officer. Similarly, the same is true of uniformed patrol officers.

There is a close interrelationship between traffic activity and all other police activities. For example, a motor vehicle operator, who is apprehended and cited for a traffic violation, may also be of special interest to the police for other reasons—he may be wanted by another jurisdiction, he may be in flight from the scene of a crime, and so on. Furthermore, traffic-related records, such as registration records, operator permits, citations, collision reports, and the like, all play an important role in both traffic management and criminal investigation.

Because of this close interrelationship, such problems as the definition of responsibilities and the determination of resource requirements must be approached with care.

#### The Need for a Sound Manpower Distribution System

Proper allocation of resources is one of the most critical problems facing law enforcement today for three basic reasons. First and foremost among these are considerations of efficiency and economy. The salary portion of the police budget is by far the greatest expense in a typical departmental budget, and since the police department is usually one of the largest of state and local governmental agencies, police salaries represent a major expenditure to the taxpayer.

Second, the allocation problem has a fundamental relationship to crime repression, preventive patrol, investigative efficiency, and traffic enforcement. Proper allocation can mean the difference between high crime and accident rates, or lower ones, and can significantly affect departmental efforts.

Third, proper allocation and distribution of resources is an important factor in police morale, which in turn affects productivity.<sup>11</sup>

The term allocation, as used here, is the determination of the overall manpower requirements for the department and for each unit within the department, while the term distribution means the assignment of a given number of personnel according to workload, time or function.

It becomes rather obvious that one of these two activities—distribution—is much more easily accomplished than the other. It is a fairly easy matter to distribute available manpower according to workload, if sufficient factual information is available. For example, if a division or bureau commander is given a group of 100 patrol officers, and he knows the measurable workload is divided by shifts into groups of 22, 33, and 44 percent of the total, he knows he must assign approximately 22, 33, and 44 percent of his beat officer strength to these same shifts if he wants to keep the workload equitably apportioned.

Similarly, reasonably accurate methods have been developed to distribute the work into motorized patrol beats of equal workload. Some sophisticated work in distribution of available resources has been carried out in the past by many agencies, institutions

<sup>11</sup>Roy C. McLaren, "Allocation and Distribution of Police Patrol Manpower," International Association of Chiefs of Police.

and individuals. One significant contribution was by August Vollmer and the Berkeley Police Department in the early 1930's. Even in those days, Berkeley tested and adjusted its patrol beat structures by calculating the number of felonies, arrests, investigations, accidents, and so on in each beat, and conducted studies of the time required to conduct general investigations by patrolmen, those involving detective investigations, and arrests. O. W. Willson, noted police authority and former superintendent of the Chicago Police Department, developed and refined the distribution technique, and applied it to numerous cities. Other noteworthy efforts in distribution have been made by Frank Walton of the Los Angeles Police Department, who used the term "selective distribution," the Oakland Police Department, R. Dean Smith, Director of the IACP Professional Standards Division, and others interested in the distribution problem.

These approaches have dealt with the measurement of workload by time of day, day of week, by shift, by month, and by census tracts and other small areas. Different classes of events have been timed and weighted, and differences in time have been discovered according to the time of day or according to shift. Construction of patrol beats and precinct boundaries has been based on logical measurements, with appropriate factors considered such as event weightings, area, response time, presence of hazards, and so on. Computers have aided the "selective distribution" process, and in recent years the application of cybernetics to deployment, as summarized by Robert Gaunt of the Los Angeles Police Department, has received widespread attention by progressive agencies.

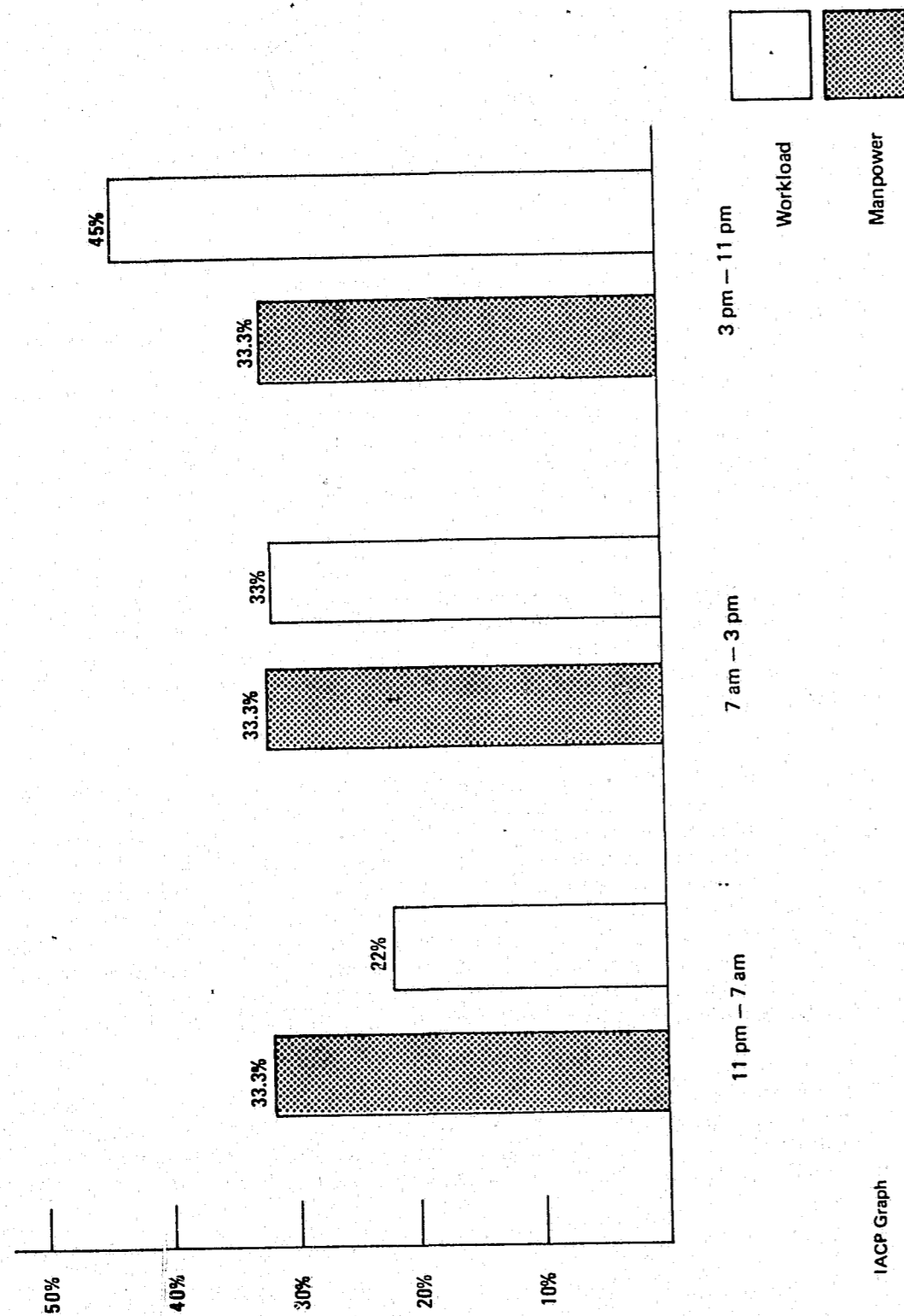
Inadequate distribution of resources is a great problem in itself, and one that affects a great many departments—perhaps a substantial majority of them. It is very common to find that a department has simply distributed manpower equally among the shifts; in some cases only for one reason even when they know better—it is easier to rotate shifts that way. (See Graph 5.1.)

This practice is widespread even though most departments can demonstrate a level of activity on the swing shift which is roughly twice as high as the midnight-to-8 am shift. Distribution according to workload by day of week is similarly ignored, either because of the lack of adequate measurement or simply to equalize the number of nights off for each day in the week—even though the called-for-services workload is typically twice as high on Friday and Saturday evenings as it is for comparable periods on Tuesday and Wednesday. Patrol beat boundaries are often determined by seat-of-the-pants estimates, or by arbitrarily dividing a city map into a number of beats of approximately equal area. In this sort of situation, some officers run themselves ragged on some beats on some shifts, while others are bored with idleness.

Waste of manpower because of inadequate functional distribution is also highly apparent in many departments today. Some have excessive numbers of men assigned to foot patrol, traffic corner duty, station duties, and so on, while there are insufficient men assigned to motorized patrol, general investigative duties, and traffic enforcement duties.



GRAPH 5.1  
Inadequate Manpower and Workload Distribution



IACP Graph

The remaining pages of this chapter describe a sound approach to the allocation and distribution of manpower which has proven successful in many progressive police agencies throughout the United States.

Determining Manpower Needs

In spite of an urgent need, precise determination of the best balance between minimum strength and maximum effectiveness is not yet possible. The reason for this is that no exact method exists for determining the proper number of hours which should be devoted to preventive patrol duty. No one can say with assurance that a given amount of time spent in purposeful patrol will prevent a given number of incidents. On the other hand, the manpower required to handle investigations of offenses and incidents, inspectional tasks, and other services can be established with much greater accuracy.

What system does a chief use to determine the overall size of his force? Too often, we find that there is no system beyond the next year's budget. Prepared with little or no thought, it is typically based on the premise that it must remain within the allowable percentage increase for the budget year.

Often a sudden increase in criminal activity, deteriorating traffic conditions, and similar considerations bring about an increase in police personnel and the police budget. Emotional decisions are not usually based on sufficient facts and result in increased expenditures of the tax dollar with little, if any, lasting benefit.

Present Systems for Determining Manpower

It's no secret that there are substandard police agencies. Prominent among the factors contributing to substandard performance is misuse of manpower. Patrol and traffic enforcement activities are not conducted in a sophisticated manner.

Almost all police agencies adhere to the three-shift concept in deployment of their force. The normal watch hours for these department are either 8 am to 4 pm, 4 pm to 12 midnight, and 12 midnight to 8 am, or 7 am to 3 pm, 3 pm to 11 pm, and 11 pm to 7 am. In many instances, personnel are equally distributed on each shift even though there are no statistics to prove that the workload is evenly distributed among the three watches. In fact, most police chiefs will readily agree that the evening shift carries a greater workload than the day shift, and the day shift a greater workload than that of the midnight shift.

Patrol is the most fundamental of police operations. Uniformed officers assigned to conspicuous patrol vehicles provide the basic services for which any department is

established. The patrol force seeks to prevent law violations by creating the impression of omnipresence. When placed in proper perspective, all other police operations assist or supplement patrol activities.

Basically, traffic enforcement activities are similar to general patrol activities. While necessarily more specialized and narrower in scope, distribution of selective traffic enforcement personnel is accomplished along quite similar lines. In other words, once a police agency is effectively distributing manpower for general patrol activities, the capability for distributing selective traffic enforcement personnel exists.

In many police agencies, there is little relationship between the demonstrated need for service in any given area and the patrol strength assigned there. In some units workload is heavy, and in others, there is more than enough manpower for the workload experience. (See Graph 5.1 for a typical manpower and workload distribution sample.)

These problems can be attributed to:

1. A desire to have an equal number of patrolmen and supervisors on each shift, partly to facilitate scheduling and rotation of shifts. Assigning manpower in proportion to need would result in approximately twice as many men being assigned to the 3 pm to 11 pm shift as on the 11 pm to 7 am shift, which complicates the rotation of men. This, in turn, requires planning to a degree not found in many departments.
2. Inability to recognize the value and role of the patrol function, and willingness to sacrifice patrol strength while building up other operational units in numbers and prestige.

#### A Sound Approach to Manpower Allocation and Distribution

The following approach can be adopted for use in any police department regardless of size or organizational structure. The techniques described here and the philosophy determining the application of these techniques are a significant improvement over trial and error or guess work allocation techniques which have been in existence throughout the United States. This method has proven effective in a number of progressive police agencies.

The first step in determining the proper number of men in a department is to decide how many officers are necessary to staff the uniformed patrol force. To do this effectively, the amount and type of police workload by time and place of occurrence must be known. Demands for police service occur in fairly systematic and predictable patterns over an extended period of time. Rather accurate predictions of future requirements can be made on the basis of recorded calls for police service. The major objective is to give a proportional share of the total workload to each patrol beat.

From the workload pattern, it must be determined how many patrol beats are required for each shift or watch. The number will vary from shift to shift since police workloads seldom occur in equal proportions by shift. Applying the same reasoning to the location of police workloads, individual beat configurations should be structured so that each will have a proportionate share of the total workload. Once the number of beats and configurations are known, manpower can be assigned in sufficient quantities to staff the beats. This coverage cannot be provided by the simple expedient of assigning one man for each beat. Such factors as days off, vacations, holidays, training time, and other activities which detract from an officer's productive patrol time must be considered.

#### Records Necessary to Determine Workload

Source documents must be identified which would most accurately reflect the police workload. In many departments, a radio log is kept to record pertinent information concerning each call for service and can be used for this purpose; in some agencies the case files themselves may be considered as source documents. Some departments maintain a daily log which also may be used as a source. Arrest records should also be scrutinized.

The major requirement of any source document is that it accurately reflects the workload of the department including the many hours of work performed by the patrol force in such activities as answering calls for service, making field contacts, making arrests, and handling traffic accidents.

#### Definitions

The following definitions are provided to clarify the terms used in describing the allocation and distribution of manpower.

|                     |   |
|---------------------|---|
| <u>Post</u>         | A fixed point or location of assignment such as a traffic control assignment. |
| <u>Beat</u>         | A geographical area of the community assigned to a uniformed officer.         |
| <u>Sector</u>       | A geographical area consisting of a number of beats.                          |
| <u>District</u>     | The primary geographic subdivision of the patrol force.                       |
| <u>Shift, Watch</u> | Used synonymously, a working time period, usually eight consecutive hours.    |

Reporting Area

A small subdivision of a beat used as a base in the distribution of manpower. Its boundaries are usually well defined by main streets, railroads, natural terrain and so on.

Classes of Events

Broad categories of incidents or items of work which are a part of police responsibilities used to measure the amount and type of patrol workload.

Methodology

A workload-manpower distribution study should adhere to the following steps:

1. The total number of calls for police service (complaints, offenses, and other incidents) handled by the police department for a one-year period should be carefully examined. The number of calls for service used may represent an accurate and statistically correct percentage of the year's total workload such as a 25-percent sample.
2. A map of the community should be divided into small reporting areas designed and arranged to facilitate later consolidation into patrol beats. Reporting areas should represent a population of approximately 1,000 persons. If an area is less densely populated, the reporting areas will be larger in size.
3. Each incident should then be located geographically on the map, and the reporting area for each call determined.
4. Each incident should be identified as belonging to one of the classes of events listed below, and the time and day of the week of occurrence (or reporting) should be ascertained:

Part I Offenses

Part I Arrests

All Other Offenses

All Other Arrests

Traffic Accidents

Miscellaneous Services

5. This information should be entered on specially designed workload-manpower distribution coding cards—one card for each incident. This coding card should include the month, day, time, event classification, and the location by reporting area.
6. These cards must be key punched and the data analyzed by a computer, programmed to show:
  - a. The number of incidents multiplied by relative weighting factors (to be described subsequently) in each reporting area by shift.
  - b. Workload by day of week.
  - c. Workload by time of day in hours.
  - d. "Within-shift" variations in workload.

Ascertaining the Required Number of Patrol Beats

The workload of the patrol force does not occur with equal intensity in each of the 24 hours of the day. The normal distribution existing in many departments indicates that 44 percent of the workload occurs on the evening shift, 33 percent on the day shift, and 22 percent on the midnight shift.

However, each police agency must ascertain its individual optimum shift hours and the percentage of workload per shift in order to determine the number of patrol beats necessary for each shift.

Within-Shift Variance. Within-shift variations in the workload should be one of the outputs of the computer. This computation should show the total variations occurring in hourly peaks and lulls for each possible combination of three 8-hour shifts per day. The object is to select the shift hours with the least internal variations of workload since they are the most efficient in terms of minimizing the difference in workload between peaks and lulls in activity. It is desirable to minimize imbalance such as heavy workloads during the first two hours of a shift and below-average workloads for the remaining hours. (This means that there are either too many or too few men to handle the workload.)

Day-of-Week Variance. Workload variations also occur by day of the week. Therefore, the computations must provide the average daily workload. The percentage above or below the daily average can then be computed for each day of the week.

Normally, the heaviest workloads will occur on Friday and Saturday with below-average workloads occurring during the middle of the week. For this reason, the assignment of days off should be scheduled so that the maximum number of patrol officers is available for the heavy workload days. This can be accomplished by giving most police officers their days off on the lower workload days during the middle of the week.

Calculating the Number of Patrol Beats. Previous studies have indicated that the average time required to conduct a preliminary investigation of a case by members of the patrol force is 45 minutes. It is possible to calculate the average time required to take a traffic enforcement action for both hazardous and nonhazardous traffic law violations.<sup>12</sup>

Calls for routine police service on a given tour of duty do not occur on a regular, predictable basis. The same is true of traffic law violations, except over a longer period of time. That is to say, it would be fairly easy to predict the number of driving-while-intoxicated violations that would warrant enforcement action in a given sector over a period of 30 days. To predict the probability of that same violation occurring in the same sector on a given night would be much less feasible.

A buffer or stacking time must be provided to compensate for the tendency of calls for service and traffic violations to occur in sporadic groups rather than in equal intervals throughout a given tour of duty. This buffer factor also allows time for various activities such as servicing the police vehicle, personal relief, eating, supervision and so forth.

The time required for aggressive preventive patrol must also be considered. Experience has shown that about one-third of an officer's time should be spent in handling requests for service and investigations. The remainder should include such activities as routine premises inspection, contacting persons, issuing traffic warnings and citations, patrolling high-hazard locations, and performing administrative duties. After the calculation of the time required to handle investigations and other requests for service has been made, and after making allowances for buffer and administrative time, the number of patrol beats can be determined.

The formula used to determine the number of patrol beats needed for a specific watch or shift is as follows:

1. The number of incidents is multiplied by .75 hours (45 minutes) which is the average time required for handling an incident or investigation at the patrol force level.

<sup>12</sup> See appendix entitled "Classification of Traffic Law Violations," 1964, revised 1966.

CHAPTER 6

DEMONSTRATION PROGRAMS

DRIVING WHILE INTOXICATED  
ENFORCEMENT PROGRAM

VIOLATION SURVEY PROGRAM

DRIVING WHILE INTOXICATED  
ENFORCEMENT PROGRAM

Program Title

A demonstration program in the selective enforcement of drinking-driver laws.

Objective

The primary objectives of the program are to increase the drinking-driver arrest rate and reduce alcohol-related traffic offenses by fielding units which are specially trained and equipped to apprehend and process alcohol-impaired drivers. The ultimate objective is to reduce the frequency of serious traffic accidents in which alcohol is a contributing factor. This program, known as a component of the Alcohol Safety Action Program, will accomplish its objectives without impacting or reducing general patrol efficiency.

The program is designed for a police agency which routinely uses vans or panel trucks for prisoner transport. (The transfer of arrested persons from the field to jail is usually a special patrol function in cities ranging upwards from 200,000 inhabitants.) Studies have shown that prisoner transport vehicles are used on actual transporting assignments as little as 11 percent of the shift period.<sup>13</sup> Maximum utilization ordinarily does not exceed 44 percent.

Departments which use partitioned patrol vehicles for supplementary prisoner transport should experience correspondingly low utilization of their prisoner "wagons." In this proposal, the special prisoner transport function is assimilated by the drinking-driver processing teams, thereby upgrading the agency's special enforcement efforts without degrading the agency's attention to general crime activities.

The objectives of the program will be met through the realization of the following goals:

1. To create special units that will focus on intensive drinking-driver law enforcement.

<sup>13</sup> Oakland Police Department, Oakland, California, 1971.



2. To implement an expeditious process for drinking-driver enforcement that will reduce the present complexities involved in drunk arrests.
3. To improve techniques for gathering evidence that will be useful in the prosecution of violators of drinking-driver laws.
4. To initiate referrals to appropriate community health agencies so that chronic offenders may be isolated and treated as appropriate.
5. To improve training of all field officers in drinking-driver laws and arrest procedures.

#### Statement of the Problem

It is axiomatic that drinkers who drive are a serious threat to the public safety. Nearly 50 percent of the traffic fatalities in the United States are a result of collisions in which an alcohol-impaired driver is involved. Drinking-drivers are responsible for an additional 800,000 nonfatal collisions annually. Furthermore, the attendant loss of private property is now measured in billions of dollars.

As the grim statistics increase, it becomes apparent that traditional public education and prevention programs have failed. Some of the reasons for failure are no doubt related to cultural factors. The use of alcohol is deeply rooted as an acceptable social mechanism in this country; it is estimated that 80 million adults, or 62 percent of the total population, drink alcoholic beverages at least occasionally. The United States is not only a nation of social drinkers; it is also a nation of drivers. We have become singularly dependent on the private automobile as a mode of transportation. In 1965 there were 91,000,000 licensed drivers operating 80,000,000 vehicles.

All too often, conformance to the custom of drinking co-exists with a conformance to the custom of driving. Despite the well-known hazards involved, this pattern of behavior seems to be socially acceptable. Attitude studies show that, while most respondents verbally condemn drunk driving, they show little willingness to sanction anyone who drives after he has had "just a few." It would seem that the prevalent attitudes toward drinking and driving make the public generally unreceptive to information that demonstrates how destructive to driving ability "just a few" drinks can be. Such public education programs are attempts to go against the current of social custom.

A large part of the responsibility for failing to prevent drunk driving rests at the enforcement level, and here again attitude is a factor. In any police department, operating policy is set as much in the lockerroom as it is in the chief's office. Wherever the process of arresting an intoxicated driver is a cumbersome one, there will be a corresponding reluctance on the part of the patrolmen to make such arrests except in the most extreme cases of driving while intoxicated.

The fact that many patrolmen do not recognize impairment in "borderline" cases also hampers drinking-driver apprehension.

Whether it is due to policemen's reluctance to arrest or inability to judge impairment, many intoxicated drivers escape apprehension and, as a consequence, habitually violate drinking-driver laws. A study of the drinking-driver arrest records of police departments in several cities<sup>14</sup> revealed that, regardless of the blood alcohol concentration legally presumptive of intoxication, police officers make most arrests in the .23 percent to .25 percent blood alcohol concentration range. Most experts agree, however, that most people at the .10 percent level are incompetent to drive.

The arrest rate at the lower, but still dangerous, blood alcohol levels will increase only when the element of subjectivity in drinking-driver arrests is reduced. True objectivity requires improved training in the detection of erratic driving, a streamlined procedure for processing arrestees and, perhaps most important, scientifically valid field tests for sobriety. In this age of sophisticated law enforcement equipment and techniques, drunk driving prevention lags far behind. It is curious and inexcusable that any police department in the United States would continue to rely on simple coordination tests to determine reasonable cause to arrest, when relatively inexpensive chemical testing is available for field screening purposes.

It is not likely that a police department serving a large urban area can allocate sufficient personnel resources to totally eliminate drunk driving. Few departments, faced with rising crime rates and other demands for service, have been able to devote a significant part of their overall effort to DWI safety programs. But most police departments can significantly reduce the incidence of drunk driving by using modern field test equipment and motivating officers to take proper enforcement action in every case of drunk driving they encounter.

#### Program Impact

The Alcohol Safety Action Program, with its selective concentration on violations of laws related to driving while intoxicated, will increase traffic safety. Headway toward this objective will be achieved in the initial stages of the program by specially trained officers whose function it is to speedily remove intoxicated drivers from the street. Both the drinking-driver arrest rate and the conviction rate will increase due to the improved evidence gathering and processing techniques of the support team operating in the field with special vehicles and equipment.

It is anticipated that the combination of more efficient DWI law enforcement, cooperating courts, and a referral follow-up program will result in a gradual alteration of

<sup>14</sup>Analytical Section, Oakland Police Department, Oakland, California, 1963.

the behavior of drivers who drink. Specifically, as public awareness of the program grows, a hesitance to drive after drinking will develop until a climate of compliance to drinking-driver laws is established.

There may be a lower incidence of compliance among drivers who have an alcohol-related problem than among drivers who drink socially only. Thus, alcoholics would be more likely to be repeat offenders of drinking-driver laws. The automatic referral system which is built into this program is designed to focus the attention of community health officials on this class of offender. If a follow-up treatment program is conducted by community health agencies, the Alcohol Safety Action Program will have some impact on the greater social problem of alcohol misuse as well as on the specific problem of drunk driving.

The net gain of a successful program will be measured by a reduction in injuries, fatalities, and property damage traffic accident. Additionally, the project should favorably affect police man-hours involvement in accident investigation, insurance rates, the general security of the community, and the general quality of life within the urban area. These gains will be achieved through a project which will not require a major shift in police manpower allocations.

#### Implementation

Specially equipped station wagons will be operated by two officers in each vehicle to effect intensive enforcement of alcohol-related traffic laws. These vehicles will be equipped with video-tape recording (VTR) cameras mounted inside the vehicles, portable encapsulator kits for immediate administration of breath tests, and "cage" partitions for the safe transportation of arrestees. The teams will concentrate on identified critical areas, watching for erratic driving near alcoholic beverage establishments, and will assist other officers in the handling of suspected drinking-drivers. The intent is to sharply increase the rate of drinking-driver arrests by expediting the arrest process.

The alcohol safety teams will be responsible for the following duties:

1. Intense enforcement of laws pertaining to drunk driving.
2. Processing of arrestees and administration of chemical tests to drunk drivers arrested by the team or by other officers.
3. Preparation of cases for the prosecuting attorney and appearance as witnesses in court.
4. General crime prevention and prisoner transportation.

The alcohol safety teams will be assigned to the general Patrol Division and will

operate on a 24-hour basis. While it is anticipated that at least 40 percent of their total time will be expended on activities within the scope of this program, arrangements will be made to transfer the non-program duties of the teams to other units during the critical late evening and early morning hours in order that the alcohol safety officers will be free to devote full attention to drinking-driver apprehension during those hours.

The teams will assume the responsibility of processing all persons arrested for drunk driving during their tours of duty. Team members will arrange for the administration of blood and urine tests where governing statutes give the arrestee a choice of these tests in addition to a breath test.

The alcohol safety teams will utilize a portable encapsulator device to take the breath sample immediately subsequent to the arrest whenever this option is acceptable to the arrested person. The device intended for use is specially designed to enclose in a controlled length of indium tubing three separate capsules of identical volume of breath sample. In addition to those used by the alcohol safety teams, the encapsulators can be issued to supervisors.

The samples thus taken will be delivered to a criminalistics laboratory appropriately packaged and marked for analysis. A gas chromatograph should be used by laboratory personnel who are experienced in the processing of evidence and testifying in court. The samples will be analyzed and the results forwarded to the prosecuting attorney.

The video-tape recorder systems have been utilized with some success in several cities to record sobriety tests administered in stations. The project will expand on such use and evaluate the VTR as field equipment installed in special vehicles to record the actual driving irregularities that draw attention to the violator and to record the field sobriety examination. The tapes thus used will be available for play-back in court on an 18" screen monitor.

An incidental benefit from the use of the VTR is its use for training purposes. After the tapes have served their evidentiary purpose, they will be shown in recruit training classes to supplement instruction on drinking-driver apprehension and processing, and in daily briefings for field personnel in-service training.

#### Outline of Principal Tasks

- I. Phase I
  - A. Development of a systems design
    1. Community description

- a. Population
  - b. Area in square miles
  - c. Physical characteristics
    - (1) Adjacent communities
    - (2) Residential areas
    - (3) Entertainment centers
  - d. Traffic volume
  - e. Total miles of roadway within community
    - (1) State and Interstate (freeways)
    - (2) City (surface streets)
2. Analysis of department's personnel strength by divisions
  3. Development of drinking-driver data
  4. Evaluation of department's present procedures relevant to drunk drivers
    - a. Prevention
    - b. Patrol
    - c. Arrest
    - d. Administration of tests
    - e. Transportation
    - f. Booking
    - g. Coordination with other agencies (e. g. , prosecuting attorney)
  5. Development of operational project based upon needs defined by preceding analyses
  6. Development of cooperation by other agencies

# CONTINUED

## 1 OF 3

- a. Office of prosecuting attorney
  - b. Court of hearing
  - c. Community health facilities
  - d. Others as appropriate
- B. Preparation of training bulletins
1. Laws relevant to drunk drivers
  2. Statistical patterns of violation
  3. Significance of the problem (e. g. , statistics on alcohol-related accidents)
  4. Methods of detection
  5. Instruction in use of equipment
    - a. Video-tape recorder
    - b. Chemical test kits
- C. Advertisement of bid specifications and awarding of contracts
- D. Selection of personnel
- II. Phase II
- A. Training of program personnel in accordance with training bulletins prepared during Phase I
  - B. Installation of equipment
  - C. Evaluation of operational test
- III. Phase III
- A. Selection of training tapes from program tapes
  - B. Evaluation of fully operating program
- IV. Phase IV
- A. Implementation of recruit and in-service training tapes
  - B. Continued evaluation

## VIOLATION SURVEY PROGRAM

### Program Title

A selective enforcement/violation survey program.

### Objective

The primary objective of the program is to institute methods that will produce valid assessments of the effect of selective traffic enforcement.

### Statement of the Problem

An elaborate enforcement rationale together with a set of parts and standards has been developed and utilized by police agencies for decades. There is, however, a fundamental weakness in the classic selective enforcement principle. The simple fact is that too many variables (which cannot be isolated and identified) influence accident statistics.

Heroic efforts have been made by the most eminent of experts in the field of traffic police administration to validate the relationships between accidents in a given jurisdiction and the effectiveness of a selective enforcement program. These labors have been useful in focusing attention on the importance of a systematic approach by the police to the vehicle accident problem. They have rarely, however, produced valid assessments of the effect of selective enforcement.

The fact that not all enforcement actions lend themselves to measurement further complicates the process.

There are, to be sure, some discrete enforcement activities such as speeding and drinking-driver arrest programs which are suitable subjects for a testing environment. But what about warnings, both oral and written? And how about vehicle equipment safety checks with accompanying sanctions?



Most selective enforcement/accident reduction studies simulate a scientific statistical methodology but conclude with an empirically deduced evaluation. Community safety programs traditionally revolve around the three E's concept (engineering, enforcement and education). With the notable exception of engineering, the plethora of environmental conditions has consistently blocked attempts to relate favorable accident trends to the safety programs.

More and more officials, who are burdened with responsibilities for selective enforcement, have theorized that a better measure of effectiveness can be obtained from before-and-after studies of driver behavior.

Unfortunately, difficulties associated with environmental control and subjectivity have also hampered "traffic law observance" or "driver violation" surveys. It has been found that officer-observers employed on such projects tend to interpret driver violations from within their own frame of reference.

It was noted, for instance, that officers were bad judges of speed—often erring as much as 10 MPH (either high or low). The counting of speed violations, accordingly was not precise.

Observance studies have also experienced difficulty in placing officers in locations which did not influence the traffic. If the observers were adequately concealed, their range of observation, in most instances, was limited to a view of the rear of autos going away from the location. In congested areas many violations were overlooked.

#### Implementation

New technological developments have furnished the means to greatly reduce the methodological differences characteristically present in violation studies.

It is now feasible to eliminate the use of officer observers in ground level locations. In this demonstration program, the officers would be replaced with strategically placed VHF television broadcasting units. Through the medium of television, panoramic views of traffic conditions will be transmitted into a laboratory environment for scientific analysis of driver violations.

Production cost breakthroughs and miniaturization have made the use of VHF television broadcasting techniques a practical solution to the survey problems commonly encountered in the past.

The effect of personal bias will be minimized in this program by the use of a multidisciplinary team to analyze violations on either video tapes or real-time video screens. Suggested occupational disciplines to be represented on the team would be police, legal and engineering (traffic). Occupational bias and subjectivity would be moderated significantly by this procedure. The use of multiple-viewing screens would permit simultaneous study by the group. VHF television broadcast in the real-time mode would permit adjustments in the field or area being scanned by the team from their remote viewing location.

In some locations it may not be practical to mount the television camera in a fixed position. Assuming that the agency conducting the survey has a helicopter unit, many traffic problems could be analyzed by using the helicopter as an aerial observation station. Miniaturization has reduced camera weights to approximately 26 pounds, and even the smallest rotary wing aircraft could manage the equipment.

The violation categories used in the study should be hazardous by nature and frequently the cause of those accidents typical to the route or area being observed.

Speed measurement in areas being observed would be best accomplished by automatic recording devices.<sup>15</sup> Other types of hazardous moving violations which would most often be adjudged and tallied by the viewing teams are:

- Right of way violations, particularly left turns across multiple-laned roadways, unsafe lane changes, and pedestrian violations.
- Improper vehicle positioning in relation to roadway (wrong side, lane straddling, on shoulder).
- Improper passing.
- Improper turning.
- Following too closely. (Surveillance from vantage points which look down on the vehicle permits excellent violation and density counts.)

A limited number of vehicle deficiencies which frequently contribute to collisions should also be considered by the team. Inadequate headlights and no side mirrors on vehicles towing trailers are examples of equipment violations which can be observed in moving traffic.

<sup>15</sup>These devices provide extremely accurate records. It is easy, from the methodology standpoint, to conduct a large number of measurements over a long period of time and precisely chart the immediate impact of enforcement as well as the decay rate in driver compliance when enforcement is temporarily discontinued.



For program measurement purposes, it would be desirable to keep as many variables as possible unchanged from one study period to the next. Ideally, data gathered during each phase of the study should not be influenced by changes in methodology or environment. Furthermore, the entire operation should be conducted over a lengthy time span (one to two years) to eliminate strong seasonal influences in both traffic patterns and driver actions.

The basic idea of this type of research is to change one variable (enforcement) by a known quantity; to introduce this variable into an environment (street or highway route) while all other variables (road, weather, density, etc.) remain relatively stable; then, if the control variable (vehicle collisions) changes, it may be inferred that it changed because of the test variable (enforcement). Obviously all variables will not remain stable because some are uncontrollable (weather, emergency road repairs, etc.).

Driver behavior as a variable can also seriously influence the violation survey. Media publicity can prompt drivers to change their habits and even change their customary commuting routes.

The influence of uncontrollable variables on the study would be best measured and compensated through interpolation of historical base line accident data.

#### Violation Survey Staffing (Minimum)

##### Administrative Positions

1 Project Director  
1 Stenographer  
1 Statistician/Analyst

##### Observer Team\*

1 Attorney at Law  
1 Traffic Engineer  
1 Traffic Officer

##### Enforcement Team\*

1 Radar Unit  
6 Solo Motorcycles

1 Television Technician

\*The number of personnel in the observer and enforcement teams will be proportional to the geographic scope of the program. If undertaken by a state highway patrol agency, the staffing could increase tenfold.

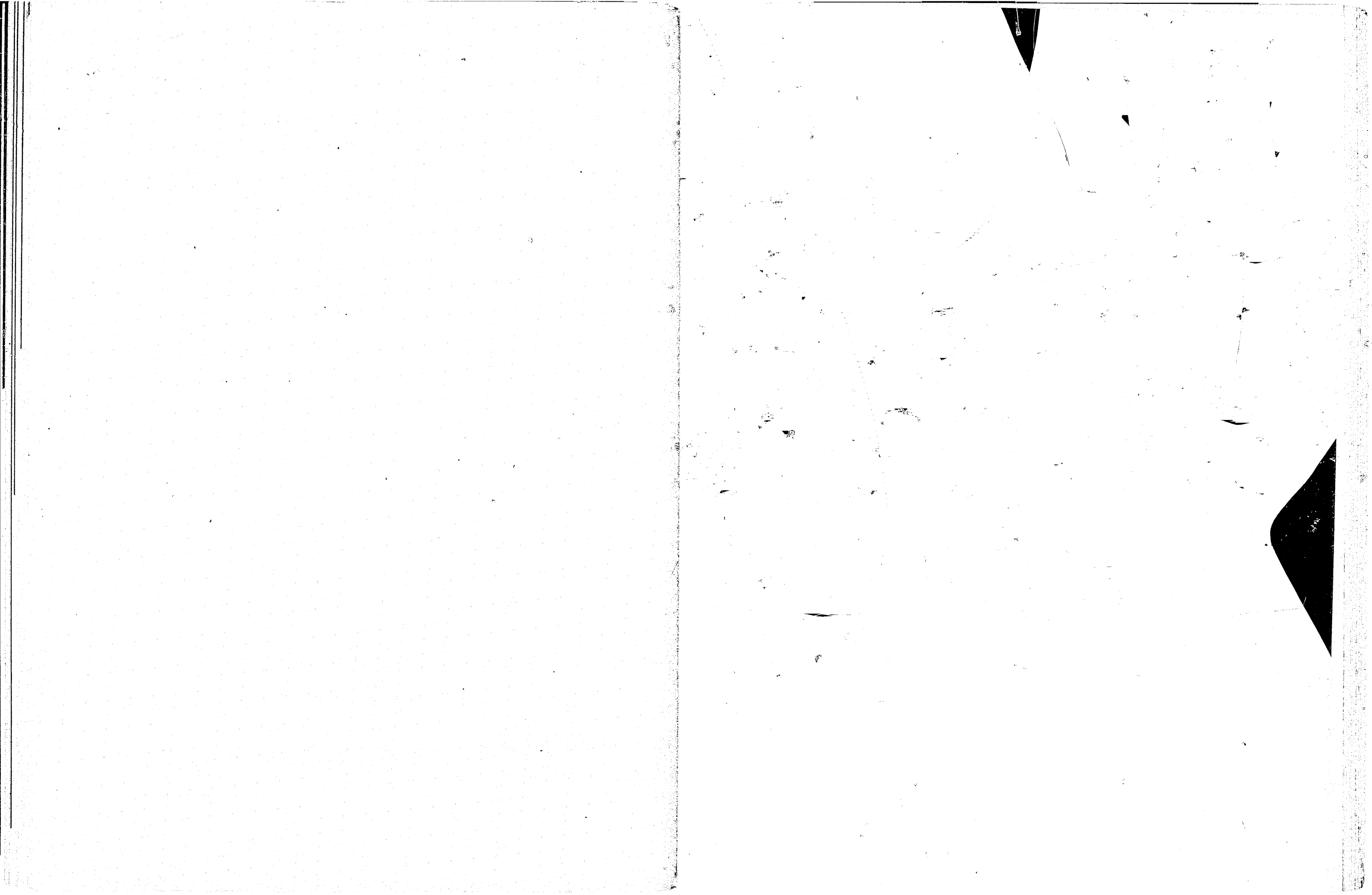
#### Violation Survey Special Equipment (Minimum)

##### 1 Television System

Lightweight, high resolution, camera  
Field transmitter  
Receiving station and monitor  
Video-tape recorder  
Mobile van for ground station<sup>16</sup>

\$90,000 (estimated)

<sup>16</sup> Assuming an effective range of 10 miles for the transmitter, a mobile van is necessary for a project involving any sizeable geographic area.



APPENDIX 1

Highway Safety Program Standards

## HIGHWAY SAFETY PROGRAM STANDARDS

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Highway Safety Program Standard 4.4.1

PERIODIC MOTOR VEHICLE INSPECTION

Purpose

To increase, through periodic vehicle inspection, the likelihood that every vehicle operated on the public highways is properly equipped and is being maintained in reasonably safe working order.

Standard

Each State shall have a program for periodic inspection of all registered vehicles or other experimental, pilot, or demonstration program approved by the Secretary to reduce the number of vehicles with existing or potential conditions which cause or contribute to accidents or increase the severity of accidents which do occur, and shall require the owner to correct such conditions.

I. The program shall provide, as a minimum, that:

A. Every vehicle registered in the State is inspected either at the time of initial registration and at least annually thereafter, or at such other time as may be designated under an experimental, pilot, or demonstration program approved by the Secretary.

B. The inspection is performed by competent personnel specifically trained to perform their duties and certified by the State.

C. The inspection covers systems, subsystems, and components having substantial relation to safe vehicle performance.

D. The inspection procedures equal or exceed criteria issued or endorsed by the National Highway Safety Bureau.\*

E. Each inspection station maintains records in a form specified by the State, which include at least the following information:

\* Now called National Highway Traffic Safety Administration.

1. Class of vehicle
2. Date of inspection
3. Make of vehicle
4. Model year
5. Vehicle identification number
6. Defects by category
7. Identification of inspector
8. Mileage or odometer reading

F. The State publishes summaries of records of all inspection stations at least annually, including tabulations by make and model of vehicle.

II. The program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

Highway Safety Program Standard 4.4.2

MOTOR VEHICLE REGISTRATION

Purpose

I. To provide a means of identifying the owner and type, weight, size, and carrying capacity of every vehicle licensed to operate in the State, and to make such data available for traffic safety studies and research, accident investigation, enforcement, and other operational uses.

II. To provide a means for aggregating ownership and vehicle information for: (a) accident research; (b) planning and development of streets, highways and related facilities; and (c) other operational uses.

Standard

Each State shall have a motor vehicle registration program, which shall provide for rapid identification of each vehicle and its owner; and shall make available pertinent data for accident research and safety program development.

I. The program shall be such that every vehicle operated on public highways is registered and the following information is readily available for each vehicle:

- A. Make.
- B. Model year.
- C. Identification number (rather than motor number).
- D. Type of body.
- E. License plate number.
- F. Name of current owner.



G. Current address of owner.

H. Registered gross laden weight of every commercial vehicle.

II. Each program shall have a records system that provides at least the following services:

A. Rapid entry of new data into the records of data system.

B. Controls to eliminate unnecessary or unreasonable delay in obtaining data.

C. Rapid audio or visual response upon receipt at the records station of any priority request for status of vehicle possession authorization.

D. Data available for statistical compilation as needed by authorized sources.

E. Identification and ownership of vehicle sought for enforcement or other operation needs.

III. This program shall be periodically evaluated by the State, and the National Highway Safety Bureau shall be provided with an evaluation summary.

#### Highway Safety Program Standard 4.4.3

#### MOTORCYCLE SAFETY

##### Purpose

To assure that motorcycles, motorcycle operators and their passengers meet standards which contribute to safe operation and protection from injuries.

##### Standard

For the purposes of this Standard a motorcycle is defined as any motor-driven vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground, but excluding tractors and vehicles on which the operator and passengers ride within an enclosed cab.

Each State shall have a motorcycle safety program to ensure that only persons physically and mentally qualified will be licensed to operate a motorcycle; that protective safety equipment for drivers and passengers will be worn; and that the motorcycle meets standards for safety equipment.

I. The program shall provide as a minimum that:

A. Each person who operates a motorcycle:

1. Passes an examination or reexamination designed especially for motorcycle operation.

2. Holds a license issued specifically for motorcycle use or a regular license endorsed for each purpose.

B. Each motorcycle operator wears an approved safety helmet and eye protection when he is operating his vehicle on streets and highways.

C. Each motorcycle passenger wears an approved safety helmet, and is provided with a seat and footrest.

D. Each motorcycle is equipped with a rearview mirror.

E. Each motorcycle is inspected at the time it is initially registered and at least annually thereafter, or in accordance with the State's inspection requirements.\*

II. The program shall be periodically evaluated by the State for its effectiveness in terms of reductions in accidents and their end results, and the National Highway Safety Bureau shall be provided with an evaluation summary.

\* See Highway Safety Program Standard 4.4.1, Periodic Motor Vehicle Inspection.

#### Highway Safety Program Standard 4.4.4

#### DRIVER EDUCATION

##### Purpose

To insure that every eligible high school student has the opportunity to enroll in a course of instruction designed to train him to drive skillfully and as safely as possible under all traffic and roadway conditions.

To insure that commercial driver training schools achieve and maintain a corresponding level of instruction for beginning drivers with recognition of differences between the needs of adults and adolescents.

To provide education courses offering driving instruction to adults.

##### Standard

Each State, in cooperation with its political subdivisions, shall have a driver education and training program. This program shall provide at least that:

I. There is a driver education program available to all youths of licensing age which:

A. Is taught by instructors certified by the State as qualified for these purposes.

B. Provides each student with practice driving and instruction in at least the following:

1. Basic and advanced driving techniques, including techniques for handling emergencies.

2. Rules of the road and other State laws and local motor vehicle laws and ordinances.

- preventive maintenance.
3. Critical vehicle systems and subsystems requiring preventive maintenance.
  4. The vehicle, highway, and community features:
    - a. that aid the driver in avoiding crashes,
    - b. that protect him and his passengers in crashes,
    - c. that maximize the salvage of the injured.
  5. Signs, signals, and highway markings, and highway design features which require understanding for safe operation of motor vehicles.
  6. Differences in characteristics of urban and rural driving, including safe use of modern expressways.
  7. Pedestrian safety.
- C. Encourage students participating in the program to enroll in first aid training.
- II. There is a State research and development program including adequate research, development, and procurement of practice driving facilities, simulators, and other similar teaching aids for both school and other driver training use.
  - III. There is a program for adult driver training and retraining.
  - IV. Commercial driving schools are licensed and commercial driving instructors are certified in accordance with specific criteria adopted by the State.
  - V. The program shall be periodically evaluated by the State, and the National Highway Safety Bureau shall be provided with an evaluation summary.

#### Highway Safety Program Standard 4.4.5

#### DRIVER LICENSING

##### Purpose

To improve the quality of driving by implementing more effective and uniform licensing procedures, and thereby to reduce the number of accidents while also increasing the efficiency of traffic flow.

##### Standard

Each State shall have a driver licensing program (a) to insure that only persons physically and mentally qualified will be licensed to operate a vehicle on the highways of the State and (b) to prevent needlessly removing the opportunity of the citizen to drive. The program shall provide, as a minimum, that:

- I. Each driver holds only one license, which identifies the type(s) of vehicle(s) he is authorized to drive. \*
- II. Each driver submits acceptable proof of date and place of birth in applying for his original license.
- III. Each driver:
  - A. Passes an initial examination demonstrating his:
    1. Ability to operate the class(es) of vehicle(s) for which he is licensed.
    2. Ability to read and comprehend traffic signs and symbols.
    3. Knowledge of laws relating to traffic (rules of the road), safe driving procedures, vehicle and highway safety features, emergency situations that arise in the operation of an automobile, and other driver responsibilities.

\* See Highway Safety Program Standard 4.4.3, Motorcycle Safety.

4. Visual acuity, which must meet or exceed State standards.

B. Is reexamined at an interval not to exceed four years, for at least visual acuity and knowledge of rules of the road.

IV. A record on each driver is maintained which includes positive identification, current address, and driving history. In addition, the record system shall provide the following services:

A. Rapid entry of new data into the system.

B. Controls to eliminate unnecessary or unreasonable delay in obtaining data which are required for the system.

C. Rapid audio or visual response upon receipt at the records station of any priority request for status of driver license validity.

D. Ready availability of data for statistical compilation as needed by authorized sources.

E. Ready identification of drivers sought for enforcement or other operational needs.

V. Each license is issued for a specific term, and must be renewed to remain valid. At time of issuance or renewal each driver's record must be checked.

VI. There is a driver improvement program to identify problem drivers for record review and other appropriate actions designed to reduce the frequency of their involvement in traffic accidents or violations.

VII. There is:

A. A system providing for medical evaluation of persons whom the driver licensing agency has reason to believe have mental or physical conditions which might impair their driving ability.

B. A procedure which will keep the driver license agency informed of all licensed drivers who are currently applying for or receiving any types of tax, welfare, or other benefits or exemptions for the blind or nearly blind.

C. A medical advisory board or equivalent allied health professional unit composed of qualified personnel to advise the driver license agency on medical criteria and vision standards.

VIII. The program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary. The evaluation shall attempt to ascertain the extent to which driving without a license occurs.

Highway Safety Program Standard 4.4.6

CODES AND LAWS

Purpose

To eliminate all major variations in traffic codes, laws, and ordinances on given aspects of highway safety among political subdivisions in a State, to increase the compatibility of these ordinances with a unified overall State policy on traffic safety codes and laws, and to further the adoption of appropriate aspects of the Rules of the Road section of the Uniform Vehicle Code. \*

Standard

Each State shall develop and implement a program to achieve uniformity of traffic codes and laws throughout the State. The program shall provide at least that:

I. There is a plan to achieve uniform rules of the road in all of its jurisdictions.

II. There is a plan to make the State's unified rules of the road consistent with similar unified plans of other States. Toward this end, each State shall undertake and maintain continuing comparisons of all State and local laws, statutes and ordinances with the comparable provisions of the Rules of the Road section of the Uniform Vehicle Code.

\* National Committee on Uniform Traffic Laws and Ordinances, Uniform Vehicle Code (Washington, D. C.: National Committee on Uniform Traffic Laws and Ordinances, Rev. ed. 1962).

## Highway Safety Program Standard 4.4.7

## TRAFFIC COURTS

Purpose

To provide prompt impartial adjudication of proceedings involving motor vehicle laws.

Standard

Each State in cooperation with its political subdivisions shall have a program to assure that all traffic courts in it complement and support local and Statewide traffic safety objectives. The program shall provide at least that:

I. All convictions for moving traffic violations shall be reported to the State traffic records system.

II. Program Recommendations: In addition the State should take appropriate steps to meet the following recommended conditions:

A. All individuals charged with moving hazardous traffic violations are required to appear in court.

B. Traffic courts are financially independent of any fee system, fines, costs, or other revenue such as posting or forfeiture of bail or other collateral resulting from processing violations of motor vehicle laws.

C. Operating procedures, assignment of judges, staff, and quarters ensure reasonable availability of court services for alleged traffic offenders.

D. There is a uniform accounting system regarding traffic violation notices, collection of fines, fees, and costs.

E. There are uniform rules governing court procedures in traffic cases.

F. There are current manuals and guides for administration, court procedures, and accounting.



## Highway Safety Program Standard 4.4.8

## ALCOHOL IN RELATION TO HIGHWAY SAFETY

Purpose

To broaden the scope and number of activities directed toward reducing traffic accident loss experience arising in whole or part from persons driving under the influence of alcohol.

Standard

Each State, in cooperation with its political subdivisions, shall develop and implement a program to achieve a reduction in those traffic accidents arising in whole or in part from persons driving under the influence of alcohol. The program shall provide at least that:

- I. There is a specification by the State of the following with respect to alcohol related offenses:
  - A. Chemical test procedures for determining blood-alcohol concentrations.
  - B. (1) The blood-alcohol concentrations, not higher than 0.10 percent by weight, which define the terms "intoxicated" or "under the influence of alcohol"; and  
(2) A provision making it either unlawful, or presumptive evidence of illegality, if the blood-alcohol concentration of a driver equals or exceeds the limit so established.
- II. Any person placed under arrest for operating a motor vehicle while intoxicated or under the influence of alcohol is deemed to have given his consent to a chemical test of his blood, breath, or urine for the purpose of determining the alcohol content of his blood.
- III. To the extent practicable, there are quantitative tests for alcohol:

A. On the bodies of all drivers and adult pedestrians who die within 4 hours of a traffic accident.

B. On all surviving drivers in accidents fatal to others.

IV. There are appropriate procedures established by the State for specifying:

A. The qualifications of personnel who administer chemical tests used to determine blood, breath, and other body alcohol concentrations;

B. The methods and related details of specimen selection, collection, handling and analysis;

C. The reporting and tabulation of the results.

V. The program shall be periodically evaluated by the State, and the National Highway Safety Bureau shall be provided with an evaluation summary.

#### Highway Safety Program Standard 4.4.9

#### IDENTIFICATION AND SURVEILLANCE OF ACCIDENT LOCATIONS

##### Purpose

To identify specific locations or sections of streets and highways which have high or potentially high accident experience, as a basis for establishing priorities for improvement, selective enforcement, or other operational practices that will eliminate or reduce the hazards at the location so identified.

##### Standard

Each State, in cooperation with county and other local governments, shall have a program for identifying accident locations and for maintaining surveillance of those locations having high accident rates or losses.

I. The program shall provide, as a minimum, that:

A. There is a procedure for accurate identification of accident locations on all roads and streets:

(1) To identify accident experience and losses on any specific sections of the road and street system.

(2) To produce an inventory of:

(a) High accident locations.

(b) Locations where accidents are increasing sharply.

(c) Design and operating features with which high accident frequencies or severities are associated.

(3) To take appropriate measures for reducing accidents.

(4) To evaluate the effectiveness of safety improvement on any specific section of the road and street system.

B. There is a systematically organized program:

(1) To maintain continuing surveillance of the roadway network for potentially high accident locations.

(2) To develop methods for their correction.

II. The program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

Highway Safety Program Standard 4:4.10

### TRAFFIC RECORDS

#### Purpose

To assure that appropriate data on traffic accidents, drivers, motor vehicles, and roadways are available to provide:

1. A reliable indication of the magnitude and nature of the highway traffic accident problem on a national, state, and local scale.
2. A reliable means for identifying short-term changes and long-term trends in the magnitude and nature of traffic accidents.
3. A valid basis for:
  - A. The detection of high or potentially high accident locations and causes.
  - B. The detection of health, behavioral, and related factors contributing to accident causation.
  - C. The design of accident, fatality, and injury countermeasures.
  - D. Developing means for evaluating the cost effectiveness of these measures.
  - E. The planning and implementation of selected enforcement and other operational programs.

#### Standard

Each State, in cooperation with its political subdivisions, shall maintain a traffic records system. The Statewide system (which may consist of compatible sub-systems) shall include data for the entire State. Information regarding drivers, vehicles, accidents, and highways shall be compatible for purposes of analysis and

correlation. Systems maintained by local governments shall be compatible with, and capable of furnishing data to, the State system. The State system shall be capable of providing summaries, tabulations, and special analyses to local governments on request.

The record system shall include (a) certain basic minimum data, and (b) procedures for statistical analyses of these data.

The program shall provide as a minimum that:

I. Information on vehicles and system capabilities includes (conforms to motor vehicle registration standard):

- A. Make.
- B. Model year.
- C. Identification number (rather than motor number).
- D. Type of body.
- E. License plate number.
- F. Name of current owner.
- G. Current address of owner.
- H. Registered gross laden weight of every commercial vehicle.
- I. Rapid entry of new data into the records or data system.
- J. Controls to eliminate unnecessary or unreasonable delay in obtaining data.

K. Rapid audio or visual response upon receipt at the records station of any priority request for status of vehicle possession authorization.

L. Data available for statistical compilation as needed by authorized sources.

M. Identification and ownership of vehicles sought for enforcement or other operational needs.

II. Information on drivers and system capabilities includes (conforms to driver licensing standard):

- A. Positive identification.
- B. Current address.
- C. Driving history.
- D. Rapid entry of new data into the system.
- E. Controls to eliminate unnecessary or unreasonable delay in obtaining data which are required for the system.
- F. Rapid audio or visual response upon receipt at the records station of any priority request for status of driver license validity.
- G. Ready availability of data for statistical compilation as needed by authorized sources.
- H. Ready identification of drivers sought for enforcement or other operational needs.

III. Information on types of accidents includes:

- A. Identification of location in space and time.
- B. Identification of drivers and vehicles involved.
- C. Type of accident.
- D. Description of injury and property damage.
- E. Description of environmental conditions.

F. Causes and contributing factors, including the absence of or failure to use available safety equipment.

IV. There are methods to develop summary listings, cross tabulations, trend analyses, and other statistical treatments of all appropriate combinations and aggregations of data items in the basic minimum data record of drivers and accident experience by specified groups.

V. All traffic records relating to accidents collected hereunder shall be open to the public in a manner which does not identify individuals.

VI. The program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

#### Highway Safety Program Standard 4.4.11

#### EMERGENCY MEDICAL SERVICES

##### Purpose

To provide an emergency care system that will:

I. Provide quick identification and response to accidents.

II. Sustain and prolong life through proper first aid measures, both at the scene and in transit.

III. Provide the coordination, transportation, and communications necessary to bring the injured and definitive medical care together in the shortest practicable time, without simultaneously creating additional hazards.

##### Standard

Each State, in cooperation with its local political subdivision, shall have a program to ensure that persons involved in highway accidents receive prompt emergency medical care under the range of emergency conditions encountered. The program shall provide, as a minimum, that:

I. There are training, licensing, and related requirements (as appropriate) for ambulance and rescue vehicle operators, attendants, drivers, and dispatchers.

II. There are requirements for types and numbers of emergency vehicles including supplies and equipment to be carried.

III. There are requirements for the operation and coordination of ambulances and other emergency care systems.

IV. There are first aid training programs and refresher courses for emergency service personnel; and that the general public is encouraged to take first aid courses.

V. There are criteria for the use of two-way communications.

VI. There are procedures for summoning and dispatching aid.

VII. There is an up-to-date, comprehensive plan for emergency medical services, including:

A. Facilities and equipment.

B. Definition of areas of responsibility.

C. Agreements for mutual support.

D. Communications systems.

VIII. This program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

Highway Safety Program Standard 4.4.12

HIGHWAY DESIGN, CONSTRUCTION AND MAINTENANCE

Purpose

To assure: (a) that existing streets and highways are maintained in a condition that promotes safety, (b) that capital improvements either to modernize existing roads or to provide new facilities meet approved safety standards, and (c) that appropriate precautions are taken to protect passing motorists as well as highway workers from accident involvement at highway construction sites.

Standards

Every State in cooperation with county and local governments shall have a program of highway design, construction, and maintenance to improve highway safety. Standards applicable to specific programs are those issued or endorsed by the Federal Highway Administrator.

I. The program shall provide, as a minimum that:

A. There are design standards relating to safety features such as sight distance, horizontal and vertical curvature, spacing of decision points, width of lanes, etc., for all new construction or reconstruction, at least on expressways, major streets and highways, and through streets and highways.

B. Street systems are designed to provide a safe traffic environment for pedestrians and motorists when subdivisions and residential areas are developed or redeveloped.

C. Roadway lighting is provided or upgraded on a priority basis at the following locations:

1. Expressways and other major arteries in urbanized areas.

2. Junctions of major highways in rural areas.

3. Locations or sections of streets and highways having high ratios of night-to-day motor vehicle and/or pedestrian accidents.



4. Tunnels and long underpasses.

D. There are standards for pavement design and construction with specific provisions for high skid resistance qualities.

E. There is a program for resurfacing or other surface treatment with emphasis on correction of locations or sections of streets and highways with a low skid resistance and high or potentially high accident rates susceptible to reduction by providing improved surfaces.

F. There is guidance, warning and regulation of traffic approaching and traveling over construction or repair sites and detours.

G. There is a systematic identification and tabulation of all rail-highway grade crossings and a program for the elimination of hazards and dangerous crossings.

H. Roadways and the roadsides are maintained consistent with the design standards which are followed in construction, to provide safe and efficient movement of traffic.

I. Hazards within the highway right-of-way are identified and corrected.

J. There are highway design and construction features wherever possible for accident prevention and survivability including at least the following:

1. Roadsides clear of obstacles, with clear distance being determined on the basis of traffic volumes, prevailing speeds, and the nature of development along the street or highway.

2. Supports for traffic control devices and lighting that are designed to yield or break away under impact wherever appropriate.

3. Protective devices that afford maximum protection to the occupants of vehicles wherever fixed objects cannot reasonably be removed or designed to yield.

4. Bridge railings and parapets which are designed to minimize severity of impact, to retain the vehicle, to redirect the vehicle so that it will move parallel to the roadway, and to minimize danger to traffic below.

5. Guardrails, and other design features which protect people from out-of-control vehicles at locations of special hazard such as playgrounds, schoolyards and commercial areas.

K. There is a post-crash program which includes at least the following:

1. Signs at freeway interchanges directing motorists to hospitals having emergency care capabilities.

2. Maintenance personnel trained in procedures for summoning aid, protecting others from hazards at accident sites, and removing debris.

3. Provisions for access and egress for emergency vehicles to freeway sections where this would significantly reduce travel time without reducing the safety benefits of access control.

II. This program shall be periodically evaluated by the State for its effectiveness in terms of reductions in accidents and their end results, and the National Highway Safety Bureau shall be provided with an evaluation summary.

## Highway Safety Program Standard 4.4.13

## TRAFFIC CONTROL DEVICES

Purpose

To assure the full and proper application of modern traffic engineering practice and uniform standards for traffic control devices in reducing the likelihood and severity of traffic accidents.

Standard

Each State, in cooperation with its county and local government, shall have a program relating to the use of traffic control devices (signs, markings, signals, etc.) and other traffic engineering measures to reduce traffic accidents.

I. The program shall provide, as a minimum, that:

A. There is a method:

1. To identify needs and deficiencies of traffic control devices.

2. To assist in developing current and projected programs for maintaining, upgrading, and installing traffic control devices.

B. Existing traffic control devices on all streets and highways are upgraded to conform with standards issued or endorsed by the Federal Highway Administrator.

C. New traffic control devices are installed on all streets and highways, based on engineering studies to determine where devices are needed for safety. Such devices conform with standards issued or endorsed by the Federal Highway Administrator.

D. There are programs for preventive maintenance, repair, and daytime and nighttime inspection of all traffic control devices.

E. Fixed or variable speed zones are established, at least on expressways, major streets and highways, and through streets and highways, based on engineering and traffic regulations.

II. This program shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

Highway Safety Program Standard 4.4.14

PEDESTRIAN SAFETY

Purpose

To emphasize the need to recognize pedestrian safety as an integral, constant and important element in community planning and all aspects of highway transportation and to insure a continuing program to improve such safety by each State and its political subdivisions.

Standard

Every State in cooperation with its political subdivisions shall develop and implement a program to insure the safety of pedestrians of all ages. The program shall provide, as a minimum, that:

- I. There is a continuing statewide inventory of pedestrian-motor vehicle accidents, identifying specifically:
  - A. The locations and times of all such accidents.
  - B. The age of all of the pedestrians injured or killed.
  - C. Where feasible, to determine whether the exterior features of the vehicle produced or aggravated an injury.
  - D. The color and shade of clothing worn by pedestrians when injured or killed, and the visibility conditions which prevailed at the time.
  - E. The extent to which alcohol is present in the blood of fatally injured pedestrians 16 years of age and older.
  - F. Where possible, to determine the extent to which pedestrians involved in accidents have physical or mental disabilities.

II. There are established statewide operational procedures for improving the protection of pedestrians through reduction of potential conflicts with vehicles:

A. By application of traffic engineering practices including pedestrian signals, signs, markings, parking regulations and other pedestrian and vehicle traffic control devices.

B. By land-use planning in new and redevelopment areas for safe pedestrian movement.

C. By provision of pedestrian bridges, barriers, sidewalks and other means of physically separating pedestrian and vehicle pathways.

D. By provision of environmental illumination at high pedestrian volume and/or potentially hazardous pedestrian crossings.

III. There is established a statewide program for familiarizing drivers with the pedestrian problem and with ways to avoid pedestrian collisions.

A. The program content shall include emphasis on:

1. Behavior characteristics of the three types of pedestrians most commonly involved in accidents with vehicles: (i) children; (ii) persons under the influence of alcohol; (iii) the elderly.

2. Accident avoidance techniques that take into account the hazardous conditions, and behavior characteristics displayed by each of the three high risk pedestrian groups listed in subparagraph (1).

B. Emphasis on this program content shall be included in:

1. All driver education and training courses

2. Driver improvement courses

3. Driver license examinations

IV. There are statewide programs for training and educating all members of the public as to safe pedestrian behavior on or near streets and highways.

A. For children, youths and adults enrolled in schools, beginning at the earliest possible age.

B. For the general population via the public media.

V. There is a statewide program for the protection of children walking to and from school, entering and leaving school buses, and in neighborhood play.

VI. There is a statewide program for establishment and enforcement of traffic regulations designed to achieve orderly pedestrian and vehicle movement and to reduce vehicle-pedestrian conflicts.

VII. This program shall be periodically evaluated by the States and the National Highway Safety Bureau shall be provided with an evaluation summary.

F. Appropriate agreements by the State and its political subdivisions regarding primary responsibility and authority for police traffic supervision, and cooperative responsibilities where concurrent jurisdictional boundaries and problems exist, and appropriate participation of each law enforcement agency in the comprehensive highway safety program of the State and its political subdivisions.

II. The programs shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

III. Nothing in this standard shall preclude the use of personnel other than police officers in carrying out the minimum requirements in accordance with laws and policies established by the State and/or local governments.

F. Appropriate agreements by the State and its political subdivisions regarding primary responsibility and authority for police traffic supervision, and cooperative responsibilities where concurrent jurisdictional boundaries and problems exist, and appropriate participation of each law enforcement agency in the comprehensive highway safety program of the State and its political subdivisions.

II. The programs shall be periodically evaluated by the State and the National Highway Safety Bureau shall be provided with an evaluation summary.

III. Nothing in this standard shall preclude the use of personnel other than police officers in carrying out the minimum requirements in accordance with laws and policies established by the State and/or local governments.



## Highway Safety Program Standard 4.4.16

## DEBRIS HAZARD CONTROL AND CLEANUP

Purpose

To provide for the assignment of official responsibilities and for the planning, training, coordination and communications necessary to assure the recognition, reporting, and prompt correction of conditions or incidents that constitute potential dangers; that incident sites are restored to a safe condition; and that traffic movement is expeditiously resumed.

Standard

Each State in cooperation with its political subdivisions shall have a program which provides for rapid, orderly, and safe removal from the roadway of wreckage, spillage, and debris resulting from motor vehicle accidents, and for otherwise reducing the likelihood of secondary and chain-reaction collisions, and conditions hazardous to the public health and safety.

I. The program shall provide as a minimum that:

A. Operational procedures are established and implemented for:

1. Enabling rescue and salvage equipment personnel to get to the scene of accidents rapidly and to operate effectively on arrival:

a. On heavily traveled freeways and other limited access roads;

b. In other types of locations where wreckage or spillage of hazardous materials on or adjacent to highways endangers the public health and safety;

2. Extricating trapped persons from wreckage with reasonable care—both to avoid injury or aggravating existing injuries;

3. Warning approaching drivers and detouring them with reasonable care past hazardous wreckage or spillage;

materials that are:

4. Safe handling of spillage or potential spillage of

- a. Radioactive
- b. Flammable
- c. Poisonous
- d. Explosive
- e. Otherwise hazardous

5. Removing wreckage or spillage from roadways or otherwise causing the resumption of safe, orderly traffic flow.

B. Adequate numbers of rescue and salvage personnel are properly trained and retrained in the latest accident cleanup techniques.

C. A communications system is provided, adequately equipped and manned, to provide coordinated effort in incident detection, and the notification, dispatch, and response of appropriate services.

II. The program shall be periodically evaluated by the State, and the National Highway Safety Bureau shall be provided with an evaluation summary.

## APPENDIX 2

General Order: Investigations of Vehicle Collisions

Sample Policy for Motor Vehicle Accident Investigation

Report of Driver Involved in Accident

DEPARTMENTAL GENERAL ORDER

Index as:

Collision, Vehicle, Investigation  
Investigation of Accidents, Vehicle  
Investigation of Traffic Collisions  
Traffic Collisions, Investigation of

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INVESTIGATIONS OF VEHICLE COLLISIONS

The purpose of this order is to establish response policy and reporting procedures concerning traffic collisions.

I. ACCIDENT INVESTIGATION AND REPORTING POLICY

A. The serious vehicle collisions specified in this order shall be investigated. An investigated collision requires a systematic inquiry including statement-taking, evidence-gathering, etc. Police service in all other reported collisions shall be limited to recording relevant information on a Vehicle Collision Report and taking necessary safety measures, e. g., arranging for removal of debris, ordering tows, traffic direction.

1. The following types of vehicle accidents shall be investigated:

- a. All motor vehicle collisions involving fatalities.
- b. Motor vehicle collisions causing serious injuries. Serious injuries are those which, based on facts available to the officer at the scene, are likely to result in:
  - (1) Hospitalization of more than one day.
  - (2) Permanent disability.
- c. Traffic collisions involving drivers suspected of being under the influence of alcohol or drugs.
- d. Hit-and-run collisions.

- (1) A police officer will be dispatched to the scene of hit-and-run collisions. When the victim has permanently left the scene and has delayed requesting a report, he shall be advised to call in person at the Traffic Division reception desk.

e. Collisions involving city property.

- (1) A police officer will be dispatched in response to collisions involving property except when the responsible person has left the scene or otherwise delayed reporting the incident. In such cases, the responsible party will be advised to report the incident at the Traffic Division reception desk in person.

2. All other vehicle collisions will be reported. (Exception: Radio Room complaint operators will advise minor accident principals to exchange names, etc., whenever the police response will be delayed an hour or more due to stacked assignments.)

## II. RESPONSIBILITY FOR INVESTIGATING OR REPORTING VEHICLE COLLISIONS

- A. Solo motorcycle and radar units shall have primary responsibility for all vehicle collision assignments during their tours of duty.
- B. Regular patrol units shall be assigned to handle vehicle collisions only when units with primary reporting responsibility are not available or circumstances exist which demand an immediate police response.

## III. VEHICLE COLLISION CITATION POLICY

### A. Reported Collisions.

1. Citations shall not be issued at the scene of a reported collision unless the causing violation was witnessed by the issuing officer and the elements of the offense can be substantiated in court.
  - a. Officers shall not seek corroborative statements from witnesses to establish grounds for a citation; however, the names of the witnesses may be noted on the report.

### B. Investigated Collisions.

1. Citations shall not be issued at the scene of an investigated collision unless the causing violation was witnessed by the issuing officer.
2. A systematic inquiry shall be made to establish and prove the elements of any offenses related to the investigated collision. All practical investigative procedures necessary to a successful prosecution shall be completed by the unit assigned to the scene.

## IV. RESPONSIBILITIES OF THE COMMUNICATIONS SECTION

### A. Complaint dispatchers receiving calls for police service at the scene of a vehicle collision shall comply with the following procedures:

1. Determine if an immediate police response is required at the scene.
  - a. Officers shall be promptly dispatched when the collision involves death or injury requiring dispatch of an ambulance, hit and run, intoxication, city property, a disturbance between principals, or major traffic congestion.
  - b. The police response in all other non-emergency vehicle collisions shall depend on the availability of officers and the volume of stacked assignments. Whenever the response will be delayed one hour or more the complaint operator will inform the caller that:
    - (1) There will be a delay of an hour or more before an officer can be dispatched.
    - (2) A police report is not required by law and the matter can be handled without police assistance by exchanging information with the other accident principal.
    - (3) A return call in an hour will be required if a police report is still desired.
    - (4) A report may be made in person at the Patrol Division, during office hours.

## V. ON-VIEW COLLISION PROCEDURE

- A. Officers encountering on-view collisions will determine the facts, instruct the principals according to the policies and directives noted in this order, and handle any police problem requiring immediate attention.
- B. When an investigation of an on-view collision is required, the Communications Section shall be requested to dispatch a Collision Prevention Unit (Solo motorcycle or radar) if such unit is available.
  - 1. A report shall be completed by the on-view unit if required by department policy.

## SAMPLE POLICY

### MOTOR VEHICLE ACCIDENT INVESTIGATION

1. Members shall familiarize themselves with the fundamentals of investigative techniques and procedures contained in the Traffic Collision Investigation Manual, thus recognizing the importance, the multiple reasons and the obvious need for sound accident investigative procedures. Accident investigation is recognized today as the basis for traffic control and accident prevention programs.
  - a. Factual information secured through investigation of accidents is the basis of a rational method of controlling vehicular traffic.
  - b. The investigation of accidents provides information which is the foundation for action taken by study groups to prevent accidents. It provides:
    - (1) Evidence for the legislator in the enactment of laws.
    - (2) Data for the engineer in the design and construction of highways, and traffic control devices.
    - (3) Information for the educator in formulating educational programs.
    - (4) Factual data for the police administrator to improve selective enforcement programs.

#### Motor Vehicles

2. Fundamentals of Accident Investigation. Determine:
  - a. What happened.
  - b. How it happened.
  - c. Why it happened.
  - d. Who is at fault.

This basic approach will establish cause, reconcile conflicting information, and provide evidence for prosecution.

3. For many people involved in a traffic accident, it is their first contact with the police.
  - a. The trooper is in a position to be of assistance and to provide a valuable service.
  - b. The manner in which the trooper conducts the investigation will reflect the person's attitude toward the trooper and his organization.

4. As an operational guide, the trooper should formulate a flexible plan of action, based primarily on the urgency of the situation.

- a. The trooper must in the first instance resolve and recognize that, it is not necessary to do all things at all accidents, nor is it necessary to follow the listed steps in order. Briefly, "Do the first things first."

5. Upon learning of the accident, the desk man is in a position to secure information, which will be a matter of record, and serve as the basis for immediate action and assistance.

- a. Name, address and phone number of caller.
- b. Exact location of the accident.
- c. Severity of the accident.
- d. Number of vehicles and whether drivers are at the scene.
- e. Traffic conditions.
- f. Need for ambulance or doctor.
- g. Need for other emergency services.

6. Based on the information available, the urgency and severity of the accident will dictate the operational procedure in securing the following services for the investigative patrol unit.

- a. Alert patrols for assistance.
- b. Ambulance service.
- c. Hospital or doctor.
- d. Clergy.
- e. Medical examiner.
- f. Tow truck, fire vehicle, etc.
- g. Utility company.
- h. State Roads Commission.

7. Current information as to the location and phone numbers of all emergency agencies should be readily available at each installation.

#### Motor Vehicle Accident Investigation Assignment

8. A flexible procedure based on urgency should be established.

- a. Assignment. Proceed to the scene as quickly as possible, consistent with safety. Exercise judgment and give suitable warning with red light and siren.
- b. Arrival. Park the police vehicle in a manner consistent with safety to the public and your vehicle. Wherever possible, park it off the travelled portion of the road. As the vehicle is being parked, observe and evaluate obvious conditions that will dictate the next move. Be alert for fallen wires, fire potential, hazardous location and highway pavement conditions. Do not drive over or otherwise obliterate tire marks at the scene, on

the shoulders, etc., as these are evidence.

- c. Care of the Injured. The trooper should have a thorough knowledge of basic first aid in order that he may make an intelligent effort to save life or ease suffering. The trooper should not attempt to diagnose the case, administer first aid beyond his capabilities, or permit incompetent volunteers to move or treat injured persons.
- d. Safeguard Property. Prompt and positive action must be taken by the trooper to safeguard property at the accident scene, including personal property of the injured or deceased and merchandise and equipment from vehicles, especially trucks.
- e. Safeguard the Accident Scene. Evaluate conditions quickly and take preventive action. Resolve the need: for flares to warn approaching traffic; to re-route traffic; for emergency crews from utility companies; for State Roads Commission crews to spread sand or other materials over road surfaces made hazardous by spillage of oil, tar, etc. or by severe unusual icy conditions. Be alert to the potential danger of spilled gasoline and other inflammables and to any other factor which may further endanger the scene. Take whatever remedial action is indicated by the nature of the existing danger and control and direct traffic until the hazardous condition is corrected.

9. Take Complete Charge at the Accident Scene.

- a. Instill confidence and respect at the scene by being calm, businesslike, objective and in control of the situation.
- b. A quiet, sympathetic and understanding approach will tend to create a cooperative respect from all persons.

10. Interview Drivers and Witnesses.

- a. The techniques and methods of interrogation and interviewing should be studied carefully. It is important that the trooper secure information to provide the most complete, unbiased and accurate accounting of the accident.

- (1) Information will verify or disprove some opinions, based on observation of physical evidence, or statements made by other drivers or witnesses.
- (2) The questioning should be courteous, objective, and adaptable to the occasion.
- (3) Drivers and witnesses should be interviewed as soon as possible. The answers will be more spontaneous and truthful and not colored by rationalization or counsel of others. Be alert for false reporting of information by persons involved. For example, a wife may convey the information that she was driving, whereas, in fact, her husband was the operator.
- (4) Verify the driver's identity, ownership of the vehicle, and the identity of any witnesses.

- (5) Drivers are affected by various physical and emotional factors caused by the accident, and the manner of questioning by the officer may create tension and fear. The officer should overcome the difficulty sympathetically, calmly and objectively.

b. Questioning Witnesses.

- (1) The ideal witness is one who actually observed, through the use of one or more of his five senses, something of importance relating to the accident.
- (2) The trooper must be alert to the reliability of the witness's information. Did the person actually observe something or is the information based and influenced by prejudice or relationship?
- (3) Information secured from a witness should be reduced to writing in the form of a deposition to support the trooper's information when enforcement action is contemplated.

11. Direct Traffic and Pedestrians.

- a. Prevent congestion to permit emergency vehicles to move freely and safely, to prevent theft, further accident, or the destruction of evidence.

12. Record the Facts.

- a. The basic method of recording data, evidence and testimony about an accident:

- (1) Complete the accident report form in its entirety.
- (2) Statements — participants and witnesses.
- (3) Photographs — whenever it is deemed necessary.
- (4) Diagrams and measurements — things observed at the scene.

- b. Completeness and accuracy of reports.

- (1) It becomes a permanent record for the information of interested parties and agencies.
- (2) It provides the trooper with complete factual data for purposes of testimony.

13. Follow-up Action and Procedure. Investigating an accident leads to subsequent activities.

- a. Fatal Accidents:

- (1) Always suspect suicide, homicide, or criminal negligence.
- (2) Notify relatives, employer and other agencies.
- (3) Cause of death, as pronounced by the medical examiner.

- (4) When a railroad train is involved, detain only for as long as reasonably necessary.
- (5) Transmit information as soon as possible to installation and headquarters as required.

b. Hit and Run Accident:

- (1) Is a criminal investigation coupled with the accident investigation?
- (2) Upon arrival at the accident scene, determine that it is a hit and run accident.
- (3) Relay information available so that other patrols may be alerted.
- (4) Search for physical evidence, question victim or witnesses, and coordinate the activity of assisting patrols.
- (5) Common motives for leaving the scene of an accident are: unlawful use of a vehicle, panic, intoxication, and to conceal another crime.
- (6) The trooper must search for the driver quickly and systematically.
- (7) The success of a hit and run investigation may depend on the troopers initial effort to establish the identity of the vehicle or driver.

14. Enforcement Action.

- a. An accident may indicate a violation of the law.
- b. Unless the trooper witnessed the accident, evidence of a violation must be established by investigation.
- c. Mere opinion, belief or suspicion alone is not sufficient to warrant enforcement action.
- d. If the knowledge is based on information and belief, it must indicate the sources of information and the grounds for belief, such as statements and admissions made by the defendant to the arresting trooper.

15. Working With the Prosecutor.

- a. Prepare the accident arrest case carefully and discuss all aspects of it thoroughly with the prosecuting attorney.
- b. Pre-trial preparation will familiarize the trooper as to what testimony he will be expected to provide.

16. Court Testimony.

- a. The trooper may be required to testify in both criminal and civil cases.
- b. Every trooper should have a complete understanding of the rules of evidence.
- c. The main function of the trooper in court is the same as any other witness, to supply the pertinent facts so that the court or jury may make a just decision.
- d. Diligent investigation and careful preparation of cases may be wasted if



- e. the trooper fails in the very important task of giving evidence in court. The trooper is a representative of the people and is expected to give evidence with great accuracy regardless of its effect.
- f. The trooper should have all the facts of the case well organized in his mind to testify effectively.

#### Fatal Accidents

17. Medical Examiner. If a victim is obviously dead, the medical examiner must be notified.

Whenever possible the body of a victim should be left undisturbed at the place of death until the arrival of the medical examiner. This procedure is based on long established custom and practice rather than upon any specific provisions of law or court decision. After causing the medical examiner to be notified, there is no need to obstruct traffic or delay a railroad train for any longer period of time than is reasonable, in order to await his arrival. A reasonable length of time would be determined by the time, place and other circumstances of the accident.

18. Notification of Next of Kin. Members who investigate fatal accidents shall be responsible for the initiation of immediate and necessary action to insure prompt notification of the victim's next of kin.

- a. Members making notification of death or other bad news shall be tactful and diplomatic and whenever practicable such notifications shall be made in person. Interest and sympathy should be sincere, reflecting a desire to assist. When a member delivers bad news, it is important that he:
- (1) Get the recipient's full attention.
  - (2) Give the message a little at a time.
  - (3) Let the recipient set the pace of the delivery.
  - (4) Give the recipient a chance to express his emotions.
  - (5) Exercise good judgment, when recipient is operating a motor vehicle, to determine the advisability of permitting continued operation.
  - (6) Secure the assistance of relatives, clergy, physician or friendly neighbors when it is known or quite apparent that the recipient, due to age, physical or mental condition, may present difficulty.
- b. When requesting other members of the division, or other authorities, to make such a notification, consideration shall be given to the urgency of the message in determining the type of communication to be used, and verification of notification shall be requested in each instance. Messages involving such notifications shall be expedited by department personnel concerned.

19. Notification — Death of Military Personnel. In all investigations involving the death of a member of the armed forces, the following procedure shall be followed:

- a. Notify the closest military facility of the branch of service to which the deceased was attached and furnish the following information:
- (1) Full name of deceased.
  - (2) Full rank of deceased.
  - (3) Unit attached to and deceased serial number.
  - (4) Manner of death.
  - (5) Place where remains are being held.
- b. The military authority so notified is responsible, dependent upon circumstances for:
- (1) Identification of deceased.
  - (2) Notification of next of kin.
  - (3) Notification of proper military authorities.
  - (4) Arrangements for disposition of remains pursuant to such request from next of kin.
- c. Where the death of a member of the armed forces occurs from an incident investigated by the state police and the serviceman is on official leave and lives in the area of the state police jurisdiction, the procedure for notification as outlined above (next of kin) should be followed. In addition, the information listed above under paragraph "a" shall be transmitted to the appropriate military facility and also advice to the fact that identification was established and next of kin notified.

REPORT OF DRIVER INVOLVED IN ACCIDENT

NOTICE TO DRIVER - THIS IS YOUR REPORT OF WHAT HAPPENED IN THE ACCIDENT. ANSWER EACH QUESTION COMPLETELY.

1. I was driving \_\_\_\_\_ on \_\_\_\_\_.  
(Direction) (Street)
2. I first saw the other car when it was \_\_\_\_\_  
away from me. (Feet or Car Lengths)  
(A) I was going \_\_\_\_\_ at this time.  
(Miles per Hour)  
(B) The other car was going \_\_\_\_\_ at this time.  
(Miles per Hour)
3. I was going \_\_\_\_\_ when the impact occurred.  
(Miles per Hour)
4. The other car was going \_\_\_\_\_ when the impact occurred.  
(Miles per Hour)
5. My car went \_\_\_\_\_ after the impact.  
(Feet or Car Lengths)
6. To avoid the accident I \_\_\_\_\_  
\_\_\_\_\_
7. I \_\_\_\_\_ move my car before the officer arrived.  
(Did or Did Not)
8. In my opinion, the accident was caused by \_\_\_\_\_  
\_\_\_\_\_  
(Describe action of yourself or other person)
9. If you were injured, describe briefly: \_\_\_\_\_  
\_\_\_\_\_
10. Note below names and addresses of your passengers and additional explanation of accident if necessary:

\_\_\_\_\_  
(Driver Sign Here)

Date \_\_\_\_\_

Reporting Officer \_\_\_\_\_

APPENDIX 3

Standard Police Traffic Collision Report - Form A

Standard Police Traffic Collision Report - Form B

Standard Police Traffic Collision Report - Form C

These reports were taken from "Excerpts from a Final Report on a State Accident Investigation Program" by M. Blumenthal and H. Wuerdemann, prepared under Contract FH-11-6688 with the U. S. Department of Transportation, National Highway Safety Bureau.

STATE OF \_\_\_\_\_  
 STANDARD POLICE TRAFFIC COLLISION REPORT

DATE OF ACCIDENT \_\_\_\_\_ TIME  A.M.  P.M. CASE NUMBER \_\_\_\_\_ SHEET \_\_\_\_\_ of \_\_\_\_\_

ACCIDENT INVOLVED  
 TWO (OR MORE) M.V.  VEH.-PEDESTRIAN  VEH.-OBJECT  
 SINGLE M.V. (NON-COLLISION)  OTHER \_\_\_\_\_

ACCIDENT SEVERITY  
 FATAL  INJURY  PROPERTY DAMAGE

|   |                |                                       |
|---|----------------|---------------------------------------|
| NAME (NO.) OF STREET OR HIGHWAY                         |                | CITY, TOWN, OR TOWNSHIP               |
| REFERENCE (Milepost No., Intersection, Other Landmarks) |                | DISTANCE AND DIRECTION FROM REFERENCE |
| OBJECT STRUCK   | NAME OF OBJECT | LOCATION OF OBJECT                    |

|                              |       |          |                              |       |          |
|------------------------------|-------|----------|------------------------------|-------|----------|
| VEHICLE MAKE                 | MODEL | YEAR     | VEHICLE MAKE                 | MODEL | YEAR     |
| LICENSE PLATE NUMBER         | STATE | ODOMETER | LICENSE PLATE NUMBER         | STATE | ODOMETER |
| IDENTIFICATION NUMBER        |       |          | IDENTIFICATION NUMBER        |       |          |
| TRAILER LICENSE PLATE NUMBER |       | STATE    | TRAILER LICENSE PLATE NUMBER |       | STATE    |
| TOWED TO:                    |       |          | TOWED TO:                    |       |          |

|                |       |               |                |       |               |
|----------------|-------|---------------|----------------|-------|---------------|
| FULL NAME      | SEX   | FULL NAME     | SEX            |       |               |
| ADDRESS        |       | ADDRESS       |                |       |               |
| LICENSE NUMBER | STATE | DATE OF BIRTH | LICENSE NUMBER | STATE | DATE OF BIRTH |

|            |       |           |     |     |         |
|------------|-------|-----------|-----|-----|---------|
| PASSENGERS | NO. 1 | FULL NAME | SEX | AGE | ADDRESS |
|            | NO. 2 | FULL NAME | SEX | AGE | ADDRESS |
|            | NO. 3 | FULL NAME | SEX | AGE | ADDRESS |

FIRST  POLICE  BYSTANDER  INJURED REMOVED TO: \_\_\_\_\_  
 AID  AMB. ATTEND.  UNKNOWN  REMOVED BY:  AMBULANCE  OTHER  
 BY:  PHYSICIAN  NONE  POLICE VEH.  NONE

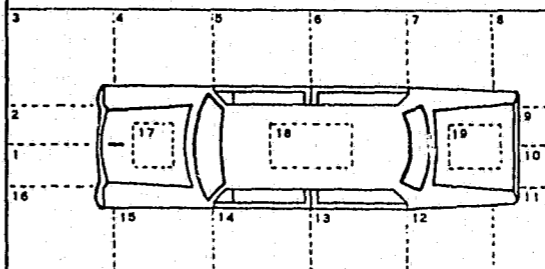
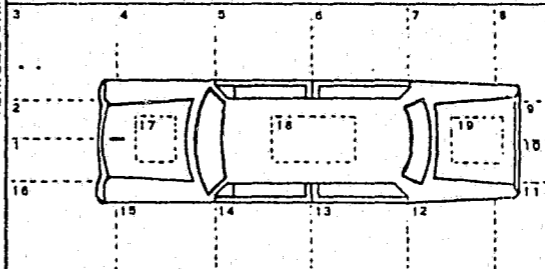
|  |  |
|--|--|
| Occupants: Veh. _____ Oper. _____ Pass. No. 1 _____ Pass. No. 2 _____ Pass. No. 3 _____                                    | Occupants: Veh. _____ Oper. _____ Pass. No. 1 _____ Pass. No. 2 _____ Pass. No. 3 _____                                    |
| Seat Location <sup>†</sup>   | Seat Location <sup>†</sup>   |
| Injury Classification <sup>††</sup>  | Injury Classification <sup>††</sup>  |
| Ejected from Vehicle <sup>*</sup>  | Ejected from Vehicle <sup>*</sup>  |
| Lap Belt   | Lap Belt   |
| Diagonal Belt  | Diagonal Belt  |
| Combination  | Combination  |
| Child Restraint  | Child Restraint  |
| Other - _____  | Other - _____  |
| SEAT BELT USE REPORTED BY: <input type="checkbox"/> OFFICER <input type="checkbox"/> USER <input type="checkbox"/> WITNESS | SEAT BELT USE REPORTED BY: <input type="checkbox"/> OFFICER <input type="checkbox"/> USER <input type="checkbox"/> WITNESS |

CODES  
<sup>†</sup> SEAT LOCATION: FR - Front Right, FC - Front Center, FL - Front Left  
 XX - Unknown, P - Pedestrian, SVP - Special Vehicle Passenger  
<sup>††</sup> INJURY CLASSIFICATION: 1 - No Injury, 2 - Injury, 3 - Fatal  
<sup>\*</sup> EJECTION: A - Not Ejected, B - Partial, C - Total, D - Unknown  
<sup>\*\*</sup> SEAT BELT: U - Used, NU - Not Used, NI - Not Installed, F - Failure, UU - Use Unknown

|           |           |         |
|-----------|-----------|---------|
| WITNESSES | FULL NAME | ADDRESS |
|           | FULL NAME | ADDRESS |
|           | FULL NAME | ADDRESS |

STATE OF  
STANDARD POLICE TRAFFIC COLLISION REPORT

|             |       |
|-------------|-------|
| CASE NUMBER | SHEET |
|             | of    |

| VEHICLE DAMAGE SEVERITY<br><i>Enter Codes* in Vehicle Damage Area(s)</i>                                  |  | ROADWAY/ENVIRONMENTAL CONDITIONS   |   |  |
|---|--|--|---|--|
| Vehicle No. _____<br>  |  | <b>Roadway</b><br><input type="checkbox"/> HOLES, RUTS, BUMPS<br><input type="checkbox"/> LOOSE SURFACE MATERIAL<br><input type="checkbox"/> OBJECT(S) ON ROAD<br><input type="checkbox"/> SOFT SHOULDER<br><input type="checkbox"/> OTHER _____   | <b>Surface</b><br><input type="checkbox"/> DRY<br><input type="checkbox"/> WET<br><input type="checkbox"/> SNOW<br><input type="checkbox"/> ICE<br><input type="checkbox"/> OTHER _____ | <b>Weather</b><br><input type="checkbox"/> CLEAR<br><input type="checkbox"/> RAIN<br><input type="checkbox"/> SNOW<br><input type="checkbox"/> FOG<br><input type="checkbox"/> OTHER _____ |
| 20 Undercarriage _____  |  |  |   |  |
| Body Style _____  |  |  |   |  |
| Vehicle No. _____<br> |  | <b>TRAFFIC CONTROLS</b><br>SIGNALS<br><input type="checkbox"/> YES <input type="checkbox"/> NO      SIGNALS OPERATING<br><input type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> NO OTHER CONTROLS<br><input type="checkbox"/> OTHER CONTROLS (Specify) _____ |   |  |
| 20 Undercarriage _____  |  |  |   |  |
| Body Style _____  |  |  |   |  |
| * SEVERITY CODES<br>1 SLIGHT OR MINOR      2 MODERATE      3 SEVERE OR EXTREME                            |  | <b>TRAFFIC FLOW</b><br>Temporary Change in Traffic Direction<br><input type="checkbox"/> YES <input type="checkbox"/> NO   | <b>TRAFFIC LANES</b><br><input type="checkbox"/> TEMPORARY REDUCTION IN NO. LANES<br><input type="checkbox"/> TEMPORARY REDUCTION IN LANE WIDTH<br><input type="checkbox"/> NONE        |  |
| ALCOHOL   | ALCOHOL INDICATED?<br><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN                                      | TEST REQUESTED FOR:<br><input type="checkbox"/> OPER. NO.(S) _____ <input type="checkbox"/> PED. NO.(S) _____ <input type="checkbox"/> NO TEST   |   |  |
| CITATIONS   | CITATIONS GIVEN TO:<br><input type="checkbox"/> OPERATOR NO.(S) _____ <input type="checkbox"/> PEDESTRIAN NO.(S) _____ <input type="checkbox"/> NONE |  |   |  |
| PHOTOS  | POLICE PHOTOS TAKEN?<br><input type="checkbox"/> YES <input type="checkbox"/> NO   | MOTORCYCLISTS  | ALL REQUIRED SAFETY EQUIPMENT USED?<br><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN  |  |
| AGENCIES NOTIFIED BY POLICE   | NAME _____   |  |   |  |
|   | REASON FOR NOTIFICATION _____  |  |   |  |
|   | NAME _____   |  |   |  |
|   | REASON FOR NOTIFICATION _____  |  |   |  |
| NAME _____  |  |  |   |  |
| REASON FOR NOTIFICATION _____   |  |  |   |  |



|   |   |  |
|---|---|--|
| <b>WITNESSES</b>  | FULL NAME   | ADDRESS  |
|   | FULL NAME   | ADDRESS  |
| <b>ACCIDENT DIAGRAM</b> (See Manual for Directions) <span style="float: right;">(Indicate North by Arrow) </span> |   |  |
| <div style="border: 1px dashed black; width: 100%; height: 100%;"></div>  |   |  |
| <b>ACCIDENT DESCRIPTION</b> (See Manual for Directions)   |   |  |
|   |   |  |
|   |   |  |
|   |   |  |
| <b>VEHICLE DAMAGE SEVERITY</b><br>Enter Codes* in Vehicle Damage Areas  |   |  |
| <b>VEHICLE DAMAGE AREAS</b>   | Vehicle No. _____<br>20 Undercarriage _____<br>Body Style _____ | <b>ROAD CONDITIONS</b><br><input type="checkbox"/> HOLES, RUTS, BUMPS<br><input type="checkbox"/> LOOSE SURFACE MAT'L<br><input type="checkbox"/> OBJECT(S) ON ROAD<br><input type="checkbox"/> SOFT SHOULDER<br><input type="checkbox"/> OTHER _____                    |
|   | Vehicle No. _____<br>20 Undercarriage _____<br>Body Style _____ | <b>ROAD SURFACE</b><br><input type="checkbox"/> DRY<br><input type="checkbox"/> WET<br><input type="checkbox"/> SNOW<br><input type="checkbox"/> ICE<br><input type="checkbox"/> OTHER _____   |
|   |   | <b>WEATHER</b><br>CLEAR _____<br>B. CLOUDY _____<br>S. RAIN _____<br>H. HAZE _____<br>F. FOG _____<br>T. THUNDER _____<br>W. WIND _____  |
|   |   | <b>TRAFFIC CONTROLS</b><br>SIGNALS <input type="checkbox"/> YES <input type="checkbox"/> NO<br>SIGNALS OPERATING <input type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> NO OTHER CONTROLS<br><input type="checkbox"/> OTHER CONTROLS _____ |
|   |   | <b>TRAFFIC FLOW</b> Temp. Change in Traffic Direction <input type="checkbox"/> YES <input type="checkbox"/> NO<br><b>TRAFFIC LANES</b> Result. in No. of Lanes _____<br>Reduced Width of Travel Lane _____   |
|   |   | <b>MOTORCYCLISTS:</b><br>All Req'd Safety Equipment Used <input type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> UNKNOWN  |
|   |   | <b>ALCOHOL INDICATOR:</b><br><input type="checkbox"/> YES<br>TEST FOR: <input type="checkbox"/> OPER. _____<br><input type="checkbox"/> PEC. _____<br><input type="checkbox"/> NO TEST   |
|   |   | <b>CITATIONS</b> <input type="checkbox"/> Oper. No.(s) _____<br><input type="checkbox"/> Ped. No.(s) _____<br><input type="checkbox"/> None  |
|   |   | <b>AGENCIES NOTIFIED</b><br>Name(s) _____<br>Reason for Notification _____   |
|   |   | <b>POLICE PHOTOS TAKEN</b><br><input type="checkbox"/> YES <input type="checkbox"/> NO   |
|   |   | <b>POLICE NOTIFIED</b> DATE _____ TIME NOTIFIED _____ POLICE ARRIVED _____ A.M. / P.M.   |
|   |   | REPORTING OFFICER _____ BADGE NUMBER _____   |
|   |   | UNIT _____ DEPARTMENT _____ DATE _____   |
|   |   | APPROVED BY _____ DATE APPROVED _____  |
| *SEVERITY CODES<br>1 SLIGHT OR MINOR    2 MODERATE    3 SEVERE OR EXTREME   |   |  |

FORM C  
STANDARD POLICE TRAFFIC COLLISION REPORT

1. State
2. Date of accident
3. Time of accident
4. Case number
5. Sheet of
6. Accident involved [motor vehicle, pedestrian, object, etc.]
7. Accident severity [fatal, injury, property damage]
8. Location: Name [no.] of street or highway
9. Location: City, town, township
10. Location: Reference [milepost no., intersection, other landmark]
11. Location: Distance and direction from reference
12. Object struck: Name of object
13. Object struck: Location of object
14. Vehicle: Make
15. Vehicle: Model
16. Vehicle: Model year
17. Vehicle: License plate no. and state
18. Vehicle: Odometer reading
19. Vehicle: Identification no. [manufacturer's no.]
20. Trailer: License plate no. and state
21. Vehicle [trailer] towed to
22. Operator: Name
23. Operator: Sex
24. Operator: Address
25. Operator: License no. and state
26. Operator: Date of birth
27. Passenger: Name
28. Passenger: Sex
29. Passenger: Age



FORM C (Continued)

30. Passenger: Address
31. Pedestrian: Name
32. Pedestrian: Sex
33. Pedestrian: Age
34. Pedestrian: Address
35. First aid by
36. Injured removed to
37. Injured removed by
38. Seat location code
39. Injury classification code
40. Ejection code
41. Seat belt type
42. Seat belt use code
43. Belt use reported by
44. Witnesses: Name
45. Witnesses: Address
46. Accident diagram
47. Accident description
48. Vehicle damage severity code
49. Vehicle damage areas
50. Vehicle body style
51. Road condition
52. Road surface condition
53. Weather condition
54. Traffic controls: Status and type
55. Traffic flow: Temporary change in traffic direction
56. Traffic lanes: Temporary reduction in number and width
57. Motorcyclists: All required safety equipment used
58. Alcohol indicated and test for
59. Citations for

FORM C (Continued)

60. Agencies notified [by police]
61. Police photos taken
62. Time police notified
63. Date police notified
64. Time police arrived
65. Reporting officer
66. Badge no.
67. Unit
68. Reporting agency or department
69. Date of report
70. Approved by
71. Date approved

APPENDIX 4

Helicopter Unit Standard Operating Procedure

HELICOPTER UNIT  
STANDARD OPERATING PROCEDURE

The purpose of this directive is to establish standard procedures which will coordinate the crime-reduction activities of the Helicopter Unit with those of the other operational units.

I. TRAFFIC SURVEILLANCE

A. On a daily basis, the Helicopter Unit will study the flow of traffic along the major arterial routes of the city. At the direction of the traffic engineer, the observers will photograph those areas that tend to have recurring congestion, and will make evaluations regarding the causes of the congestion. Special events that alter traffic patterns will be observed by the helicopter crew and photographs will be taken of the problems generated by such events. Reports on all aerial observations of traffic activities will be prepared in duplicate and submitted to the Traffic Division commander and to the city traffic engineer.

B. The unit will cooperate with the office of the city traffic engineer at all times. The helicopters will be used to fly the traffic engineer or his designated aide over problem areas when the situation requires evaluation by an expert and to complete other traffic-related assignments as scheduled by the traffic engineer and the chief of police.

C. The unit will be active in the daily enforcement of traffic laws within the corporate limits of the city.

1. While engaging in surveillance of the main traffic arteries, flight crews will have occasion to observe hazards such as oil on the streets, unusual obstructions, collisions, etc.  
When it appears that a hazard will have a detrimental effect on the even flow of traffic along streets or freeways, the observing unit will notify the Communications Unit, and advise that immediate action is necessary. In the event that such a hazard is affecting a "peak" traffic hour, a sig-a-let will be initiated.
2. When a flight crew observes a serious, continuing traffic violation, and is able to maintain the offending vehicle in view, a ground unit will be called via the radio dispatcher. The ground officer will intercept and cite or arrest the motorist. The name and serial number of the flight observer will be placed in the appropriate box of the citation.
3. Where a ground unit is engaged in a high-speed pursuit, the Helicopter Unit will respond immediately and relieve the ground unit of the pursuit responsibility. As soon as the flight crew has made visual contact with the fleeing vehicle, all ground units will reduce their speeds to that which is reasonable and prudent, thereafter converging on the subject vehicle as the helicopter crew gives directions. In the meantime, and as circumstances permit, the flight observer will

use the public address system to identify himself as a police officer and to instruct the motorist to stop his vehicle. When the vehicle is intercepted, the members who originated the pursuit will effect the arrest and complete the required reports.

The pursuit policy, wherein the Helicopter Unit is utilized in a team effort along with ground units, will reduce the number of fleeing motorists who elude police, as well as reduce collision hazards.

## II. RESPONSE TO DISASTERS

When a major traffic accident, fire, or other disaster is reported, the Helicopter Unit will respond immediately and determine requirements for traffic and crowd control, and emergency equipment needs. After making such determination, the craft will orbit on the perimeter of the disaster area and the observer-officer will relay information concerning potential problem situations.

## III. SURVEILLANCE OF DEMONSTRATIONS AND DISORDERLY GATHERINGS

Helicopter personnel and craft will be at the disposal of the command officer coordinating police activities at any large disturbance within the corporate limits of the city. When appropriate, the craft will serve as an aerial command post, enabling the command officer to have direct visual contact with the situation, and increasing his ability to evaluate the movements,

numbers, and mood of the crowd. In the event that the command officer chooses to remain on the ground and close to the disturbance, the flight crew will continue to orbit the scene and keep the command post apprised of any information that will aid in tactical decision-making.

#### IV. TACTICAL OPERATIONS RELATED TO SPECIFIC CRIME PROBLEMS

- A. Under the coordination of the Traffic Division commander, the Helicopter Unit and the Special Operations Unit will develop crime reduction techniques. These units shall emphasize tactics intended to reduce the burglary and auto theft rates. Additionally, Patrol Division members may request assistance from the Helicopter Unit regarding beat problems that can be studied from the air. Traffic Division members will also receive information from the unit on areas experiencing persistent traffic violations and congestion.
- B. Felony-in-progress calls shall receive top priority response from flight crews. Upon arrival at the scene of such a call, the crew will report the description, direction of flight, and place of concealment of any fleeing suspects. The crew may land the craft and give direct police service when the situation requires such action.
- C. When not engaged in another high-priority assignment, a flight crew will respond when a ground unit requires cover and the responding ground cover is delayed. The craft will orbit the scene and the crew will concern itself with the safety of officers and private

persons on the ground. An assault upon the person of a police officer constitutes a felony-in-progress and will receive the priority indicated in Section IV-B.

#### V. ORGANIZATIONAL AND OPERATIONAL PROCEDURES

- A. The Helicopter Unit is a subordinate unit of the Traffic Division, and is responsible to the commanding officer thereof. The unit supervisor will daily submit to the division a detailed accounting of personnel. Departmental distribution of the daily detail will be the responsibility of the division secretary.
- B. When not otherwise engaged in special tactical missions, the unit will adhere to the following schedule:
1. Helicopter Unit personnel will report for duty at the airport at the hours determined by need and specified by the unit supervisor and the division commander. These hours will be arranged in order that, with two crews being operational simultaneously, one will report for duty one hour later than the other. An immediate relief procedure will ensure continuous availability of an airborne helicopter. Each aircraft will stay up for one hour and thirty minutes, and will then land for pre- and post-flight maintenance while the companion craft operates. This procedure will have the effect of reducing pilot fatigue and maintenance problems. Meal breaks will be taken during the maintenance periods.

2. When not responding to calls for assistance, each flight will patrol within predetermined flight corridors and will have specific traffic-related and crime-reduction duties to perform. The flights will not leave the corporate limits of the city unless specifically authorized by the chief of police or a deputy chief.

3. The following is a tentative weekly schedule for Helicopter Unit personnel:

|          | Sun                    | Mon                    | Tue                    | Wed                    | Thu                    | Fri                    | Sat                    |
|----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Flight 1 | 1300<br>2100<br>Patrol | 1300<br>2100<br>Patrol | 1300<br>2100<br>Patrol | 1300<br>2100<br>Patrol | 1300<br>2100<br>Patrol | Day<br>Off             | Day<br>Off             |
| Flight 2 | 1400<br>2200<br>Patrol | 1400<br>2200<br>Patrol | 1400<br>2200<br>Train. | Day<br>Off             | Day<br>Off             | 1300<br>2100<br>Patrol | 1300<br>2100<br>Patrol |
| Flight 3 | Day<br>Off             | Day<br>Off             | 1400<br>2200<br>Patrol | 1400<br>2200<br>Patrol | 1400<br>2200<br>Patrol | 1400<br>2200<br>Patrol | 1400<br>2200<br>Patrol |

4. The following is a tentative daily schedule for Helicopter Unit personnel:

1300: First flight and section supervisor report for duty.

Briefing is held and the crew conducts pre-flight maintenance on aircraft.

1400: First flight takes off for patrol duties. Second flight reports, is briefed by supervisor, and conducts pre-flight maintenance on craft.

1530: Second flight takes off for patrol duties. First flight lands and conducts post-flight maintenance on craft. Log books and maintenance forms are completed, and the mechanic is advised of any adverse conditions that may have come to the attention of the crew during the flight. The Perpetual Maintenance Chart is filled in for inspection and departmental reports are also completed. The crew then conducts a pre-flight maintenance check for the 1700 flight.

1700: First flight takes off for patrol duties. Second flight lands and follows the above schedule.

- C. During the maintenance period, the pilot-officer will be responsible for the required helicopter checks and re-fueling. The pilot will also maintain the Operation Log by listing time in the air and describing the flight mission, area covered by flight, and police activities.
- D. The observer-officer for each flight will maintain an awareness of general crime trends by daily review of Stolen Vehicle Listings, Crime Analysis Summaries, and the crime recap information sheets. During each maintenance period, the observer will complete necessary police reports. Each observer-officer must be familiar with all landmarks readily discernible from the air and possess the ability to relate landmarks to the names and position of each street in the vicinity of the landmark.

- E. On those occasions where inclement weather renders air-flight unsafe for the crews, and other Helicopter Unit duties such as craft maintenance and operational coordination are not immediately necessary, unit personnel will report to the division commander for alternate assignment.
- F. Except in rescue situations, only the following persons shall be carried on helicopter flights:
- a. Assigned pilot-officers
  - b. Assigned observer-officers
  - c. Authorized maintenance personnel
  - d. City employees or officials with prior authorization by the chief of police or a deputy chief of police. The emergency transport of injured persons must be authorized by a supervisor or command officer. Use of the litter or the transport of an injured person in aircraft cabin shall only be authorized under extremely grave circumstances. The safety of the helicopter crew shall not be jeopardized unnecessarily.

## VI. COMMUNICATIONS UNIT RELATIONS

- A. Departmental policies as stated in the General Orders will apply to helicopter personnel while on duty. Unit members will be responsible to the Radio Dispatch Unit, reporting "909" upon takeoff, and "908"

- upon landing. A flight crossing the radio-channel boundary will tune to the channel into whose jurisdiction it is entering, and will advise radio dispatch of the change.
- B. When a ground unit requests Helicopter Unit assistance or a radio dispatcher determines in his own discretion that such assistance is necessary, and the airborne flight is on the channel opposite that in which the assistance is required, the crew will be ordered to tune to the appropriate channel, and the assignment will subsequently be made. A response delay should be expected in the event that the airborne unit is nearing completion of its flight period. In this case, the relieving crew will take the assignment.
- C. When a crew observes a traffic accident or other hazard in an adjacent jurisdiction which adversely affects the normal flow of traffic within the corporate limits of the city, the Communications Unit will be advised and will relay the information to the appropriate law enforcement agency.



**CONTINUED**

**2 OF 3**

APPENDIX 5

Sample Highway Patrol Directive: Enforcement Policy

SAMPLE HIGHWAY PATROL DIRECTIVE

TO: ALL MEMBERS AND EMPLOYEES, HIGHWAY PATROL  
RE: ENFORCEMENT POLICY

A. PURPOSE

To set forth the enforcement action to be taken by members of the Department against law violators.

B. POLICY

1. Members of the Department shall take an appropriate enforcement action for each and every violation of the law witnessed by them. Such action shall be accomplished in a businesslike, firm, fair, impartial, courteous, and uniform manner, using one of the four following methods:
  - a. By physical arrest in those cases provided by law.
  - b. By issuance of a Notice to Appear (commonly called a citation).
  - c. By issuance of a written warning.
  - d. By issuance of a verbal warning.
2. In accident cases, violations not witnessed by the officer but found provable following thorough investigation shall be processed by filing formal complaints as provided by law.
3. Whenever a member observes a motor vehicle operator whose physical or other condition indicates the need for a re-evaluation of his ability to drive a motor vehicle he shall, in addition to enforcement action taken,

report such facts to his area commander in writing immediately following his tour of duty. It shall be the responsibility of the area commander to expeditiously communicate such information to the Department of Motor Vehicles, Division of Drivers' Licenses.

### C. GENERAL DISCUSSION

The Department is directly charged with the enforcement of the traffic laws of this State. These laws can be divided into four general categories:

First, the laws governing the movement of traffic over the roadways of the State. These laws are safety rules for the movement of motor vehicles. A violation of one of these laws is generally referred to as a moving violation. It is also an accident-causing violation.

Second, those laws having to do with the mechanical condition of motor vehicles themselves. These also have a safety basis.

Third, those laws having to do with licensing of drivers and vehicles.

Fourth, a miscellany of laws relating to vehicles.

This directive refers to all the laws we are charged with enforcing. None is too small or insignificant to be overlooked; none too important to be stressed to the exclusion of any other. Against every violation witnessed, an enforcement action must be taken.

It should be remembered that this Department was created to provide uniformity of enforcement throughout the State. Obviously, to achieve this uniformity, some basic principles must be established. It is also obvious that the public policy of the State demands that each violator of the law be treated in a similar manner wherever he may be in the State. Chaotic conditions would result if every man in law enforcement were permitted to develop his own standards of enforcement of the law.

Four alternative enforcement actions are set forth in this Order. They are to be applied by every member of the Department in accordance with Departmental Standards. The law of this State provides us with the basis for the application of these enforcement actions. They are as follows:

1. Physical arrest in those cases where the law requires or permits this process. Where permitted and not required, the decision must be based on sound professional judgment.
2. Issuance of a Notice to Appear (citation) is a process permitted by law as a substitute for a physical arrest. It is a part of the arrest process which, itself, is simply the method of bringing the violator before the court for adjudication of guilt or innocence, with suitable punishment

in the case guilt is determined. It is a practical and humanitarian process developed over the years, and is gradually being extended to many regulatory fields.

3. Issuance of a Written Warning is a process developed to achieve compliance with the law governing the mechanical condition of motor vehicles without every violation resulting in an arrest. Where non-compliance is demonstrated, however, the law contemplates that arrest and adjudication will follow the violation.
4. Issuance of a Verbal Warning is a procedure to be used when a violation of law is observed but the officer is not reasonably sure of the accuracy of his observation of the elements constituting the violation or when in his professional judgment such action is obviously proper.

Thus we have the four types of enforcement action to be taken, and a general standard for application of each. Every action taken by a member of this Department is to be governed by sound professional judgment, in accordance with Departmental objective and duty.

The work of the Department requires that in fulfilling these duties we utilize these two basic methods of operation:

1. The Legislature has directed that we obtain compliance with the law, to the extent possible with the limited manpower at our disposal, by on-view patrol. This is based on the thinking that people do not generally violate the law when they know they are being observed by officers of the law. We will do our utmost to comply with this Legislative direction.
2. With the exception of accident investigation and follow-up, we are not in a field of law enforcement where we can sit back and wait for violations to be reported to us. In our field it is incumbent that we actively and eternally seek out the law violator. This is done in the professional manner and in accord with Departmental policy.

It is essential that we aggressively pursue the violator of the law. Traffic laws are basically safety rules, designed to insure the rapid, accident-free flow of vehicles over the roads of the State. Their purpose is to protect human beings from injuring and killing themselves and others. To see that this purpose is achieved, it is our duty everlastingly, diligently, and with a singleness of resolution to seek out and apprehend those who violate the law. The ultimate disposition of the case by the judge who passes on innocence or guilt and who administers punishment is not our concern. Our job is to enforce the law.

We are responsible also for the rendering of certain services to the motoring public. These include, but are not limited to, giving information, assisting those who are disabled or otherwise need help, conducting blood relays, and a

variety of other matters. Furthermore, we have the obligation to protect the public from the depredations of lawless persons who would prey on the motorist if they could.

Now, just how is all this to be implemented and put into practice?

Zone and Area Commanders are responsible for the implementation of these objectives and policy and shall proceed to do so in conformance with the following direction:

The Department has the responsibility of protecting life and property on the highways and roads. This responsibility primarily involves the application of preventive enforcement to reduce traffic accidents.

All Commanders are professionally accountable for the proper discharge of this responsibility and they must direct maximum initiative and interest toward its immediate accomplishment. They must personally provide the quality of leadership and expertness of direction which will assure the most efficient performance of personnel and best use of available equipment and facilities in conformance with existing policies.

It is also the responsibility of command and supervisory personnel to intensify and instill in each enforcement officer a lasting personal interest and sense of individual obligation to prevent accidents on his beat. The maximum effectiveness of each officer in accident prevention cannot be obtained until he fully accepts the concept of "beat accountability." When a traffic officer's actions while assigned to patrol a beat deviate from steady, efficient, conscientious, and professional execution of the Patrol's applicable policy the officer is doing less than his full duty and consequently must accept a degree of moral responsibility for each accident or incident occurring on his beat which might have been prevented had the officer been more conscientious in the application of his time to the preventive actions anticipated by existing policies.

Years of experience have proven conclusively that quantity of enforcement without regard to quality cannot achieve the maximum accident prevention possible from enforcement. It is also recognized that quality of enforcement without quantity is likewise not the best answer. Therefore, it is universally accepted that a combination of the two is essential to effective enforcement.

Factors necessary to attaining high quality enforcement include deployment of personnel at the high accident frequency locations during the times when most accidents occur. The officers must also have full current knowledge of the predominant violations which are known to be causing the accidents on the beat.

In order to improve the quality of enforcement, commanders must continually answer in the affirmative the following questions:

1. Is a complete and accurate analysis of traffic accident records being maintained?

2. Is this analysis being properly used to determine the predominant accident-causing violations and the time and locations these accidents occur, and to provide a sound basis for deployment of enforcement personnel by time and location?
3. Are deployed personnel provided with complete beat information as to:
  - a. Predominant accident-causing violations being committed on the beat;
  - b. High frequency accident locations on the beat;
  - c. The times when accident frequency is the highest on the beat; day to day change, if any;
  - d. Problems peculiar to the beat, such as heavy traffic days and hours, seasonal or climatic hazards, etc.?
4. Is the beat information continually evaluated and maintained on a current basis?
5. Is the statewide statistical picture with regard to traffic accidents and enforcement discussed at each monthly area meeting?

In order that these objectives will be achieved, each field sergeant shall, on a continuing basis, evaluate those under his supervision. Factors to be evaluated will include, but not necessarily be limited to, the traffic officer's knowledge of his beat, the traffic conditions thereon, the accident causes thereon, and the DEMONSTRATED WILLINGNESS OF THE OFFICER TO ACCEPT HIS PERSONAL OBLIGATION FOR THE FULFILLMENT OF DEPARTMENTAL DUTIES AND OBJECTIVES. It is essential that the sergeant have personal continuously current knowledge of the beats involved, based upon his own active observance, and that his evaluation of the officer also be based upon personal observations of the latter's work, abilities, aptitudes, and individual problems.

It is the field sergeant's responsibility to assist each member under his supervision by identifying his strengths and weaknesses and by establishing methods for increasing individual effectiveness.

In the event that the traffic officer's first line supervisor is someone other than a field sergeant, the evaluation will be made by the first line supervisor.

Similar thorough evaluation of the sergeant's accomplishments of his duties will be made by the area commander or a lieutenant,



whichever is appropriate. Lieutenants will also be evaluated by the area commander.

Zone commanders shall evaluate the area commanders from a like premise, and the zone commanders, in turn, will be evaluated by the Commissioner.

Zone commanders shall also evaluate the activities of the deputy zone commanders as to their demonstrated willingness to accept their personal obligation for the fulfillment of Departmental duties and objectives within their scope of assigned responsibilities.

It is my sincere belief that each of us has a personal obligation to do everything we possibly can to see that the users of our highways do not conduct themselves so as to cause injury or death to themselves or to others. The people of this State look to us to prevent traffic accidents. We MUST get the job done.

(SIGNED)  
Commissioner  
Highway Patrol

#### APPENDIX 6

#### Classification of Traffic Law Violations

## CLASSIFICATION OF TRAFFIC LAW VIOLATIONS

### I. HAZARDOUS VIOLATIONS

#### A. Unsafe Behavior - Drivers

| <u>General Group</u>                              | <u>Code Section</u>                         | <u>Violations</u>  |
|---|---|--|
| Speeding  | 11-801.1                                    | Exceeded stated speed limit  |
|   | 11-801                                      | Too fast for conditions  |
|   | 11-802, 11-803                              | Disregarded speed zones  |
|   | 11-804                                      | Too slow for traffic conditions  |
|   | 11-806a                                     | 45 mph maximum for house trailer   |
|   | 11-806b                                     | 10 mph maximum for solid tire  |
|   | 11-808                                      | Racing on highways   |
| Right of Way<br>for Vehicles                      | 11-401                                      | Failed to yield at open intersection   |
|   | 11-402                                      | Turned to left in front of approaching traffic                                     |
|   | 11-403b                                     | Failed to yield at stop intersection   |
|   | 11-403c                                     | Failed to yield at Yield Intersection  |
|   | 11-404                                      | Failed to yield entering highway from alley, building,<br>private road or driveway |
|   | 11-405a                                     | Failed to yield to emergency vehicle   |
|   | 11-1404b                                    | Failed to yield to streetcar at intersection                                       |
| Traffic Signs<br>Signals, and<br>Road<br>Markings | 11-201                                      | Disregarded official traffic control device  |
|   | 11-202c                                     | Disregarded steady red light   |
|   | 11-204a1                                    | Disregarded flashing red signal  |
|   | 11-204a2                                    | Disregarded flashing yellow signal   |
|   | 11-204.1                                    | Disregarded lane control signal  |
|   | 11-307b                                     | Disregarded No Passing Zone  |
|   | 11-309a                                     | Changed lane when unsafe   |
|   | 11-309d                                     | Disregarded No Lane Change sign  |
|   | 11-701a1                                    | Disregarded signal at RR crossing  |
|   | 11-701a2                                    | Disregarded RR crossing gate or watchman   |
|   | 11-702                                      | Failed to stop at marked RR crossing   |
| 11-508  | Drove through safety zone                   |  |
| Turning<br>Movements                              | 11-311                                      | Turned across dividing section   |
|   | 11-601a                                     | Turned right too wide  |
|   | 11-601b                                     | Cut corner left turn   |
|   | 11-601a                                     | Turned right from wrong lane   |
|   | 11-601b                                     | Turned left from wrong lane  |
|   | 11-601c                                     | Disregarded turn marks at intersection   |
|   | 11-602                                      | Made U-turn on curve or hill   |
| 11-604  | Turned when unsafe or failed to signal turn |  |
| Wrong Side<br>or Wrong<br>Way                     | 11-301, 11-302                              | Drove on left half - no overtaking   |
|   | 11-306a1                                    | Drove on left half, hill, curve, etc.  |
|   | 11-306a2                                    | Drove on left half, intersection or RR grade crossing                              |



**A. Unsafe Behavior — Drivers (Continued)**

| General Group                  | Code Section      | Violations   |
|--------------------------------|-------------------|--|
|                                | 11-306a3          | Drove on left half — no view, bridge, viaduct, or tunnel                             |
|                                | 11-308b           | Drove wrong way on one-way street  |
|                                | 11-308c           | Drove to left of rotary intersection   |
|                                | 11-309b           | Drove in middle lane when unnecessary  |
|                                | 11-309c           | Drove wrong way in designated lane   |
|                                | 11-311            | Drove on wrong side, divided highway   |
| Following                      | 11-310a           | Failed to keep safe distance   |
|                                | 11-310b           | Failed to leave sufficient distance between trucks for overtaking                    |
|                                | 11-310c           | Motor vehicles in caravan too close  |
| Overtaking                     | 11-303a, 11-1404c | Cut in before safe in overtaking vehicle, streetcar                                  |
|                                | 11-303a           | Overtook vehicle on right  |
|                                | 11-304b           | Drove off pavement, overtaking on right  |
|                                | 11-307b           | Overtook where prohibited  |
|                                | 11-502d           | Overtook vehicle stopped for pedestrian  |
|                                | 11-706a           | Overtook or passed stopped school bus  |
|                                | 11-1402a          | Overtook streetcar on left   |
|                                | 11-1403           | Overtook standing streetcar  |
|                                | *                 | Drove three abreast on two lane road   |
| Signal Intention               | 11-604            | Neglected to signal when required  |
|                                | 11-606            | Gave wrong hand signal   |
|                                | 11-1107           | Failed to sound horn, mountain road  |
| Pulling Away                   | 11-603            | Started improperly from parked position  |
| Violations Against Pedestrians | 11-202a1          | Failed to yield right of way to pedestrian at signalized intersection                |
|                                | 11-502a           | Failed to yield right of way to pedestrian, no signals                               |
|                                | 11-504            | Failed to exercise due care toward pedestrians                                       |
|                                | 11-509            | Failed to yield to pedestrian on sidewalk  |
| Motorcycle Violations          | 11-1302(a)        | Riders on motorcycles limited to number of seats                                     |
|                                | 11-1302(b)        | Permitted to ride motorcycle only when straddling                                    |
|                                | 11-1302(c)        | Operate without both hands on handlebars   |
|                                | 11-1302(d)        | Passengers not to obstruct view or interfere with operation or control of motorcycle |
|                                | 11-1303(a)        | Motor vehicles shall not deprive motorcycles full use of traffic lane                |
|                                | 11-1303(b)        | Passing in same lane prohibited  |
|                                | 11-1303(c)        | Operating motorcycles between lanes of traffic prohibited                            |
|                                | 11-1303(d)        | Motorcycles shall not be operated more than two abreast in signal lane               |
|                                | 11-1304           | No person riding upon a motorcycle shall attach himself to any other vehicle         |
|                                | 11-1304(a)        | Motorcycles carrying passengers shall be equipped with footrests                     |
|                                | 11-1304(b)        | Handlebars shall be no more than 15 inches above seat occupied by operator           |
|                                | 11-1306(a)        | Operator of motorcycle shall wear protective headgear                                |
|                                | 11-1306(b)        | Operator of motorcycle shall wear protective eye devices or have a windscreen        |
| Miscellaneous                  | 11-103            | Disregarded police officer   |
|                                | 11-303b           | Failed to give way when overtaken  |
|                                | 11-140a           | Failed to give way when overtaken by streetcar                                       |
|                                | 11-309c           | Did not use designated lane  |
|                                | 11-312            | Drove onto or from controlled access highway where prohibited                        |
|                                | 6-113d            | Failed to obey license restrictions (Glasses, pedal extensions, special controls)    |

\*Does not have UVC Section Number

**A. Unsafe Behavior — Drivers (Continued)**

| General Group | Code Section | Violations   |
|---------------|--------------|--|
|               | 11-701a3     | Disregarded train whistle  |
|               | 11-703       | Failed to stop at RR, by bus or explosive carrier                    |
|               | 11-704       | Crossed RR with heavy equipment without notice or caution            |
|               | 11-705       | Did not stop emerging from alley, building, private road or driveway |
|               | 11-901       | Disregarded safety of persons or property — Reckless driving         |
|               | 11-902a      | Drove under influence of alcohol                                     |
|               | 11-902.1     | Drove under influence of drugs                                       |
|               | 11-903       | Homicide by vehicle  |
|               | 11-904       | Fleeing or attempting to elude a police officer                      |
|               | 11-1102      | Backed so as to interfere, etc.                                      |
|               | 11-1104a, b  | Passenger obstructed driver's view                                   |
|               | 11-1107      | Failed to keep right on mountain road                                |
|               | 11-1108      | Coasted out of gear, down grade                                      |
|               | 12-101a      | Operating vehicle in unsafe condition                                |
|               | 12-223       | Failed to use proper headlight beam                                  |
|               | 12-223       | Failed to dim lights for approaching vehicles                        |
|               | 12-223       | Failed to dim lights following vehicle                               |
|               | 12-408       | Warning devices not displayed  |
|               | 14-107       | Towed in a dangerous manner  |
|               | *            | Pushed in a dangerous manner   |
|               | *            | Drove in prohibited area   |
|               | *            | Disregarded hand or warning signal                                   |
|               | 11-1105      | Opened door into moving lane of traffic                              |
|               | *            | Parts of passenger projected from vehicle                            |
|               | MTO 9-2      | Drove through funeral or moving procession                           |
|               | 11-1103      | Drove on sidewalk  |

**Other Hazardous Violations which may be reported to the State Traffic Records System:**

**A. Unsafe Behavior — Pedestrians**

|                 |          |  |
|-----------------|----------|--|
| Right of Way    | 11-103   | Disobeyed police officer                           |
|                 | 11-503a  | Failed to yield outside crosswalk                  |
|                 | 11-503b  | Failed to yield where protected crossing available |
| Traffic Signals | 11-202c3 | Disregarded traffic control signal                 |
|                 | 11-203   | Disregarded pedestrian control signal              |
| Miscellaneous   | 11-503c  | Crossed between intersections where prohibited     |
|                 | 11-506a  | Walked in roadway where sidewalks provided         |
|                 | 11-506b  | Walked in roadway with traffic, no sidewalks       |
|                 | 11-507   | Stood in road to solicit business or ride          |
|                 | *        | Played or lay in roadway                           |
|                 | MTO 10-1 | Boarded or left vehicle in motion                  |
|                 | MTO 12-2 | Hitched on vehicle                                 |

**B. Unsafe Behavior — People other than Drivers and Pedestrians**

|                          |          |  |
|--------------------------|----------|--|
| Miscellaneous Violations | 11-1203  | Rode improperly on bicycle                                   |
|                          | 11-1204  | Clung to vehicle on bicycle                                  |
|                          | 11-1205a | Failed to keep bicycle on right of roadway                   |
|                          | 11-1205b | Rode more than two bicycles abreast                          |
|                          | 11-1206  | Carried articles so as to interfere with handling of bicycle |
|                          | 16-102   | Owner permitted hazardous violation                          |

**C. Unsafe Conditions**

|         |            |   |
|---------|------------|---|
| Driver  | 11-1003(b) | Unauthorized driver parking unlawfully                        |
| Highway | 11-205a    | Obscuring or interfering with official traffic control device |
| Vehicle | 11-1111    | Deposited glass, nails on main traveled way                   |
|         | 12-204a    | Defective tail lamps  |

\*Does not have UVC Section Number

**C. Unsafe Conditions (Continued)**

| <u>General Group</u>  | <u>Code Section</u>   | <u>Violations</u>  |
|-----------------------|---|--|
|                       | 12-205a   | No reflectors  |
|                       | 12-206a   | Defective stop lamps   |
|                       | 12-208  | Defective clearance or side-marker lamps   |
|                       | 12-213  | Projecting load to rear unlighted  |
|                       | 12-214  | Defective parking lamps  |
|                       | 12-215  | Defective lamps on farm equipment  |
|                       | 12-216  | Defective lamps on other equipment   |
|                       | 12-219  | Defective signal lamps   |
|                       | 12-222  | Headlamps glaring, not adjusted  |
|                       | 12-301  | Defective brake equipment  |
|                       | 12-302  | Brakes improperly adjusted   |
|                       | 12-303  | Brakes not maintained in good working order  |
|                       | 12-401a   | Defective horn   |
|                       | 12-402  | Defective exhaust system   |
|                       | 12-403  | Mirror defective or not equipped   |
|                       | 12-404a   | Obstructed view through windshield   |
|                       | *   | Unsafe tires   |
|                       | 12-404b, c  | Windshield wiper not installed or defective  |
|                       | 12-406  | Defective safety glazing material  |
|                       | 12-407  | Warning devices not installed or defective   |
|                       | 12-409c   | Placard or other marking required  |
|                       | 12-409d   | Required safety devices for explosives cargo   |
|                       | 13-101  | Vehicles without required equipment or in unsafe condition   |
| Parking<br>Violations | 11-1001a  | Parked on main traveled way  |
|                       | 11-1002b  | Parked on bridge, in tunnel, etc.  |
|                       | 11-1003a1a  | Parked double  |
|                       | 11-1003(a) 1b   | Stopping, standing, or parking prohibited: on a sidewalk   |
|                       | c   | Within an intersection   |
|                       | d   | On a crosswalk   |
|                       | e   | Between safety zone  |
|                       | f   | Alongside street excavation  |
|                       | h   | On any RR tracks   |
|                       | i   | Where official signs prohibit parking  |
|                       | 11-1003(a) 2  | Stand or park a vehicle, whether occupied or not, except momentarily to pick up or discharge a passenger or passengers   |
|                       | a   | In front of a public or private driveway   |
|                       | b   | Within 15 feet of a fire hydrant   |
|                       | c   | Within 20 feet of a crosswalk at an intersection   |
|                       | d   | Within 30 feet upon the approach to any flashing signal, stop or traffic-control signal located at the side of a roadway |
|                       | e   | Within 20 feet of the driveway entrance to any fire station within 75 feet of said entrance (when properly signposted)   |
|                       | f   | At any place where official signs prohibit standing  |
| 11-1003(a)3           | Park a vehicle, whether occupied or not, except temporarily for the purpose of and while actually engaged in loading or unloading merchandise or passengers |  |
| a                     | Within 50 feet of the nearest rail of a RR crossing   |  |
| b                     | At any place where official signs prohibit parking  |  |
| 11-1004(a)            | Vehicle parked with wheels within twelve (12) inches from curb  |  |
| 11-1004(b)            | Vehicle parked facing in direction of flow of traffic   |  |

APPENDIX 7

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\*Does not have UVC Section Number

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