

**THE ORGANIZATION
OF OFFICIAL TRAFFIC AGENCIES**
in Cities and States

A NATIONAL SURVEY BY

Wilbur S. Smith

Technical Advisor

The Eno Foundation for Highway Traffic Control, Inc.

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FOREWORD

Most state and local governments have established official agencies to improve traffic conditions. Soon after the turn of the century, when traffic problems for the first time became acute, officials looked first to the police to cope with the problems. Extended use of the automobile developed intercity and interstate travel, thus necessitating establishment of *state* traffic enforcement agencies also. The general intent was the same—the regulation, or restriction of street uses.

The rapid growth of automobile transportation reflected in the large volumes of traffic and higher speeds, made it apparent almost immediately that engineers not only had a responsibility for providing facilities, but for arranging for operation and the efficient use of such facilities.

Out of this demand for trained technicians to deal with the engineering aspects of traffic control and highway design grew the profession of traffic engineering.

Today both police and engineers perform traffic functions in every state and in practically every city. But government organization is complex. Therefore we find traffic functions assigned to many different agencies and individuals. Likewise the traffic responsibilities of various units of government vary widely. To meet these responsibilities it has been found desirable in many localities to effect drastic reorganizations; in other localities the responsibilities have been dealt with at random or as specific needs demanded.

The Eno Foundation receives many requests for information as to types of traffic organizations, (police and engineering). Because of the lack of detailed information on official traffic organizations, the Foundation undertook a factual study from which the following organizational picture is drawn. Information was sought concerning the location and size of traffic organizations, salaries of traffic heads, the distribution of responsibilities for the most common

traffic functions, titles applied to traffic organizations, and other factors pertinent to the operation of traffic bureaus in police departments and traffic engineering bureaus in engineering departments.

Police and engineering officials throughout the country contributed generously of their time in providing information. Without their cooperation, the study would not have been possible. The data were furnished during 1945. It required considerable time to assemble them from their many sources and to compile the report.

I N T R O D U C T I O N

No attempt has been made to evaluate the following data; they are presented in a purely objective manner.

Information on official traffic organizations in the United States was sought from highway and police organizations of all states, as well as from engineering and police departments of cities with populations of 50,000 or more. To collect the data, questionnaires were distributed to the commissioner or head of each state highway department, to the head of each state police organization, to the director of public works or engineering departments of cities, and to the chiefs of city police. The response of public officials was excellent. The high rate of questionnaire return is indicated by results shown in Table 1. Ninety-four per cent of the state highway departments and 81 per cent of the state police organizations completed and returned the questionnaires.

TABLE 1
SOURCES OF INFORMATION
ON
CITY AND STATE TRAFFIC ORGANIZATIONS

<u>Sources</u>	<u>Number Contacted</u>	<u>Engineering Information Furnished</u>		<u>Enforcement Information Furnished</u>	
		Number	Per Cent	Number	Per Cent
States	48	45	94	39	81
Cities:					
Populations 50,000-100,000	110	28	26	42	38
Populations 100,000-200,000	52	21	40	26	50
Populations 200,000-500,000	33	21	64	27	82
Populations over 500,000	16	8	50	13	81
Total Cities:					
Populations over 50,000	211	78	37	108	51

Data on police traffic organizations were provided by 38 per cent of the cities with populations of 50,000 to 100,000, by 50 per cent of those with populations 100,000 to 200,000, by 82 per cent with populations 200,000 to 500,000 and by 81 per cent with populations of 500,000 and over. Fifty-one per cent of the cities with populations of 50,000 or more furnished adequate information.

Requests for information on traffic engineering organizations and functions were complied with by 37 per cent of the 211 cities with populations of 50,000 or more. Twenty-six per cent with populations 50,000 to 100,000; forty per cent with populations 100,000 to 200,000; sixty-four per cent with populations 200,000 to 500,000, and 50 per cent with populations of 500,000 and over furnished facts for the study.

Analyzing and Presenting the Data

The information furnished by city and state officials was carefully analyzed. Results divide naturally into four groups. Each is presented as an independent section of the report. These are:

1. Traffic Organization in City Police Departments
2. Traffic Organization in State Police Departments
3. Traffic Engineering Activities in Cities
4. Traffic Activities in State Highway Departments

In many instances the supplemental materials furnished with the questionnaires served as valuable aids in interpreting the data. These included organization charts, annual reports, detailed explanations of tabular information, and other amplifications of answers to questions about functions and organizations. All such materials are being preserved and classified in the Foundation library. Care was taken not to refer to individuals, cities or states. Only composite findings are given. This procedure in no way detracts from the value of data in the report.

Information about cities was classified according to four population groups. These groups (50,000 to 100,000; 100,000 to 200,000; 200,000 to 500,000; and 500,000 and over) are the ones commonly employed in statistical studies by governmental agencies and afford a ready cross-reference to other urban data.

Careful preliminary inspection of the data from states revealed no significant differences between geographical areas. While wide variations are evident in most phases of the study, these are as great within each major geographical area as between different areas. It is for this reason that findings are not reported according to regions of the United States.

Each section of the report contains information about (1) names of traffic divisions; (2) titles of traffic heads; (3) persons to whom traffic heads report; (4) methods of appointing traffic heads; (5) salaries of heads of traffic activities in relation to salaries of other governmental department heads; (6) traffic functions; and (7) miscellaneous factors such as the ratio of police to population and traffic training. The materials on "functions" cover a wide range of traffic activities and are believed to represent those normally found in city and state departments.

CHAPTER I

Traffic Organizations in City Police Departments

Requests for information on traffic organizations were sent to 211 cities with 1940 populations of over 50,000. Response was as follows:

- A. Of the 110 cities with populations of over 50,000 but under 100,000 persons, 42 or 38 per cent furnished information.
- B. Of the 52 cities with populations of over 100,000 but under 200,000, 26 or 50 per cent replied.
- C. Of the 33 cities with populations between 200,000 and 500,000, 27 or 82 per cent sent us data.
- D. And of the 16 cities over 500,000 in population, 13 or 81 per cent responded.

These rates of return are recapitulated in Table 2 below:

TABLE 2
SOURCES OF INFORMATION FROM CITIES
ON POLICE ORGANIZATIONS

<i>Population</i>	<i>Number of Cities</i>	<i>Cities Furnishing Information</i>		<i>States Represented</i>
		<i>Number</i>	<i>Per Cent</i>	
50,000 - 100,000	110	42	38	19
100,000 - 200,000	52	26	50	17
200,000 - 500,000	33	27	82	18
Over 500,000	16	13	81	11
Totals	211	108	51	31

Replies represent a wide geographic spread: 108 cities in 31 states. The only two cities having no traffic divisions in the police department were in the population group of 50,000 to 100,000.

Title of Traffic Director

The most common title for the head of the traffic division is "Captain." Forty-nine, or 45 per cent, of all the cities reporting use this title. In 19 cities or 18 per cent, the chief traffic

officer is a Lieutenant; in 9 cities or 8 per cent, a Sergeant; in 9 cities, an Inspector; in another 9 cities, the Director, Commissioner or Chief of Traffic; in 5 cities or 5 per cent, Superintendent or Supervisor of Traffic; in 4 cities or 4 per cent, Deputy or Assistant Chief of Police; in 3 cities or 3 per cent, Chief or Head of Police; and in 1 city, 1 per cent, Assistant Chief Inspector. A summary of titles is given in Table 3.

In cities of 50,000 to 100,000 population, traffic heads are most commonly known as Captains or Lieutenants—40 per cent and 31 per cent, respectively. In three such cities, traffic matters are handled directly by the chief administrative officer of the police department. In cities of 100,000 to 200,000 population, the most common title is "Captain"—in 15 of 26 cities, 58 per cent.

In cities of 200,000 to 500,000 population, 14 of 27, or 52 per cent, use Captain to title their traffic head. The title Inspector becomes more common as the size of the city increases. Eleven per cent of the cities in this group report it. It is in this group of cities that, for the first time in this survey, the title Superintendent, or Supervisor of Traffic, appears. Fifteen per cent use one or the other.

In cities of more than 500,000 population, 23 per cent call their traffic heads Captain; 31 per cent, Inspector. In 15 per cent of these cities, the Deputy or Assistant Chief of Police heads the traffic division. Another 15 per cent have traffic affairs directed by a Traffic Superintendent, or Supervisor.

Persons to Whom Traffic Heads Report

In most of the cities, 86 of 108, or 80 per cent, the head of the traffic division reports directly to a Superintendent or Chief of Police. In 5 per cent of all the cities the traffic head reports to the Deputy or Assistant Chief of Police, another 5 per cent to an Inspector, and still another 5 per cent to a Captain. In those three cities in which the director of all police activities is in immediate charge of traffic, the person

TABLE 3

TITLES OF TRAFFIC DIRECTORS IN CITY POLICE DEPARTMENTS

<i>Title</i>	<i>Population</i> 50,000-100,000		<i>Population</i> 100,000-200,000		<i>Population</i> 200,000-500,000		<i>Population</i> Over 500,000		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Captain	17	40	15	58	14	52	3	23	49	45
Lieutenant	13	31	4	15	2	8	0	0	19	18
Sergeant	6	14	3	12	0	0	0	0	9	8
Inspector	1	3	1	4	3	11	4	31	9	8
Traffic Director, Chief, or Commissioner.....	2	5	3	11	2	7	2	15	9	8
Superintendent, or Supervisor of Traffic.....	0	0	0	0	4	15	1	8	5	5
Assistant Chief Inspector.....	0	0	0	0	0	0	1	8	1	1
Deputy, or Assistant Chief of Police.....	0	0	0	0	2	7	2	15	4	4
Chief, or Head of Police.....	3	7	0	0	0	0	0	0	3	3
Totals.....	42	100	26	100	27	100	13	100	108	100

to whom he reports has been listed as the Mayor, or head of city government.

There is only slight variance in the percentage of cities in each population group in which the head of traffic reports to the chief administrative officer of the police department: 78 per cent in cities with population 50,000 to 100,000, eighty-eight per cent in those with populations of 100,000 to 200,000, and 78 per cent in cities with populations of 200,000 to 500,000.

In cities with populations of over 500,000, only 69 per cent of the traffic heads report directly to a Superintendent or Chief of Police; 23 per cent have the heads of traffic reporting to an Inspector. Captains are the lowest-ranking officers to whom traffic heads report. Six of the cities from 50,000 to 500,000 population have traffic heads reporting to Captains, but four are in the group 50,000 to 100,000.

A complete listing of the number of cities with traffic heads reporting to various officers in the Police Department is shown in Table 4.

How Traffic Directors Are Appointed

Considering the entire group of 108 cities which furnished information for the study, 35 or 32 per cent appoint the heads of traffic divisions through Civil Service rules and examinations; 25, or 23 per cent, have appointments made directly by the Superintendent, Chief, or Head of the Police Department; 17, or 16 per cent, have appointments made by Police Commissioners; 13, or 12 per cent, permit the Commissioner or Board of Public Safety to make appointments; and only 5, or 5 per cent, have Councilmen or Aldermen select traffic heads.

The use of Civil Service Commissions in the appointment or selection of traffic heads becomes more commonplace in larger cities. While only 26 per cent of the cities furnishing information in the population group 50,000 to 100,000 have

TABLE 4

PERSONS TO WHOM TRAFFIC HEADS REPORT IN CITY POLICE DEPARTMENTS

<i>Title of Person to Whom Traffic Head Reports</i>	<i>Population</i> 50,000-100,000		<i>Population</i> 100,000-200,000		<i>Population</i> 200,000-500,000		<i>Population</i> Over 500,000		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Superintendent, Chief, or Head of Police.....	33	78	23	88	21	78	9	69	86	80
Director of Public Safety.....	1	3	—	—	—	—	—	—	1	1
Deputy or Assistant Chief.....	1	3	2	8	1	4	1	8	5	5
Inspector	—	—	—	—	3	11	3	23	6	5
Captain	4	9	1	4	1	4	—	—	6	5
Mayor or City Head.....	3	7	—	—	—	—	—	—	3	3
Data Not Furnished.....	—	—	—	—	1	3	—	—	1	1
Totals.....	42	100	26	100	27	100	13	100	108	100

traffic heads selected by Civil Service Commissions, 46 per cent of the cities of over 500,000 use this method. Appointments by mayors are common only in cities of the smaller population groups. Nineteen per cent of the towns of 50,000 to 100,000 have the traffic heads appointed by mayors, and 12 per cent of those from 100,000 to 200,000 population have traffic heads selected or designated by mayors of the city.

The influence of the Chief of Police in appointments to the directorship of traffic activities also decreases as the size of the city increases. In 29 per cent of cities from 50,000 to 100,000 the Chief selects the traffic head, whereas in only 8 per cent of the cities over 500,000 does the police head choose the traffic director. On the other hand, appointments by police commissioners and commissions become more numerous as the size of the city increases. Only 12 per cent of the cities in population groups from 50,000-100,000, but 46 per cent of cities over 500,000 have a system whereby Police Commissioners select or appoint the traffic head.

A summary of methods employed by cities in four population groups for the selection of traffic division heads is shown in Table 5.

Only 40 per cent of the 108 cities definitely reported the use of examinations in selecting men to head traffic activities. These examinations include those of civil service agencies as well as departmental examinations.

Forty-five per cent of the cities with populations 50,000-100,000 report the use of examinations; 46 per cent of those with populations 100,000-200,000; thirty per cent of those with populations 200,000-500,000; and 31 per cent of those with populations over 500,000 indicated the use of examinations in making appointments.

Salaries

Information obtained on salaries of the heads of various divisions of police departments has been summarized in Table 6.

TABLE 5

APPOINTMENT OF TRAFFIC HEADS IN CITY POLICE DEPARTMENTS

<i>Person or Agency Appointing Head of Traffic</i>	<i>Population 50,000-100,000</i>		<i>Population 100,000-200,000</i>		<i>Population 200,000-500,000</i>		<i>Population Over 500,000</i>		<i>All Cities</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Mayor, or City Head.....	8	19	3	12	—	—	—	—	11	10
Councilmen, or Aldermen.....	3	7	1	4	1	4	—	—	5	5
Superintendent, Chief, or Head of Police.....	12	29	4	15	8	30	1	8	25	23
Civil Service Commission.....	11	26	9	35	9	33	6	46	35	32
Commissioner, or Board Public Safety.....	2	5	5	19	6	22	—	—	13	12
Police Commissioners	5	12	4	15	2	7	6	46	17	16
Data Not Furnished.....	1	2	—	—	1	4	—	—	2	2
Totals.....	42	100	26	100	27	100	13	100	108	100

The *range* in maximum annual salaries and the *average* maximum annual salaries are shown for heads of traffic divisions, heads of detective bureaus, heads of training, heads of precincts, and directors of other divisions of police departments in Table 6. It will be noted that all the cities returning the questionnaires did not give salary data; the number of cities reporting in each case is indicated.

The range of maximum salaries of heads of traffic divisions is greater than for other division heads. In one city the head of traffic receives only \$1,920 a year, while in another he receives \$7,690. The average annual salary for all cities reporting is \$3,300. This compares with an average maximum salary for detective heads of \$3,540 per year, of \$3,280 for directors of training, of \$3,190 for heads of precincts, and \$3,320 for heads of other police divisions.

In every case there is, as would be expected, an increase in salaries as the size of the city increases. The average maximum annual salary, for example, in cities of 50,000 to 100,000 is \$2,870 for heads of traffic divisions, and \$3,000 for heads of detective bureaus, as compared with \$3,036 and \$3,296, respectively, for cities of 100,000-200,000 population. When the size of cities exceeds 500,000 population, the *average* annual salary for traffic heads becomes \$5,400; and for heads of detectives, \$5,440.

The *lowest* maximum salaries for traffic heads varies from \$1,920 per year in cities of 50,000 to 100,000 population, to \$3,320 in cities of over 500,000 persons. The *highest* maximum annual salaries for the same groups vary from \$6,000 to \$7,690. Comparable fluctuations and increases are noted in salaries of all other department heads except that the values are generally lower than those for traffic and detective heads.

Responses showed little difference between salary values for heads of traffic divisions and heads of detective bureaus. In most cases, traffic and detective salaries are slightly higher

TABLE 6

DATA ON POLICE SALARIES IN CITY POLICE DEPARTMENTS

Position	Population 50,000-100,000			Population 100,000-200,000			Population 200,000-500,000			Population Over 500,000			All Cities							
	Maximum Annual Salary	Av. Max. Annual Salary	No. Cities Rpt.	Maximum Annual Salary	Av. Max. Annual Salary	No. Cities Rpt.	Maximum Annual Salary	Av. Max. Annual Salary	No. Cities Rpt.	Maximum Annual Salary	Av. Max. Annual Salary	No. Cities Rpt.	Maximum Annual Salary	Av. Max. Annual Salary	No. Cities Rpt.					
	Low-High			Low-High			Low-High			Low-High			Low-High							
Head of Traffic	\$1920	\$6000	\$2870	40 *	\$2200	\$4500	\$3036	25	\$2700	\$5000	\$3470	26	\$3320	\$7690	\$5400	12	\$1920	\$7690	\$3300	103
Head of Detectives	\$2220	\$5250	\$3000	42 *	\$2500	\$4700	\$3296	25	\$2820	\$4500	\$3690	26	\$3600	\$7690	\$5440	12	\$2220	\$7690	\$3540	105
Head of Training	\$2400	\$3812	\$2750	9	\$2200	\$3600	\$2881	15	\$2340	\$5000	\$3250	12	\$2750	\$7690	\$4410	10	\$2200	\$7690	\$3280	46
Head of Precincts	\$1860	\$4450	\$2800	13	\$2700	\$4500	\$3214	10	\$2460	\$4300	\$3183	17	\$2700	\$4800	\$3820	8	\$1860	\$4800	\$3190	48
Head of Other Divisions	\$2320	\$3500	\$2930	12	\$2190	\$3600	\$2954	11	\$2580	\$5000	\$3660	14	\$2850	\$5400	\$3980	6	\$2190	\$5400	\$3320	43
Totals	—	—	—	42	—	—	—	26	—	—	—	27	—	—	—	13	—	—	—	108

* Includes salary of chief of police when he personally directs activities of Traffic or Detective Divisions.

than those for other division heads of police departments. Data on *minimum* salaries were incomplete and have not been tabulated. It is interesting to note, however, that the lowest minimum salaries reported for heads of traffic divisions or heads of detective bureaus were in the cities from 50,000 to 100,000 population where several cities start the heads of these divisions at a salary of \$1,800 per year.

Traffic Functions

Information was sought on traffic activities in each police department. The common traffic functions were listed on questionnaires, and officials were asked to indicate the extent to which those functions were assigned to various divisions. The divisions under which the functions were to be pro-rated were: (a) Traffic Division, (b) Street Patrol, (c) Detective Bureau, (d) Publicity Department, (e) Civilian Employees, and (f) Other Divisions. Information has been summarized, according to city population groups, and results are shown in Tables 7, 8, 9 and 10.

Under each division of the department, the functions have been recorded as to whether or not they were the total responsibility of that division or whether that division merely had some part in carrying out the particular function. Seldom was a single function found to be divided between more than two divisions. In a few cases, however, the function *was* divided among three or even four divisions. The percentages given in the Tables are based on the total number of cities in each population class, and because of overlapping functions do not total 100 per cent, but rather exceed it in each case.

Accident Investigations

Activities of Police Departments in the investigation of traffic accidents were recorded under three headings: (a) investigation of minor accidents; (b) investigation of serious accidents; and (c) investigation of hit-and-run accidents.

(a) Investigation of Minor Accidents. In 43 per cent of the cities with populations of 50,000 to 100,000, the total responsibility for the investigation of minor accidents is vested in the traffic division. Street patrolmen have total responsibility in 10 per cent of the cases. In 86 per cent of these cities, the traffic division has responsibility, and in 43 per cent, the street patrol has at least a partial responsibility. Detectives were reported as working on minor accidents in only one city. Two of the cities stated that minor accidents were not generally investigated.

Cities with populations of 100,000 to 200,000 persons reported 50 per cent of the traffic divisions totally responsible for the investigation of minor accidents; the traffic division has *some* part in the investigation of such accidents in 81 per cent of the cities. In 19 per cent of these same cities, the street patrol officers have the complete responsibility for the investigation of minor accidents; in 50 per cent they work with other groups in the investigations.

In cities with populations of 200,000 to 500,000, thirty-seven per cent assign the complete responsibility for the investigation of minor accidents to the traffic division, 26 per cent to the street patrol division, and 4 per cent to the detective bureau.

The larger cities, those over 500,000 population, show a strong tendency to divide the responsibility for the investigation of minor accidents between the traffic division and the regular street patrol officers. The first group has the total responsibility in 31 per cent of the cities and works on accident investigations insofar as minor mishaps are concerned in 85 per cent.

This population group differs markedly from the smaller cities in the investigation of minor accidents in that total responsibility is assigned in only 46 per cent of the cities. It is divided between the traffic and street patrol units in 54 per cent of the cities. Detective bureaus take no part in the investigation of minor accidents in these large cities.

TABLE 7
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Forty-two Cities with Populations from 50,000 to 100,000
Activities of Each Division

<i>Activity</i>	<i>Traffic Division*</i>				<i>Street Patrol</i>			
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Investigation of minor accidents.....	36	86	18	43	18	43	4	10
Investigation of serious accidents.....	37	88	21	50	14	33	1	2
Hit and run accident investigations.....	37	88	27	64	11	26	1	2
Accident records*** (collection & analysis)	34	81	32	76	3	7	2	5
Safety education	34	81	31	74	3	7	1	2
Pedestrian control	36	86	27	64	12	29	3	7
Traffic signs	32	76	26	62	6	14	1	2
Traffic signals	26	62	18	43	7	17	2	5
Pavement markings	26	62	18	43	6	14	1	2
Vehicle inspection	17	40	12	29	4	10	—	—
Bicycle inspection	18	43	14	33	4	10	1	2
Driver training	7	17	6	14	1	2	—	—
Parking (curb) enforcement.....	39	93	25	65	16	38	3	7
Traffic control at intersections.....	39	93	25	65	16	38	3	7

* Includes Accident Prevention Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

(CONTINUED ON FOLLOWING PAGE)

TABLE 7
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Forty-two Cities with Populations from 50,000 to 100,000
Activities of Each Division

<i>Activity</i>	<i>Detective Bureau**</i>				<i>Civilian Employees</i>				<i>Functions Not Performed by Police</i>	
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>		<i>No.</i>	<i>%</i>
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>		
Investigation of minor accidents.....	1	2	—	—	—	—	—	—	2	5
Investigation of serious accidents.....	9	21	2	5	—	—	—	—	—	—
Hit and run accident investigations....	12	29	3	7	—	—	—	—	—	—
Accident records*** (collection and analysis).....	1	2	1	2	3	7	2	5	2	5
Safety education	—	—	—	—	1	2	—	—	7	17
Pedestrian control	—	—	—	—	1	2	1	2	2	5
Traffic signs	1	2	—	—	7	17	4	10	5	12
Traffic signals	1	2	—	—	10	24	6	14	8	19
Pavement markings	—	—	—	—	7	17	4	10	11	26
Vehicle inspection	1	2	—	—	3	7	3	7	22	52
Bicycle inspection	—	—	—	—	3	7	2	5	21	50
Driver training	—	—	—	—	—	—	—	—	35	83
Parking (curb) enforcement.....	1	2	—	—	—	—	—	—	—	—
Traffic control at intersections.....	1	2	—	—	—	—	—	—	—	—

** Includes Work of Juvenile Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

(b) Investigation of Serious Accidents. In the group of 42 cities with populations 50,000 to 100,000, the total responsibility for the investigation of serious traffic mishaps belongs to the traffic division in 50 per cent of the cities; in 88 per cent of the cities, the traffic division cooperates in the investigations. In only one of these cities, 2 per cent, does the street patrol division have the total responsibility for investigating serious accidents; however, in 33 per cent of the cities, they share the responsibility.

Sixty-one per cent of the cities with populations of 100,000 to 200,000 depend entirely upon the traffic division for the investigation of serious accidents. Four per cent of these cities depend entirely on the street patrol, another 4 per cent depend entirely upon the detective bureau. In 89 per cent of these cities, the traffic division has some responsibility for investigating serious accidents; in 35 per cent, the street patrolmen have a partial responsibility, and in 15 per cent, the detective bureaus participate.

As with minor accidents, the responsibility of the traffic division for the complete work in serious accidents increases as the size of the city increases. Where the populations are from 200,000 to 500,000, seventy per cent of the cities are *completely* dependent upon the traffic division for the investigation of serious accidents.

In 93 per cent of these cities, the traffic division has part of the responsibility. In only one city, or 4 per cent, do street patrol units and the detective groups have complete responsibility for the investigations. In fact, the participation of these groups in the investigations drops off sharply, with the street patrol having a share in the work on serious accidents in only 19 per cent of the cities and the detective bureaus in only 15 per cent.

In cities with more than 500,000 persons, 62 per cent assign the total responsibility for investigating serious accidents to the traffic division. In none of the cities is the

complete responsibility assigned to another division. In the remaining 38 per cent of the cities, the responsibility is divided between the traffic and street patrol divisions, with detectives assisting in one city. In every city in this population group, the traffic division has a part in the investigation of serious automobile accidents.

(c) Hit-and-Run Accident Investigation. Sixty-four per cent of the cities with population 50,000 to 100,000 give the total responsibility for the investigation of hit-and-run accidents to the traffic division. In only one of the 42 cities in this group was the entire job assigned to the street patrol. Yet in 3, or 7 per cent of the cities, the total responsibility was given to the detective bureau.

Participation of the traffic division and the street patrol in investigating hit-and-run accidents is almost exactly the same as in the investigation of other serious types of accidents. However, the influence of detectives is much greater, with 29 per cent of the cities in this population group that use them to aid the investigation.

Practically no difference is noted in the investigation of hit-and-run accidents in the population groups of 100,000 to 200,000 and those of 200,000 to 500,000 over the division of responsibility already described. As seen in the tabulations, responsibility of detectives in hit-and-run accidents is much greater than in other types of accidents.

In cities with populations over 500,000, the traffic division has all, or partial responsibility in every case of hit-and-run accident investigation, being totally responsible in 62 per cent. Work of the street patrolmen is minor in hit-and-run accident investigations; only five of the 13 cities, 38 per cent, reporting their use and none gives them complete responsibility. While the detective bureaus do not have complete responsibility for the investigation of hit-and-run accidents in any cities of this population group, they aid in 23 per cent of the cities.

TABLE 8
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Twenty-six Cities with Populations from 100,000 to 200,000
Activities of Each Division

<i>Activity</i>	<i>Traffic Division*</i>				<i>Street Patrol</i>			
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Investigation of minor accidents.....	21	81	13	50	13	50	5	19
Investigation of serious accidents.....	23	89	16	61	9	35	1	4
Hit and run accident investigations.....	23	89	18	69	7	27	1	4
Accident records*** (collection & analysis)	19	73	15	58	2	8	—	—
Safety education	23	89	17	65	1	4	—	—
Pedestrian control	26	100	22	85	4	15	—	—
Traffic signs	20	77	16	61	—	—	—	—
Traffic signals	19	73	14	54	—	—	—	—
Pavement markings	17	65	14	54	—	—	—	—
Vehicle inspection	15	58	13	50	2	8	—	—
Bicycle inspection	14	54	13	50	—	—	—	—
Driver training	9	35	8	31	—	—	—	—
Parking (curb) enforcement.....	26	100	17	65	9	35	—	—
Traffic control at intersections.....	26	100	20	77	6	23	—	—

* Includes Accident Prevention Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

(CONTINUED ON FOLLOWING PAGE)

TABLE 8
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Twenty-six Cities with Populations from 100,000 to 200,000
Activities of Each Division

<i>Activity</i>	<i>Detective Bureau**</i>				<i>Civilian Employees</i>				<i>Functions Not Performed by Police</i>	
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>		<i>No.</i>	<i>%</i>
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>		
Investigation of minor accidents.....	—	—	—	—	—	—	—	—	—	—
Investigation of serious accidents.....	4	15	1	4	—	—	—	—	—	—
Hit and run accident investigations....	5	19	1	4	—	—	—	—	—	—
Accident records*** (collection and analysis).....	1	4	—	—	5	19	4	15	3	12
Safety education	—	—	—	—	5	19	—	—	3	12
Pedestrian control	—	—	—	—	—	—	—	—	0	—
Traffic signs	—	—	—	—	6	23	2	8	4	15
Traffic signals	—	—	—	—	8	31	3	12	4	15
Pavement markings	—	—	—	—	7	27	4	15	5	19
Vehicle inspection	—	—	—	—	—	—	—	—	11	43
Bicycle inspection	3	12	2	8	—	—	—	—	10	38
Driver training	—	—	—	—	1	4	—	—	17	65
Parking (curb) enforcement.....	—	—	—	—	—	—	—	—	—	—
Traffic control at intersections.....	—	—	—	—	—	—	—	—	—	—

** Includes Work of Juvenile Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

Accident Records

Information was sought as to the responsibility for the collection and analysis of accident records. There was obviously some misunderstanding as to the intent of the term "collection," with some interpreting it as applying to the groups making reports, while others interpreted it, as was intended, as applying to the division which has the responsibility for seeing that necessary reports, and those required by public officials or law, are made.

It has been assumed that the major responsibility for collection is delegated to the unit within the police department which is responsible for the analysis of accident records, and it is on this basis that the data have been tabulated. It is obvious that in most cities the police agencies maintain the only record on motor vehicle accidents.

In 76 per cent of the cities from 50,000 to 100,000, accident records (collection and analysis) are the total responsibility of traffic police.

Cities with populations of 100,000 to 200,000 show a greater assignment of accident records to civilian employees. Fifteen per cent give the total responsibility for accident records to such employees of the police department, and 19 per cent give civilians some part in the maintenance of accident records.

In cities with populations of 200,000 to 500,000, complete responsibility for the accident records is with the traffic division in 67 per cent, and with civilian employees in 15 per cent. In only one of these cities, 4 per cent, is the function carried on outside the police department.

Seventy-seven per cent of the cities with more than 500,000 population have the complete responsibility for accident records in the traffic division. In one case where the Records Bureau is under the detective agency, the accident records are considered as being the total responsibility of that body.

In only one city in this population group is the accident

records work completely assigned to civilian employees. In every city, 13 in this group, the function of maintaining records of motor vehicle accidents is vested in the police department.

Safety Education

Meaning of the term "safety education" varied widely. It was generally interpreted as applying to all of the common functions and activities of public agencies aimed at familiarizing road users with safe practices and rules relative to the use of roadways. In a few cases, it was interpreted as being strictly an academic activity which can only be carried out properly by schools, or agencies outside the police department. In practically every case where no participation of the police in safety education was indicated, it was found that it was the opinion of the administrative head of the department that safety education should not be a responsibility of the police, but rather of educational agencies, or schools, of the city.

In 74 per cent of cities with populations 50,000 to 100,000 the total responsibility for safety education activities is vested with the traffic division of the police. In 7 of the 42 cities, 17 per cent, the work of safety education was not reported as being engaged in by the police. Cities with populations from 100,000 to 200,000 make about the same use of the police in safety educational work as those in the smaller populations. Sixty-five per cent give the total responsibility to the traffic division and in 89 per cent the traffic division has some responsibility for safety education. Cities with populations from 200,000 to 500,000 make wide use of civilian employees in safety educational activities. In 11 per cent of the cities in this group, civilians are employed by the police to assume total responsibility for directing safety-education activities. In 22 per cent of these cities some work is done by civilian employees of the police department in safety education. The responsibility for safety education in

TABLE 9
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Twenty-seven Cities with Populations from 200,000 to 500,000

<i>Activity</i>	<i>Traffic Division*</i>				<i>Street Patrol</i>			
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Investigation of minor accidents.....	19	70	10	37	16	59	7	26
Investigation of serious accidents.....	25	93	19	70	5	19	1	4
Hit and run accident investigations.....	25	93	19	70	5	19	1	4
Accident records*** (collection & analysis)	22	82	18	67	—	—	—	—
Safety education	20	74	15	56	2	7	—	—
Pedestrian control	24	89	19	70	6	22	1	4
Traffic signs	11	41	10	37	1	4	—	—
Traffic signals	10	37	8	30	1	4	—	—
Pavement markings	10	37	9	33	—	—	—	—
Vehicle inspection	8	30	8	30	—	—	—	—
Bicycle inspection	4	15	3	11	1	4	—	—
Driver training	1	4	1	4	—	—	—	—
Parking (curb) enforcement.....	26	96	17	63	10	37	1	4
Traffic control at intersections.....	26	96	19	70	8	30	1	4

* Includes Accident Prevention Bureaus

*** Where location of Records Bureau was indefinite, it was credited to "Civilians"

(CONTINUED ON FOLLOWING PAGE)

TABLE 9

TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS

Twenty-seven Cities with Populations from 200,000 to 500,000

Activity	Detective Bureau**				Civilian Employees****				Functions Not Performed by Police	
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		No.	%
	No.	%	No.	%	No.	%	No.	%		
Investigation of minor accidents.....	2	7	1	4	—	—	—	—	—	—
Investigation of serious accidents.....	4	15	1	4	—	—	—	—	—	—
Hit and run accident investigations....	4	15	1	4	—	—	—	—	—	—
Accident records*** (collection and analysis).....	—	—	—	—	8	30	4	15	1	—
Safety education	—	—	—	—	6	22	3	11	4	15
Pedestrian control	—	—	—	—	—	—	—	—	2	7
Traffic signs	—	—	—	—	6	22	6	22	10	37
Traffic signals	—	—	—	—	5	19	4	15	13	48
Pavement markings	—	—	—	—	5	19	4	15	13	48
Vehicle inspection	—	—	—	—	—	—	—	—	19	70
Bicycle inspection	6	22	6	22	—	—	—	—	17	63
Driver training	—	—	—	—	—	—	—	—	26	96
Parking (curb) enforcement.....	—	—	—	—	—	—	—	—	—	—
Traffic control at intersections.....	—	—	—	—	—	—	—	—	—	—

** Includes Work of Juvenile Bureaus

*** Where location of Records Bureau was indefinite, it was credited to "Civilians"

**** Includes Publicity Department

cities over 500,000 was about the same as for those with populations from 200,000 to 500,000.

Pedestrian Control

In 64 per cent of cities with populations from 50,000 to 100,000 all pedestrian control work is done by the traffic police; in 7 per cent, the responsibility rests with street patrolmen. One of these cities reported pedestrian control work at school crossings only and assigned the responsibility to civilian employees. Two of the cities, or 5 per cent, reported no attempt on the part of the police to achieve pedestrian control. In the 100,000 to 200,000 population group, all cities reported the work of controlling pedestrians a job for the police.

In every city the traffic division has some responsibility for this work, and in 85 per cent of the cities is totally responsible. In the remaining 15 per cent, the street patrol works with the traffic officers in the achievement of pedestrian control.

In cities with populations of from 200,000 to 500,000, pedestrian control is not attempted in 2, or 7 per cent. In 89 per cent of these cities the traffic divisions do some or all of the work, and in 22 per cent they are aided by street patrol units.

In the larger cities pedestrian control is attempted by the police in all except one. The traffic division has the total responsibility in 46 per cent of these cities; it does some work in pedestrian control in 92 per cent of the cities. In 6 of the 13 cities of 500,000 or more persons, assistance in pedestrian control is obtained by the traffic officers from street patrolmen.

Traffic Control Devices

The study shows definitely that the police are more responsible for installing and maintaining traffic control devices, signs, signals, and markings than is generally supposed.

(a) Traffic Signs. In all except 5 of the 42 cities with populations of 50,000 to 100,000, the police have the responsibility for traffic signs.

Fifteen per cent of the cities with populations 100,000 to 200,000 reported that traffic signs are the responsibility of agencies other than the police.

Ten of 27 cities with populations from 200,000 to 500,000, thirty-seven per cent, do not charge the police with responsibility for erecting and maintaining traffic signs.

The tendency for the larger cities to shift the responsibility for signs from police departments to other city departments, such as traffic engineers, city engineers, and public works agencies, is shown by the fact that 38 per cent of the cities with populations of over 500,000 assign the sign functions to other than police agencies.

(b) Traffic Signals. Functions relative to traffic signals are more frequently assigned to agencies outside the police department than is the case with signs. However, many cities give the police complete responsibility for traffic signals. In cities from 50,000 to 100,000 population, the traffic divisions of police have total responsibility in 43 per cent. Civilian employees of the police department have it in 14 per cent of the cities. In 19 per cent, work on signals is not a function of the police.

In cities with populations 100,000 to 200,000, only four, or 15 per cent, reported the activity performed outside the police department. Twelve per cent of the cities show civilian employees of the police responsible for signals; the traffic division has the responsibility in 54 per cent. In 73 per cent, the traffic division has *some* of the responsibility, sharing it with civilians where it does not have complete responsibility.

Practically one-half, or 48 per cent, of cities with populations from 200,000 to 500,000 show work on traffic signals outside the police department.

TABLE 10
TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Thirteen Cities with Populations over 500,000

<i>Activity</i>	<i>Traffic Division*</i>				<i>Street Patrol</i>			
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Investigation of minor accidents.....	11	85	4	31	9	69	2	15
Investigation of serious accidents.....	13	100	8	62	5	38	—	—
Hit and run accident investigations.....	13	100	8	62	5	38	—	—
Accident records*** (collection & analysis)	11	85	10	77	—	—	—	—
Safety education	10	77	8	62	1	8	—	—
Pedestrian control	12	92	6	46	6	46	—	—
Traffic signs	6	46	3	23	1	8	—	—
Traffic signals	6	46	3	23	1	8	—	—
Pavement markings	4	31	3	23	—	—	—	—
Vehicle inspection	3	23	3	23	—	—	—	—
Bicycle inspection	1	8	1	8	4	31	4	31
Driver training	—	—	—	—	—	—	—	—
Parking (curb) enforcement.....	12	92	4	31	9	69	1	8
Traffic control at intersections.....	13	100	9	69	4	31	—	—

* Includes Accident Prevention Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

(CONTINUED ON FOLLOWING PAGE)

TABLE 10

TRAFFIC FUNCTIONS IN POLICE DEPARTMENTS
Thirteen Cities with Populations over 500,000

Activity	<i>Detective Bureau**</i>				<i>Civilian Employees****</i>				<i>Functions Not Performed by Police</i>	
	<i>Performing Function</i>		<i>Total Responsibility</i>		<i>Performing Function</i>		<i>Total Responsibility</i>		<i>No.</i>	<i>%</i>
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>		
Investigation of minor accidents.....	—	—	—	—	—	—	—	—	—	—
Investigation of serious accidents.....	1	8	—	—	—	—	—	—	—	—
Hit and run accident investigations....	3	23	—	—	—	—	—	—	—	—
Accident records*** (collection and analysis).....	1	8	1	8	2	15	1	8	—	—
Safety education	—	—	—	—	3	23	2	15	1	8
Pedestrian control	—	—	—	—	—	—	—	—	1	8
Traffic signs	—	—	—	—	5	38	2	15	5	38
Traffic signals	—	—	—	—	5	38	2	15	5	38
Pavement markings	—	—	—	—	3	23	2	15	7	54
Vehicle inspection	—	—	—	—	1	8	1	8	9	69
Bicycle inspection	1	8	1	8	—	—	—	—	7	54
Driver training	—	—	—	—	—	—	—	—	13	100
Parking (curb) enforcement.....	—	—	—	—	—	—	—	—	—	—
Traffic control at intersections.....	—	—	—	—	—	—	—	—	—	—

** Includes Work of Juvenile Bureaus

*** Where location of Records Bureau was indefinite it was credited to "Civilians"

**** Includes Publicity Department

Five of the cities with populations over 500,000, or 38 per cent, show work on signals carried on outside the police department. Twenty-three per cent of these cities give the complete control of signals to the traffic police, and 15 per cent have signal functions carried out by civilian employees.

(c) Pavement Markings. Generally the work of painting and maintaining traffic markings on pavements is not as frequently performed by the police as are functions of traffic signs and signals. Eleven of the 42 cities with populations from 50,000 to 100,000 use agencies other than the police for work on pavement markings. Complete responsibility for these markings is assigned to the traffic division in 43 per cent of these cities, to the street patrol in 2 per cent, and to civilian employees of the police in 10 per cent.

Five, or 19 per cent, of the cities with populations 100,000 to 200,000 have pavement markings made by other than police. In 81 per cent of the cities in this population group, where the function is assigned to the police, it is divided between the traffic and civilian employees.

As with signals, almost half, 48 per cent, of the cities with populations 200,000 to 500,000 have work on pavement markings performed by agencies other than police. Distribution of work on pavement markings in the police department is almost identical with that of the work on signs, as seen in Table 9.

More than one-half, 54 per cent, of the cities of over 500,000 population have pavement markings installed and maintained by city agencies other than the police.

Vehicle Inspection

Few cities have formal vehicle inspection requirements in addition to those of the state. From the information reported, it was impossible to distinguish between cities that have inspection requirements, even to the extent of well-equipped

inspection stations, and those which carry out inspections only at random, often to a very limited extent, such as the "spot" checking of brakes and lights.

In the smallest population group, 22 of 42 cities, 52 per cent, reported that no work of vehicle inspection was performed by the police.

Forty-three of the cities with populations of 100,000 to 200,000 show no police activity in vehicle inspection.

Nineteen of 27 cities with populations 200,000 to 500,000, almost three-fourths, indicate no work on the part of the police in vehicle inspection.

Sixty-nine per cent of the cities with populations over 500,000 show no activity in vehicle inspection by police agencies.

Bicycle Inspection

As a rule, approximately one-half of the cities in all population groups carry on some form of bicycle inspection in the police department. Quite frequently this inspection is done by members of the detective bureau in connection with their operation of Juvenile Bureaus. Except for work of detectives in juvenile bureaus, the bicycle inspections are done almost invariably by members of the traffic division. In 12 per cent of the cities of from 100,000 to 200,000 population, detectives do some work in connection with bicycle inspection. In 8 per cent of these cases, they are totally responsible for bicycle inspection. In cities of populations 200,000 to 500,000 the detectives do numerous bicycle inspections, assuming complete charge in 22 per cent.

Driver Training

Work of driver training is rarely assumed by city police. It is generally considered a responsibility of state agencies since they are almost invariably charged with the issuance of

drivers' licenses. In a few cities requiring city operators' permits, the function of driver training is assumed by the police, and in a few others driver training is offered as a general public service, or in cooperation with state agencies.

In 17 per cent of the cities with populations 50,000 to 100,000 some form of driver training is carried on by traffic police and street patrolmen, the latter doing the work in only one of the cities, 2 per cent.

Thirty-five per cent of the cities with populations from 100,000 to 200,000 engage in driver training in one form or another.

In cities with populations from 200,000 to 500,000 very little driver training work is performed. Only 4 per cent of these cities reported any activity and in every case the total responsibility was placed in the traffic division.

In cities with populations over 500,000, no driver training activity by police was reported.

Enforcement of Curb Parking Regulations

Every city reported the responsibility for enforcement of curb-parking regulations assigned to police. Sixty-five per cent of cities with populations of from 50,000 to 100,000 report complete responsibility for the traffic division; 7 per cent give complete responsibility to the street patrol agency; and, in the others, the responsibility is divided.

In all of the cities with populations 100,000 to 200,000 the traffic division has some responsibility in connection with enforcement of curb parking. In 65 per cent of these cities they have the complete responsibility, and in the others it is shared with the street patrol.

Ninety-six per cent of cities with populations 200,000 to 500,000 use members of the traffic division in the enforcement of curb parking regulations. Sixty-three per cent give them full responsibility. One city gives the full responsibility to the street patrol division.

In those cities of over 500,000 population the street patrolmen are utilized in 69 per cent to aid in the enforcement of curb parking regulations. In only one of these cities were they given complete responsibility.

Traffic Control at Intersections

As with the enforcement of curb parking regulations, all cities indicated the use of police for controlling traffic at street intersections. The full responsibility for this work is placed upon traffic men in 65 per cent of the cities with populations 50,000 to 100,000.

All cities with populations 100,000 to 200,000 use members of the traffic division for the control of traffic at street intersections.

In cities of from 200,000 to 500,000 population, the street patrolmen were called in to an increased degree to aid in traffic control at intersections. In one of these cities they were given the complete responsibility for traffic control, and in 30 per cent of the cities they aid in this function. In 96 per cent of the cities the traffic division has all, or a part, of the responsibility.

In all the largest cities, those over 500,000 population, the traffic division has some responsibility for the control of traffic at intersections.

Other Traffic Activities

Traffic activities other than those referred to above were reported in only a very few cities. In practically every instance where other activities were reported, they were completely assigned to the traffic division of the police.

This previous discussion of traffic functions in police departments shows quite clearly that generally the traffic division of the department is expected to assume leadership and major direction of traffic work. In many instances, the

traffic division's work is supplemented by work of other uniformed police officers. Also, it is noted that in some instances the services of other groups, such as the detective, which have men especially trained for action in traffic situations, are applied. To conserve the time of uniformed officers, civilian employees are noted to be numerous in police departments throughout the country, where they can perform efficiently and effectively, functions that are considered essential.

Traffic Training for Police

In answer to the question, "Are all men (police) trained in basic traffic matters?" 32, or 76 per cent, of the departments in cities with populations of 50,000 to 100,000 stated that all policemen receive some basic traffic training. Eight of these cities give such training to traffic men only. In all, 96 of 108 cities give a basic course in traffic to all men in the department. Ten cities provide that training largely to members of the traffic division.

TABLE 11
TRAFFIC TRAINING OF PERSONNEL IN
CITY POLICE DEPARTMENTS

<i>Extent of Traffic Training</i>	50M-100M		100M-200M		<i>Populations</i> 200M-500M		Over 500M		<i>Total</i>	
	No.	%	No.	%	No.	%	No.	%	No.	%
All men given basic courses	32	76	25	96	25	93	13	100	96	89
Given to traffic men only	8	19	1	4	2	7	—	—	10	9
Information not furnished	2	5	—	—	—	—	—	—	2	2
Totals	42	100	26	100	27	100	13	100	108	100

The eight departments not reporting the training of all men in traffic matters reported such training for all traffic personnel; however 2 of the 8 train only members of accident investigation squads. The 3 larger cities not giving basic

traffic training to all police give such training to members of the traffic department.

Except in a few cases, information was not given as to the program for traffic training for "non-traffic" personnel. Generally it appears to consist principally of an indoctrination in traffic laws and basic traffic enforcement policies of the department. Complete traffic training for all men in the police department appears to be the exception, not the rule.

Police vs Population

The number of police as well as the number of traffic police in each city varied widely. Data furnished have been summarized according to four groups and related to populations in Table 12.

It is interesting to note that there is practically no variance between the different population groups in the number of police per 1,000 citizens. Cities from 50,000 to 500,000 averaged about 1.27 police per 1,000 population. The larger cities had a higher average of approximately 2.06. Traffic police of cities in the range from 100,000 to 500,000 reported approximately 0.22 traffic officers per 1,000 population, or about one officer for every 4,500 citizens. The cities in the smaller population group and those in the larger population group reported 0.30 traffic officers per 1,000 population, or about one officer for each 3,300 citizens.

A marked tendency was noted in the decrease in the ratio of traffic officers to total police as the size of the cities increased. Cities from 50,000 to 100,000 reported 23 per cent of all officers doing traffic work, while those over 500,000 population reported only 14.5 per cent of the total police assigned to traffic. Cities in between these population ranges had an average of about 17 per cent of all officers assigned to traffic.

TABLE 12

POLICE VS. CITY POPULATION FOR FOUR POPULATION GROUPS

<i>Population</i>	<i>Number of Cities</i>	<i>All Police</i>			<i>No. per 1,000 Population</i>			<i>Traffic Police</i>			<i>No. per 1,000 Population</i>			<i>Ratio of Traffic Police to all Police (per cent)</i>		
		<i>Min.</i>	<i>Max.</i>	<i>Av.</i>	<i>Min.</i>	<i>Max.</i>	<i>Av.</i>	<i>Min.</i>	<i>Max.</i>	<i>Av.</i>	<i>Min.</i>	<i>Max.</i>	<i>Av.</i>	<i>Min.</i>	<i>Max.</i>	<i>Av.</i>
50,000 - 100,000	42	27	225	92	0.45	4.00	1.29	7*	60	21	0.10	1.07	0.30	5.9	59.3	23.0
100,000 - 200,000	26	90	350	173	0.84	2.14	1.27	6	64	29	0.06	0.38	0.21	5.0	32.7	16.8
200,000 - 500,000	27	197	1,200	423	0.70	2.40	1.27	26	325	74	0.11	0.65	0.22	9.1	27.1	17.5
Over 500,000	13	500	16,700	3,700	0.95	3.42	2.06	110	2,800	541	0.18	0.48	0.30	8.5	50.0	14.5

* Two departments reporting no traffic division have been excluded from this tabulation

CHAPTER II

Traffic Organization in State Police Departments

Thirty-nine states furnished data on the traffic organizations of state law enforcement agencies. This section summarizes significant items and presents the findings.

Names of State Law Enforcement Agencies

The name, State Police, is most commonly applied to law enforcement agencies of the 39 reporting states. Eighteen, or 46 per cent, use this title. Nine states, or 23 per cent, use the name Highway Patrol. In 6 states, or 15 per cent, the law enforcement body is called the State Highway Patrol, and in 2 states, the State Patrol. Names of the agencies are summarized in Table 13.

TABLE 13
NAMES OF STATE POLICE ORGANIZATIONS

<i>Name</i>	<i>No. States</i>	<i>Per Cent</i>
State Police	18	46
Highway Patrol	9	23
State Highway Patrol	6	15
State Patrol	2	5
Department of Safety	1	3
Motor Vehicle Department	1	3
Motor Patrol	1	3
State Highway Courtesy Patrol	1	3
Totals	39	100

Heads of Traffic Activities

In many of the state organizations, traffic functions and activities constitute so major a part of the total functions that the principal administrative officer is logically recognized as the state's head of traffic enforcement activities. In some states, however, traffic is but one of several functions of law enforcement, so in these the traffic director is subordinate to the chief administrative officer. These conditions complicate the

comparison of titles of traffic heads, since titles are not necessarily descriptive of the position.

The titles reported by 39 states for the heads of traffic activities are shown in Table 14.

TABLE 14
TITLES OF HEADS OF TRAFFIC ACTIVITIES
IN STATE POLICE DEPARTMENTS

<i>Title</i>	<i>No. States</i>	<i>Per Cent</i>
Superintendent	14	36
Chief	4	10
Captain	4	10
Lieutenant	4	10
Director	3	8
Supervisor	2	5
Inspector	2	5
Miscellaneous (One Each)	6	16
Totals	39	100

How Traffic Heads Are Appointed

Names of state officials and agencies appointing heads of traffic divisions in state police organizations are shown in Table 15.

TABLE 15
HOW TRAFFIC HEADS ARE APPOINTED
IN STATE POLICE ORGANIZATIONS

<i>Individual or Agency Making Appointments</i>	<i>Number States</i>	<i>Per Cent</i>
Governor	18	46
Chief Administrative Officer	15	38
Commissioner	7	18
Superintendent	4	10
Director	3	8
Chief	1	2
Head of Highway Department	3	8
Civil Service Commission	2	5
State Police Board	1	3
Totals	39	100

Eighteen of 39, or 46 per cent, of the heads are appointed directly by state governors. This indicates the frequency with which the head of the entire law enforcement organization is considered the head of traffic activities. Principal administrative officers of the state body, i.e., commissioners, superintendents, directors, and chiefs, make the appointments of traffic heads in 15 states, or 38 per cent. Three states in which the state law enforcement agency is under the highway department have heads appointed by the director of highways or the highway commission. One of these states has the head appointed by the Governor. State Civil Service Commissions make appointments in only 2 states, or 5 per cent. In one state, a police board, consisting of the governor and his cabinet, designate the police head, and, thereby, the traffic head.

Persons to Whom Traffic Heads Report

Of the 38 states furnishing information (one failed to report on this), 15, or 40 per cent have traffic heads report to the chief administrative officer of the department. Three, 8 per cent, report to a deputy administrative officer. Ten, 26 per cent, are responsible directly to the Governor. In 7 states, where appointments of police heads are by the Governor, they report to other state officials. Four, 10 per cent, report to the head of the state highway department; 3, or 8 per cent, to a state police board, and another 3 to the commissioner of motor vehicles.

Qualifying Examinations for Traffic Heads

Only 14, or 36 per cent, of the states report the use of examinations for the qualification and appointment of state police traffic directors. About two-thirds of the states, 64 per cent, do not have such examinations, although many have a precedent of promoting men from the ranks, based on training and experience.

Personnel

Three questions were asked concerning the number of men in each state police organization. These were: (a) How many uniformed men are normally assigned to traffic work? (b) How many non-uniformed men are normally assigned to traffic work? and (c) What is the normal size of the entire department? It was pointed out that the information desired was for the period immediately preceding the war. Results are shown in Table 16.

Extreme ranges were noted in the number of traffic men as well as in the total number of men in state police organizations. One state reported only 20 men assigned to traffic duties, and another reported 1,053 men doing traffic work. Total personnel of police agencies varied from 26 to 1,600 men. Most of the states reported no men normally assigned to traffic work who were not uniformed, although as many as 65 such men were reported in one state. Thirty-seven per cent of the 38 states furnishing information relative to traffic personnel reported fewer than 100 men. Thirty-two per cent reported from 100 to 200 men, 5 per cent from 200 to 300 men, and 18 per cent from 300 to 400. There were no departments reporting traffic men in the range from 400 to 500; however, three departments, or 8 per cent, reported over 500 men assigned to traffic in normal times.

Considering the total personnel of state police organizations, it is found that 31 per cent have fewer than 100 men, 21 per cent have from 100 to 200, twenty per cent from 200 to 300, eight per cent from 300 to 400, five per cent from 400 to 500, and 15 per cent have more than 500 men.

The average strength of state police organizations, insofar as uniformed traffic personnel is concerned, is 215 men. The total personnel for 39 state police organizations averaged 285 men per state. Non-uniformed traffic personnel averaged 3.2 men per state.

It is noted from the above figures that about 70 per cent

TABLE 16
PERSONNEL STRENGTH OF STATE POLICE ORGANIZATIONS

<i>Personnel</i>	<i>Range in Men</i>		<i>Av.</i>		<i>Number Depts. of Various Strengths</i>										<i>Number of States Reporting</i>	
	<i>Min.</i>	<i>Max.</i>	<i>No. of Men</i>	<i>0-100</i>		<i>101-200</i>		<i>201-300</i>		<i>301-400</i>		<i>401-500</i>		<i>Over 500</i>		
				<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>		<i>%</i>
Uniformed Traffic Personnel	20	1053	215	14	37	12	32	2	5	7	18	—	—	3	8	38
Non-Uniformed Traffic Personnel	—	65	3.2	6	16	—	—	—	—	—	—	—	—	—	—	38
Total Personnel (Traffic and other)	26	1600	285	12	31	8	21	8	20	3	8	2	5	6	15	39

of the state organizations have fewer than 200 men assigned to traffic work, and more than 50 per cent have a total personnel of fewer than 200 men.

Salaries

Thirty-one of the 39 departments furnished information concerning salaries of traffic division heads. Where the sole or principal function of the police organization is traffic, the superintendent, chief or principal administrative officer was included as head of traffic; salaries had to be included with those of heads of traffic divisions in organizations sufficiently large to have a traffic head in addition to a director of police. Fourteen states reported the salary of the principal administrative officer under "salary of traffic head."

The range in maximum annual salaries for heads of traffic varied from \$2,400 to \$7,440. The average maximum annual salary was \$3,970. These figures are shown in Table 17 along with salaries for other principal state police heads.

Few of the states indicated starting salaries, or minimum salaries. Of the 11 reporting such information, it is noted that the average starting salary is \$3,670 per year. If this small group of states is typical of the larger group, there is very little difference between minimum or starting salaries of traffic heads and maximum salaries.

TABLE 17
SALARIES OF DIVISION HEADS IN STATE POLICE ORGANIZATIONS

<i>Position</i>	<i>Maximum Annual Salaries</i>		<i>Maximum Average Annual Salary</i>	<i>No. States Reporting</i>
	<i>Lowest</i>	<i>Highest</i>		
	Head of Traffic Division*.....	\$2,400	\$7,440		$3,970	31
Head Criminal Investigative Division....	2,660	5,650	3,850	19
Director of Training.....	2,400	5,650	3,440	19
Heads of District or Divisions.....	1,800	4,800	3,180	27

*Includes Superintendent or Chief Administrative Officer in 14 states where head of police is considered the Head of Traffic.

The information relative to salaries in state police organizations indicates that traffic heads are better off than other heads of activities, or divisions. Inasmuch as almost half of the traffic heads are considered as heads of the entire police organization, this condition is not necessarily representative of the relative importance attached to the different functions in the police organizations of states. Because of this, it is difficult, if not impossible, to draw accurate comparisons between the various salaries reported.

Traffic Functions

Seventeen traffic functions were listed on the questionnaire. Where more than one unit of the organization is engaged in a function, they were asked to prorate it according to the approximate responsibility of each of the units involved. Results are summarized in Table 18.

Investigation of Traffic Accidents

The functions relative to the investigation of traffic accidents were divided according to, (a) Investigation of minor accidents, (b) Investigation of serious accidents, and (c) Investigation of hit-and-run accidents.

(a) Investigation of Minor Accidents. All of the 38 states which gave information concerning functions of police organizations indicated that all minor accidents of which the police are informed are investigated.

(b) Investigation of Serious Traffic Accidents. Work on serious motor vehicle accidents is divided, insofar as responsibility is concerned, exactly as in the investigation of minor accidents. The traffic group assumes complete responsibility in 71 per cent of the states and the patrol in 16 per cent.

(c) Investigation of Hit-and-Run Accidents. The investigation of hit-and-run accidents is the total responsibility of the traffic division in 66 per cent of the states, and of the general patrol unit in 11 per cent.

TABLE 18

TRAFFIC FUNCTIONS IN STATE POLICE DEPARTMENTS*

Activity	Traffic Division*				Street Patrol				Publicity Department			
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Performing Function		Total Responsibility	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Investigation of minor accidents.....	32	84	27	71	11	29	6	16	—	—	—	—
Investigation of serious accidents.....	32	84	27	71	11	29	6	16	—	—	—	—
Hit and run accident investigations.....	32	84	25	66	12	32	4	11	—	—	—	—
Accident records*** (collection and analysis)	24	63	17	45	1	3	1	3	—	—	—	—
Safety education	30	79	22	58	1	3	1	3	4	11	2	5
Pedestrian control	29	76	26	68	6	16	3	8	—	—	—	—
Traffic signs	** 7	18	—	—	—	—	—	—	—	—	—	—
Traffic signals	** 7	18	—	—	—	—	—	—	—	—	—	—
Pavement markings	** 3	8	—	—	—	—	—	—	—	—	—	—
Vehicle inspection	17	45	15	40	4	11	3	8	—	—	—	—
Bicycle inspection	5	13	5	13	1	3	1	3	—	—	—	—
Driver training	13	34	10	26	2	5	2	5	2	5	1	3
Driver license examinations	16	42	11	29	—	—	—	—	—	—	—	—
Parking (curb) enforcement.....	7	18	7	18	1	3	1	3	—	—	—	—
Traffic control at intersections.....	18	47	18***	47	4	11	4	11	—	—	—	—
Enforcement vehicle weights and sizes....	25	66	23	60	7	18	5	13	—	—	—	—
Testing & approval vehicle safety devices	11	29	10	26	1	3	—	—	—	—	—	—

*Information from thirty-eight states. One state did not include functions performed by police.

**Performed in conjunction with other state agencies; i.e., State Highway Department, State Traffic Commission, etc.

***Limited to rural areas.

(CONTINUED ON FOLLOWING PAGE)

TABLE 18

TRAFFIC FUNCTIONS IN STATE POLICE DEPARTMENTS*

Activity	Civ. Emp.				Other Units		Functions not	
	Performing Function		Total Responsibility		Performing Function		Performed By Police	
	No.	%	No.	%	No.	%	No.	%
Investigation of minor accidents.....	—	—	—	—	—	—	—	—
Investigation of serious accidents.....	—	—	—	—	—	—	—	—
Hit and run accident investigations.....	—	—	—	—	—	—	—	—
Accident records*** (collection and analysis).....	12	32	8	21	4	11	5	13
Safety education	4	11	—	—	2	5	5	13
Pedestrian control	—	—	—	—	—	—	6	16
Traffic signs	—	—	—	—	—	—	31	82
Traffic signals	—	—	—	—	—	—	31	82
Pavement markings	—	—	—	—	—	—	35	92
Vehicle inspection	3	8	1	3	—	—	18	47
Bicycle inspection	—	—	—	—	1	3	31	82
Driver training	—	—	—	—	2	5	22	58
Driver license examinations.....	5	13	—	—	—	—	22	58
Parking (curb) enforcement.....	—	—	—	—	—	—	30	79
Traffic control at intersections.....	—	—	—	—	—	—	16	42
Enforcement vehicle weights and sizes.....	—	—	—	—	—	—	8	21
Testing and approval vehicle safety devices.....	2	5	2	5	—	—	25	66

* Information from thirty-eight states. One state did not include functions performed by police.

*** Limited to rural areas.

Collection and Analysis of Accident Records

In practically half of the states furnishing information, work of collecting and analyzing traffic accident records is the complete responsibility of the traffic division of the state police. Work of the general patrol in this activity is negligible. In 8 states, 21 per cent, civilian employees of the state police are given the total responsibility for collection and analysis of accident records; in four additional states they assist. In four states other divisions than those listed on the questionnaire are reported as aiding in the collection and analysis of accident records. In almost every case, these divisions are the official records bureau of the police department, or a unit of the Motor Vehicle Commission where the state police function is directly under or a part of this commission. Five of the states reported state police not responsible for accident records.

Safety Education

Most safety educational activities performed by state police organizations are the principal responsibility of traffic units. In 58 per cent of the states the traffic group has the total responsibility for this work. The publicity department is called upon in two states to assume the total responsibility for safety education activities of the police, and in another two states, 11 per cent, they assist in this function. Civilian employees are utilized to perform safety educational work in four states. Two states assign the function to divisions other than those listed on the questionnaire—a special safety or educational division. Five states, 13 per cent, reported no special activity in connection with safety education, considering it primarily a function of state educational departments.

Pedestrian Control

Pedestrian control is obviously not as important with state police as with city police. However, 26, or 68 per cent, of the states indicated that the traffic groups have the total responsibility for controlling pedestrians in places, or on routes, where the police have jurisdiction. Six states reported

no planned programs or activities in pedestrian control insofar as state police groups are concerned.

Traffic Control Devices

The state officials were asked to indicate the participation of police groups in matters relating to, (a) traffic signs, (b) traffic signals, and (c) pavement markings.

(a) Traffic Signs. Thirty-one of the 38 states, 82 per cent, reported no activity or responsibility on the part of state police for traffic signs. Seven states indicate *some* work on the part of traffic units of state police departments relative to signs.

(b) Traffic Signals. Exactly the same conditions are found relative to the responsibility of state law enforcement agencies with regard to signals as signs. Only seven of the states reported any work of the police in connection with signals.

(c) Pavement Markings. Thirty-five of the states, 92 per cent, reported no activity of the police in matters relative to pavement markings for traffic control. Three states reported activity of police in this function, as representatives of the state traffic commissions.

Vehicle Inspection

Twenty of the states indicated some work on the part of police in the inspection of motor vehicles. In some instances this consists only of spot inspections on state highways. In others, it consists of routine inspection where police have the responsibility for operating official inspection stations or supervising motor vehicle inspections generally.

Bicycle Inspection

State police organizations do practically no work in connection with bicycle inspection. Thirty-one of the states, 82 per cent, say definitely that they do not engage in this activity.

Driver Training

Less than one-half of the states, 42 per cent, indicated work on the part of state police organizations in driver training matters. It is usually considered a function of the agencies

responsible for driver licensing, and most of the state police groups dealing with driver training also have the licensing responsibility.

Driver License Examination

Forty-two per cent of the states indicated activity by the police in examination of operators for driver licenses or permits.

Enforcement of Curb Parking Regulations

Since most state police organizations have little or no authority in urban areas, there is not much interest evidenced in the enforcement of curb parking regulations. Thirty of the 38 states reported no activity in connection with this matter. Seven states indicated that some work was done in the enforcement of curb parking regulations by traffic police, and one state makes it a general function of all patrolmen. Many of the groups returning questionnaires made it clear, however, that while they do not consider it a major responsibility of their men to enforce curb parking regulations, they do expect and require them to enforce parking regulations in rural and suburban areas where they patrol and have jurisdiction in traffic matters.

Traffic Control at Intersections

Since most of the state police groups do not work in urban areas, they do not normally consider it a responsibility to control traffic manually at route intersections. Sixteen states stated specifically that they do not require their men to perform this work, although it is evident from remarks that they all expect the men in emergencies, or under special conditions of routing or events, to be able to manually direct the movement of traffic at intersections or road junctions.

Enforcement of Vehicle Weights and Sizes

All except eight of the states consider it a function of the state police to enforce regulations controlling the sizes and weights of vehicles operating upon highways.

Testing and Approval of Vehicle Safety Devices

In 34 per cent of the states, the police agencies have legally vested in them authority to test and approve accessories and devices for motor vehicles which have to do with the safe operation of vehicles.

In summarizing the traffic functions of state police organizations, it is noted that they have very little concern with matters other than the general enforcement of traffic rules of the road. They are always concerned with the investigation of traffic accidents and with unsafe operations of motor vehicles. They have a strong interest and responsibility for the collection of accident records and for safety educational work.

Driver training and driver licensing activities are performed, as a rule, by the state police only when they have been delegated by law the responsibility for issuance of operators' licenses. Enforcement of parking and traffic control at intersections are not important activities of state police since violations of parking regulations and the need for manual control at intersections are not numerous in rural and suburban areas where these agencies generally perform. Enforcement of laws regulating vehicles' sizes and weights is a principal activity of state police groups since it is so closely associated with the safe operation of vehicles. A surprisingly large number of states gives law enforcement groups responsibility in testing and approving accessories and safety devices.

Traffic Training for Police

All the 39 states furnishing information for this study indicated that basic traffic training is given to all men in uniform in the state enforcement bodies. It was not possible from the questionnaire to determine the variations in amount of training offered and the general matters covered by such training. Unquestionably, there is a wide variance as to the amount and scope of this training.

CHAPTER III

Traffic Engineering Activities in Cities

Requests for information concerning traffic engineering organizations were mailed to 211 cities of more than 50,000 population. In most cases, the questionnaires were mailed to the city engineer or director of public works. Where traffic engineering functions are not the principal responsibility of this city agency, the questionnaires were almost invariably forwarded by the engineer, or director of public works, to the chief of police or other city official directing traffic engineering functions.

A tabulation showing the sources of information from which data were received relative to city traffic engineering departments is shown in Table 19. It will be noted that of the 110 cities with populations from 50,000 to 100,000 persons 25.5 per cent returned the questionnaires. While this rate of return was low, a wide geographic distribution was obtained since 18 states were represented by the 28 cities reporting. Of 52 cities with populations 100,000 to 200,000, twenty-one, or 40.4 per cent, furnished information relative to traffic engineering activities. These 21 cities represented 15 states. Thirty-three cities with populations 200,000 to 500,000 yielded a return of 63.7 per cent, with 21 reporting the information requested on traffic engineering departments.

TABLE 19
SOURCES OF INFORMATION ON CITY
TRAFFIC ENGINEERING DEPARTMENTS

<i>Population</i>	<i>Number of Cities</i>	<i>Cities Furnishing Information</i>		<i>States Represented</i>
		<i>Number</i>	<i>Per Cent</i>	
50,000 - 100,000	110	28	25.5	18
100,000 - 200,000	52	21	40.4	15
200,000 - 500,000	33	21	63.7	17
Over 500,000	16	8	50.0	7
Total	211	78	37.0	29

These 21 cities were in 17 states. One-half of the 16 cities with populations over 500,000 to whom questionnaires were mailed returned the questionnaires giving information on traffic engineering organization. The 8 cities furnishing information are in 7 states.

Cities with Traffic Engineers

Of 78 cities reporting, it was found that 43, or 55 per cent, have traffic engineering bureaus or agencies. The others, 45 per cent, reported no formal traffic engineering activities. The distribution of traffic engineers according to different city population groups is shown in Table 20.

There is a very definite indication that the largest cities more frequently have traffic engineering organizations than the smaller ones.

While it is quite likely that the rate of questionnaire return was higher from cities with traffic engineering organizations than those without such organizations, these tabulations are indicative of the recognition of the need for trained technical traffic assistance in the larger cities.

TABLE 20
CITIES WITH TRAFFIC ENGINEERS

<i>Size of Cities (Population)</i>	<i>Number Reporting</i>	<i>Have Traffic Engineer</i>		<i>No Traffic Engineer</i>	
		<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
50,000 - 100,000	28	9	32	19	68
100,000 - 200,000	21	10	48	11	52
200,000 - 500,000	21	16	76	5	24
Over 500,000	8	8	100	0	0
Total	78	43	55	35	45

Traffic Responsibility Where No Traffic Engineering Division Exists

In cities without traffic engineering organizations, the traffic engineering functions are almost always handled primarily by the police. Fifty-two per cent of all the cities which fur-

nished information, and which did not report formal traffic engineering positions, indicated that the functions were performed by the police department. Eight of 19 cities with populations 50,000 to 100,000, forty-two per cent, indicated that the traffic engineering functions are carried out principally by the police; 7 of 11 cities with populations 100,000 to 200,000, not having traffic engineers, indicated that the functions are performed by the police, and 3 of 5 cities with populations 200,000 to 500,000, without traffic engineers, have the functions carried out principally by police.

In a surprisingly large number of cities, traffic responsibilities are divided between the police and the engineering bureaus where traffic engineers do not exist. In 11 of the 35 cities which do not have traffic engineers, a joint responsibility is indicated. Thirty-two per cent of cities with populations 50,000 to 100,000, twenty-seven per cent of those with populations 100,000 to 200,000, and 40 per cent of those with populations 200,000 to 500,000 indicated traffic responsibilities divided between police and engineering agencies.

The distribution of traffic responsibilities in cities without traffic engineering divisions is shown in Table 21.

Titles of City Traffic Engineering Department Heads

Almost three-fourths of the cities with Traffic Engineering Bureaus give the heads of such bureaus the title Traffic Engineer. Thirty of the 43 cities reporting traffic engineers assign them this title. Seventy-eight per cent of the cities with populations of 50,000 to 100,000, seventy per cent with populations of 100,000 to 200,000, seventy-five per cent with populations of 200,000 to 500,000, and one-half of those with populations over 500,000 give the head of the traffic engineering division the title Traffic Engineer.

It will be noted from the summary shown in Table 22 that titles other than Traffic Engineer are uncommon. They include Safety Engineer, Assistant Traffic Engineer, Assist-

TABLE 21

TRAFFIC RESPONSIBILITY IN CITIES WHERE NO TRAFFIC ENGINEERING DIVISION

<i>Person or Agency with Principal Traffic Engineering Responsibility</i>	<i>Population 50,000-100,000</i>		<i>Population 100,000-200,000</i>		<i>Population 200,000-500,000</i>		<i>Population Over 500,000</i>		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Police	8	42	7	64	3	60	—	—	18	52
Dept. Public Safety.....	3	16	1	9	—	—	—	—	4	11
Engineering or Public Works.....	1	5	—	—	—	—	—	—	1	3
Police and Engineering.....	6	32	3	27	2	40	—	—	11	31
Police and Electrical Bureau.....	1	5	—	—	—	—	—	—	1	3
Total	19	100	11	100	5	100	—	—	35	100

TABLE 22

TITLES OF CITY TRAFFIC ENGINEERING DEPARTMENT HEADS

<i>Title</i>	<i>Population</i> 50,000-100,000		<i>Population</i> 100,000-200,000		<i>Population</i> 200,000-500,000		<i>Population</i> Over 500,000		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Traffic Engineer	7	78	7	70	12	75	4	50	30	70
Safety Engineer	1	11	—	—	—	—	—	—	1	3
Assistant Traffic Engineer.....	—	—	—	—	2	13	—	—	2	5
Assistant City Engineer.....	—	—	—	—	1	6	—	—	1	2
Dir. Traffic Engineering and Planning..	1	11	—	—	—	—	—	—	1	2
Planning and Traffic Engineer.....	—	—	1	10	—	—	—	—	1	2
Chief Engineer or Supt.....	—	—	—	—	—	—	3	38	3	7
Asst. Dir. Motor Vehicles and Traffic....	—	—	—	—	—	—	1	12	1	2
Police Rank	—	—	1	10	1	6	—	—	2	5
No Information	—	—	1	10	—	—	—	—	1	2
Totals	9	100	10	100	16	100	8	100	43	100
No Traffic Engr. Div.....	19	68	11	52	5	24	0	0	35	45

ant City Engineer, Director of Traffic Engineering and Planning, Planning and Traffic Engineer, Chief Engineer or Superintendent of Traffic. Where the position is in the police department, the heads of traffic engineering bureaus are given police ranks.

Traffic Engineering Divisions in City Governments

The location of traffic engineering bureaus in cities of different populations is shown in Table 23. Of the forty-three cities reporting traffic engineering divisions, 16, or 37 per cent, have the activities in the engineering or public works department.

Eight, or 19 per cent, of these cities have established the function as a separate city department or bureau. Seven, or 16 per cent, place the traffic engineering bureau in the department of public safety, another seven, or 16 per cent, place it under the police department. In 3 cities, 7 per cent, the traffic engineering division is in the city traffic commission; in one, it is in the city planning department; and in one it is under the department of motor vehicles and traffic.

Appointing City Traffic Engineering Heads

In the majority of cities, the traffic engineering heads are elected or appointed through civil service commissions. (Table 24.) Fifteen of the 43 cities, 35 per cent, reported the heads designated according to civil service standards. In an almost equal number of cities, 13, or 30 per cent, the appointments are made directly by the head of city government, either the mayor or city manager.

In 6 cities, 14 per cent, appointments of traffic engineering heads are by city engineers or directors of public works. In 3 cities, 7 per cent, the director of public safety selects, or

TABLE 23

LOCATIONS OF CITY TRAFFIC ENGINEERING DIVISIONS

<i>Where Traffic Engineering Divisions Are Located</i>	<i>Population 50,000-100,000</i>		<i>Population 100,000-200,000</i>		<i>Population 200,000-500,000</i>		<i>Population Over 500,000</i>		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Separate City Bureau.....	2	22	2	20	3	19	1	12	8	19
Dept. Public Safety.....	1	11	1	10	3	19	2	25	7	16
Police	1	11	2	20	3	19	1	12	7	16
Engineering or Public Works.....	3	34	4	40	6	37	3	39	16	37
Traffic Commission	2	22	1	10	—	—	—	—	3	7
City Planning	—	—	—	—	1	6	—	—	1	3
Dept. of Motor Vehicles and Traffic.....	—	—	—	—	—	—	1	12	1	2
Totals	9	100	10	100	16	100	8	100	43	100

TABLE 24

<i>Person or Agency Appointing Traffic Engineering Heads</i>	APPOINTMENT OF CITY TRAFFIC ENGINEERING HEADS									
	<i>Population 50,000-100,000</i>		<i>Population 100,000-200,000</i>		<i>Population 200,000-500,000</i>		<i>Population Over 500,000</i>		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Mayor or City Manager.....	1	11	5	50	5	31	2	25	13	30
City Council or Commission.....	—	—	—	—	1	6	1	12	2	5
Director of Public Safety.....	1	11	1	10	—	—	1	12	3	7
Traffic Commission or Board.....	2	22	—	—	—	—	—	—	2	5
Police Head	1	11	—	—	—	—	—	—	1	2
City Eng. or Director of Public Works	2	22	1	10	2	13	1	12	6	14
Civil Service Commission.....	2	23	2	20	8	50	3	39	15	35
No Information	—	—	1	10	—	—	—	—	1	2
Totals	9	100	10	100	16	100	8	100	43	100

appoints, the traffic head. In 2 cities, the city council or city commission makes the selection. In another 2, a traffic commission of the city makes the appointments. In only one city is the traffic engineering head designated by the head of the police department.

Cities with populations of 50,000 to 100,000 did not show a concentration of appointive powers insofar as traffic engineering heads are concerned. Two of 9 cities make appointments through civil service commissions; another 2, through city engineers or directors of public works; and another two through the traffic commission or traffic board. In one city each, appointments are by the head of the city government, the director of public safety, and the head of police.

One-half of the cities whose populations are from 100,000 to 200,000, five of 10, or 50 per cent, reported the appointment of traffic engineering heads by the mayor or city manager.

Cities with populations of 500,000 and over reported traffic engineering heads appointed by the civil service commission in 39 per cent of the cases. In one-fourth of the cities, the mayor or city manager makes the appointment, and in one city each, appointments are by city council, director of public safety, or the city engineer or director of public works.

Traffic Engineers' Supervisors

In seven of 43 cities, 17 per cent, traffic engineering heads report directly to the mayor or city manager. Sixteen of these cities, 37 per cent, have the heads of traffic engineering report to the city engineer or director of public works; in 7 of these 16 cities, the traffic engineer's supervisor is the city engineer or director of streets and in nine the director of public works. Seven, or 16 per cent, of the cities in this group have the traffic engineer report to the director of public safety; another 7 to the head of police.

It will be noted from the summary of persons to whom city traffic engineering heads report, shown in Table 25, that the titles of the supervisory heads correspond very closely to the names of the departments in which traffic engineering divisions are located, as shown in Table 23, and discussed in a previous section. This condition exists in cities of all population groups. Most traffic engineers in cities report to the city engineer or director of public works.

The above figures were for cities reporting traffic engineering bureaus. Titles of persons to whom traffic engineering heads report in cities which do not have traffic engineering bureaus have been summarized and are also shown in Table 25. It will be noted that in 19 of the 35 cities, 54 per cent, which furnished information, but which do not have a traffic engineering division, the traffic heads report to the police.

In 6 of these cities, 17 per cent, the responsibility is well divided between police and engineering agencies. In 5 of these 35 cities, 14 per cent, the traffic heads report directly to the mayor or city manager even though there are no traffic engineering divisions. In one city, 3 per cent, the traffic head reports to the city council. In 3 cities, 9 per cent, he reports to the director of public safety, and in another city to the traffic commission.

Salaries of Traffic Engineering Heads

Comparisons were made between salaries of heads of traffic engineering divisions, city engineers, directors of planning, and city electricians. These are shown in Table 26.

A great range in salaries is noted between cities of different sizes. Considering the maximum annual salary, it was found that one city pays only \$1,800 to the traffic engineering head while another pays \$10,300. The average is \$4,270.

TABLE 25

PERSONS TO WHOM CITY TRAFFIC ENGINEERING HEADS REPORT

<i>Title of Person to Whom Traffic Engineering Heads Report</i>	<i>Population 50,000-100,000</i>		<i>Population 100,000-200,000</i>		<i>Population 200,000-500,000</i>		<i>Population Over 500,000</i>		<i>Total</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Mayor or City Manager.....	1	12	2	20	3	18	1	12	7	17
City Council or Commission.....	1	11	—	—	—	—	—	—	1	3
City Engineer or Dir. of Streets.....	2	22	—	—	3	19	2	25	7	16
Director of Public Works.....	1	11	4	40	3	19	1	12	9	21
Director of Public Safety.....	1	11	1	10	3	19	2	25	7	16
Police Head	1	11	2	20	3	19	1	13	7	16
Traffic Commission or Board.....	2	22	1	10	—	—	—	—	3	7
City Planning Engineer.....	—	—	—	—	1	6	—	—	1	2
Director of Motor Vehicles and Traffic	—	—	—	—	—	—	1	13	1	2
Total—With Traffic Eng. Division.....	9	100	10	100	16	100	8	100	43	100
<i>Title of Person to Whom Traffic Heads Report in Cities Without Traffic Engineering Division</i>										
Mayor	5	26	—	—	—	—	—	—	5	14
City Council	1	5	—	—	—	—	—	—	1	3
Director of Public Safety.....	2	11	1	9	—	—	—	—	3	9
Police Head	7	37	9	82	3	60	—	—	19	54
Traffic Commission	1	5	—	—	—	—	—	—	1	3
Police and Engineering—Divided.....	3	16	1	9	2	40	—	—	6	17
Total—Without Traffic Eng. Div.....	19	100	11	100	5	100	—	—	35	100
Total	28	—	21	—	21	—	8	—	78	—

TABLE 26
DATA ON SALARIES OF
TRAFFIC ENGINEERING HEADS AND OTHER CITY OFFICIALS

Position	Population 50,000-100,000			No. Cities Rep.
	Maximum Annual Salary		Av. Max. Annual Salary	
	Low	High		
Head of Traffic Engineering.....	\$1,800	\$3,310	\$2,670	6
City Engineer	3,350	7,500	4,680	17
Director of Planning.....	2,400	6,000	3,930	4
City Electrician	2,360	4,200	3,070	14
Totals .....	.....	.....	.....	28

Position	Population 100,000-200,000			No. Cities Rep.
	Maximum Annual Salary		Av. Max. Annual Salary	
	Low	High		
Head of Traffic Engineering.....	\$2,600	\$4,000	\$3,510	7
City Engineer	3,170	7,500	5,050	17
Director of Planning.....	2,930	3,900	3,360	5
City Electrician	2,600	4,000	3,230	11
Totals .....	.....	.....	.....	21

Position	Population 200,000-500,000			No. Cities Rep.
	Maximum Annual Salary		Av. Max. Annual Salary	
	Low	High		
Head of Traffic Engineering.....	\$3,000	\$6,000	\$4,500	15
City Engineer	4,000	10,000	6,100	16
Director of Planning.....	2,490	6,500	5,000	14
City Electrician	2,580	4,500	3,640	13
Totals .....	.....	.....	.....	21

Position	Population Over 500,000			No. Cities Rep.
	Maximum Annual Salary		Av. Max. Annual Salary	
	Low	High		
Head of Traffic Engineering.....	\$4,500	\$10,300	\$5,920	7
City Engineer	5,100	10,000	7,840	6
Director of Planning.....	4,000	10,000	7,230	6
City Electrician	4,390	10,750	6,830	5
Totals .....	.....	.....	.....	8

(CONTINUED ON FOLLOWING PAGE)

TABLE 26 (Continued)

Position	Maximum Annual Salary		Total	No. Cities Rep.
	Low	High	Av. Max. Annual Salary	
	Head of Traffic Engineering.....	\$1,800	\$10,300		$4,270	35
City Engineer	3,170	10,000	5,534	56
Director of Planning.....	2,400	10,000	5,020	29
City Electrician	2,360	10,750	3,720	43
Totals .....	.....	.....	.....	78

For city engineers the range is not quite so great, with the lowest maximum annual salary being \$3,170 and the maximum \$10,000 with an average of \$5,534. Planning directors range from a low maximum salary of \$2,400 to \$10,000 with an average of \$5,020. City electricians range from \$2,360 maximum annual salary to \$10,750 with an average of \$3,720.

From this comparison of salaries reported by the 78 cities which furnished information for the study, it will be seen that the heads of traffic engineering divisions fare very well in relation to city engineers, directors of planning, and city electricians.

Since there is such a wide variance in salaries between cities of different sizes, a more accurate comparison is achieved when the cities are considered in terms of population groupings.

In cities with populations from 50,000 to 100,000, the salaries of traffic engineers are considerably lower than those of city engineers and some lower than those of planning engineers and city electricians. Six cities in this population group which furnish information on salaries of traffic engineering heads indicate a low maximum annual salary of \$1,800 and a top of \$3,310 with an average of \$2,670.

City engineers, in the same population group, range from \$3,350 maximum annual salary to \$7,500, with an average of \$4,680. Only 4 cities furnished information on salaries of planning engineers. These show a variance in maximum

annual salaries from \$2,400 to \$6,000, and an average of \$3,930. City electricians have a maximum annual salary bracket of \$2,360 to \$4,200, with an average annual salary of \$3,070.

In those cities with populations from 100,000 to 200,000, it was found that the average salary of traffic engineers is \$3,510 per year as compared with \$5,050 for city engineers, \$3,360 for directors of planning, and \$3,230 for city electricians. Little increase in the maximum annual salaries was noted in cities of this population group over those in the former population group, except in the case of traffic engineers where the increase was to \$4,000 per year. Generally the lowest maximum annual salary reported for cities of this size was higher than for cities from 50,000 to 100,000 population.

A marked increase in average salaries of each of the positions was noted in cities with populations from 200,000 to 500,000. Traffic engineers have a maximum annual salary which varies from a low of \$3,000 to a high of \$6,000, or an average of \$4,500 per year. City engineers range in maximum salaries from \$4,000 to \$10,000 per year, an average of \$6,100. Planning directors range from \$2,490 to \$6,500, an average of \$5,000 per year, while city electricians range from \$2,580 to \$4,500, with an average of \$3,640.

In the largest cities, those with over 500,000 populations, the salaries are substantially higher than for cities of lesser size. Traffic engineers have maximum annual salaries ranging from \$4,500 to \$10,300, an average of \$5,920. City engineers have a lesser range, varying from \$5,100 to \$10,000, but have a higher average salary than traffic engineers—\$7,840. Directors of planning fare far better in the larger cities, ranging in maximum annual salaries from \$4,000 to \$10,000 and averaging \$7,230. City electricians have a range of \$4,390 to \$10,750 in maximum annual salaries, with an average of \$6,830.

Traffic Engineering Functions

Each city was asked to furnish information as to the assignment of responsibility and the allocation of control relative to a wide range of traffic functions. These have been summarized according to population groups and results are shown in Tables 27, 28, 29 and 30.

Traffic Control Devices

Traffic control devices have been classified as to (a) signals, (b) signs, and (c) pavement markings.

(a) Traffic Signals. Eight of the 28 cities with populations 50,000 to 100,000, or 29 per cent, indicated that the traffic engineering division has some responsibility for the erection and maintenance of traffic signals. In five of these cities, 18 per cent, they have the complete responsibility. In 7 of these cities, 25 per cent, signals are the complete responsibility of electrical or lighting bureaus; in 54 per cent of the cities, the electrical or lighting bureau performs some part of the work of installing and maintaining traffic signals. In 7 cities, 25 per cent, traffic signals are the complete responsibility of the police, and in one city, the complete responsibility of the city engineer.

In cities with populations of 100,000 to 200,000 the traffic engineering division has the complete responsibility for signals in 20 per cent and does some work in connection with signals in 43 per cent. In only one of these cities, 5 per cent, is the total responsibility for signals vested in the electrical bureau. However, in 6, or 29 per cent, the electrician aids the other city departments in traffic signal matters. Eight, or 38 per cent, of the cities assign the total responsibility for signals to the police.

Traffic signals are the complete responsibility of traffic engineering agencies in 10, or 48 per cent, of the cities with populations of 200,000 to 500,000. In 16 of these cities, all those reporting traffic engineers, the traffic engineering

bureau has some part in the installation and maintenance of signals. In only 2 cities, 10 per cent, is the total responsibility vested with the police; yet, in 3 additional cities making a total of 24 per cent, the police have some part of the responsibility. City electricians have complete responsibility in 3 of the cities, 14 per cent, and assist in signal work in 38 per cent.

In cities with populations over 500,000, traffic signals are the total responsibility of traffic engineers in 6, or 75 per cent, of those furnishing information. In all of the cities the traffic engineer has some responsibility for signals. In one city each the engineering department, the electrical bureau and the police department assist in traffic signal matters.

(b) Signs. Cities with populations of 50,000 to 100,000 show the work of installing and maintaining traffic signs is assigned in part or wholly to traffic engineering divisions in 32 per cent of the cases. In 8 of the 28 cities in this group, 29 per cent, traffic engineers have the total responsibility for signs. In 3 cities the total responsibility is with the city engineer, and in 3 additional cities the city engineer aids in this matter. The majority of the cities, 12, or 43 per cent, give the total responsibility to police, and in 54 per cent the police have all, or part, of the responsibility. Other agencies of city government were reported as having the total responsibility for traffic signs in one city, and for assuming partial responsibility in another city.

Cities with populations of 100,000 to 200,000 divide the responsibility for traffic signs between traffic engineering bureaus and police. In 8 of the 21 cities, 38 per cent, traffic engineers have the total responsibility, and in 11, or 52 per cent, the total responsibility is with the police. In the remainder of the cities the responsibility is shared jointly by traffic engineering, police, and city engineering agencies.

In three-fourths of the cities with populations 200,000 to

TABLE 27
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
IN CITIES WITH POPULATIONS 50,000-100,000

Function	Traffic Eng. Div.				City Engineering Department				Planning Dept.			
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Performing Function		Total Responsibility	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	8	29	5	18	4	14	1	4	0	0	0	0
Signs	9	32	8	29	6	21	3	11	0	0	0	0
Roadway markings	9	32	8	29	8	29	6	21	0	0	0	0
Vehicular volume studies.....	9	32	6	21	6	21	4	14	2	7	1	4
Speed surveys	8	29	6	21	3	11	3	11	0	0	0	0
Origin and destination studies.....	7	25	7	25	3	11	2	7	3	11	2	7
Other traffic surveys.....	8	29	4	14	6	21	3	11	3	11	2	7
Parking studies	9	32	6	21	3	11	1	4	1	4	0	0
Accident studies	7	25	5	18	1	4	1	4	0	0	0	0
Collection of accident reports.....	3	11	3	11	1	4	1	4	0	0	0	0
Complaints (traffic)	6	21	3	11	1	4	1	4	0	0	0	0
Public relations	6	21	3	11	3	11	2	7	1	4	0	0
Permits (weights and sizes).....	1	4	0	0	5	18	3	11	0	0	0	0
Routing	7	25	5	18	6	21	2	7	1	4	0	0
Safety education	5	18	4	14	0	0	0	0	0	0	0	0
Traffic codes and ordinances.....	7	25	5	18	3	11	2	7	0	0	0	0
Channelization and Island Design.....	7	25	4	14	19	68	17	61	1	4	0	0
Ckg. new street plans for operations features....	5	18	3	11	21	75	20	72	1	4	0	0
Ckg. plans for reconstr. operations features.....	6	21	3	11	21	75	19	68	1	4	0	0
Engineering studies at high-acc. and congested locations	6	21	5	18	11	39	5	18	0	0	0	0

(CONTINUED ON FOLLOWING PAGE)

TABLE 27
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
IN CITIES WITH POPULATIONS 50,000-100,000

Function	City Electrician or Lighting Bureau				Police				Others				Function Not Rep.	
	Performing Func.		Total Responsibility		Performing Func.		Total Responsibility		Performing Func.		Total Responsibility			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	15	54	7	25	11	39	7	25	0	0	0	0	0	0
Signs	0	0	0	0	15	54	12	43	2	7	1	4	0	0
Roadway markings	0	0	0	0	12	43	10	36	2	7	1	4	0	0
Vehicular volume studies.....	0	0	0	0	9	32	9	32	2	7	0	0	4	14
Speed surveys	0	0	0	0	12	43	11	39	1	4	0	0	6	21
Origin and destination studies.....	0	0	0	0	4	14	4	14	0	0	0	0	12	43
Other traffic surveys.....	0	0	0	0	11	39	8	29	0	0	0	0	6	21
Parking studies	0	0	0	0	14	50	10	36	0	0	0	0	6	21
Accident studies	0	0	0	0	20	72	18	64	1	4	1	4	1	4
Collection of accident reports.....	0	0	0	0	23	82	23	82	0	0	0	0	1	4
Complaints (traffic)	1	4	0	0	23	82	19	68	0	0	0	0	1	4
Public relations	1	4	0	0	17	61	13	46	4	14	4	14	2	7
Permits (weights and sizes).....	0	0	0	0	9	32	7	25	4	14	3	11	12	43
Routing	0	0	0	0	11	39	7	25	4	14	2	7	6	21
Safety education	0	0	0	0	18	64	14	50	5	18	3	11	3	11
Traffic codes and ordinances.....	0	0	0	0	9	32	5	18	12	43	11	39	1	4
Channelization and Island Design	0	0	0	0	0	0	0	0	0	0	0	0	4	14
Ckg. new street plans for operations features	0	0	0	0	0	0	0	0	0	0	0	0	3	11
Ckg. plans for reconstr. operations features	0	0	0	0	0	0	0	0	0	0	0	0	3	11
Engineering studies at high-acc. and congested locations.....	2	7	0	0	14	50	8	29	1	4	1	4	3	11

500,000, traffic engineers have some of the responsibility connected with the erection and maintenance of signs. In 14, or 67 per cent, they have complete responsibility. In only 3, or 14 per cent, of these cities, is the total responsibility for signs given to the police. An additional 4 cities, 19 per cent, have the police share the responsibility with traffic engineers or city engineers.

Six of the 8 cities furnishing information and having populations over 500,000, place the complete responsibility for signs in the traffic engineering bureau, and in all of these cities traffic engineers have a part of the responsibility. The other 2 cities in this population group have the responsibility shared by traffic engineers, city engineering bureaus and police.

(c) Roadway Markings. The distribution of responsibilities for placing and maintaining markings for the control and direction of traffic is almost identical in cities with populations of 50,000 to 100,000 as the responsibilities for signs.

Eight of 21 cities with populations 100,000 to 200,000 place the total responsibility for roadway markings in traffic engineering, and 12 place it in the police department.

Cities with populations 200,000 to 500,000 place the total responsibility for roadway markings with traffic engineers in 14 of 21 cities, or 67 per cent. In about three-fourths of the cities, all those reporting traffic engineers, some work relative to roadway markings is performed by the traffic engineering division.

The distributions of responsibilities for roadway markings in cities over 500,000 are identical with those for traffic signs.

Traffic Surveys

(a) Vehicular Volume Studies. Six of the 28 cities with populations 50,000 to 100,000, 21 per cent, give the total responsibility for making studies of traffic volumes to traffic engineering bureaus. Nine of these cities, all reporting traffic

engineering agencies, have some part of the work on traffic volume studies in the traffic engineering bureaus. Four of the cities, 14 per cent, give complete responsibility to city engineering bureaus to make studies of traffic volumes. In one city, the planning department has the total responsibility for such studies; in 9, or 32 per cent, it is the responsibility of the police. Four cities, 14 per cent, stated that no work was carried on in connection with the conduct of vehicular volume studies.

Of the cities with traffic engineers, having populations 100,000 to 200,000, forty-eight per cent indicate that the total responsibility for vehicular volume studies is assigned to the traffic engineer.

Sixteen per cent of the cities reporting, with populations 200,000 to 500,000 (76 per cent of the total), show the total responsibility for vehicular volume studies in traffic engineering departments. Four indicated it as the complete responsibility of the police.

Eight cities with populations over 500,000 indicated that the traffic engineers assume responsibility for all or part of work on vehicular volume inventories, and in 7 of these cities the total responsibility is vested in the traffic engineering bureau.

(b) Speed Surveys. Almost all of the cities indicate there is greater interest in the police department on speed than in other traffic studies. In cities with populations 50,000 to 100,000 the police have the total responsibility for speed surveys in 11 or 39 per cent.

Seven of the cities with populations of 100,000 to 200,000, or 33 per cent, indicate the total responsibility for speed surveys as being with the police. Approximately one-half of the cities, 48 per cent, give the total responsibility for such studies to traffic engineering.

Analysis shows that about three-fourths of the cities with populations of 200,000 to 500,000 place the responsibility

TABLE 28
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
CITIES WITH POPULATIONS 100,000-200,000

Function	Traffic Eng. Div.				City Engineering Department				Planning Dept.			
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Performing Function		Total Responsibility	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	9	43	6	29	0	0	0	0	0	0	0	0
Signs	9	43	8	38	2	10	0	0	0	0	0	0
Roadway markings	9	43	8	38	1	5	0	0	0	0	0	0
Vehicular volume studies.....	10	48	10	48	2	10	0	0	2	10	1	5
Speed surveys	10	48	10	48	2	10	0	0	1	5	1	5
Origin and destination studies.....	10	48	10	48	2	10	0	0	2	10	1	5
Other traffic surveys.....	10	48	10	48	0	0	1	5	2	10	1	5
Parking studies	10	48	9	43	4	19	2	10	2	10	1	5
Accident studies	8	38	8	38	0	0	0	0	0	0	0	0
Collection of accident reports.....	4	19	3	14	0	0	0	0	0	0	0	0
Complaints (traffic)	5	24	3	14	0	0	0	0	0	0	0	0
Public relations	7	33	5	24	0	0	0	0	0	0	0	0
Permits (weights and sizes).....	1	5	1	5	3	14	3	14	0	0	0	0
Routing	8	38	7	33	3	14	1	5	0	0	0	0
Safety education	5	24	1	5	0	0	0	0	0	0	0	0
Traffic codes and ordinances.....	6	29	4	19	1	5	1	5	2	10	1	5
Channelization and Island Design.....	10	48	9	43	10	48	8	38	1	5	0	0
Ckg. new street plans for operations features....	8	38	4	19	17	81	12	57	0	0	0	0
Ckg. plans for reconstr. operations features.....	6	29	2	10	19	91	13	62	0	0	0	0
Engineering studies at high-acc. and congested locations	10	48	8	38	5	24	4	19	0	0	0	0

(CONTINUED ON FOLLOWING PAGE)

TABLE 28
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
CITIES WITH POPULATIONS 100,000-200,000

Function	City Electrician or Lighting Bureau				Police				Others				Function Not Perf.	
	Performing		Total		Performing		Total		Performing		Total		No.	%
	Func. No.	%	Responsibility No.	%	Func. No.	%	Responsibility No.	%	Func. No.	%	Responsibility No.	%		
Traffic Signals	6	29	1	5	12	57	8	38	0	0	0	0	0	0
Signs	0	0	0	0	12	57	11	52	0	0	0	0	0	0
Roadway markings	0	0	0	0	12	57	12	57	0	0	0	0	0	0
Vehicular volume studies.....	0	0	0	0	9	43	6	29	0	0	0	0	1	5
Speed surveys	0	0	0	0	9	43	7	33	0	0	0	0	1	5
Origin and destination studies.....	0	0	0	0	8	38	5	24	0	0	0	0	2	10
Other traffic surveys.....	0	0	0	0	7	33	6	29	0	0	0	0	2	10
Parking studies	0	0	0	0	8	38	6	29	0	0	0	0	0	0
Accident studies	0	0	0	0	13	62	13	62	0	0	0	0	0	0
Collection of accident reports.....	0	0	0	0	18	86	17	81	0	0	0	0	0	0
Complaints (traffic)	0	0	0	0	17	81	15	71	0	0	0	0	1	5
Public relations	0	0	0	0	14	67	10	48	3	14	1	5	1	5
Permits (weights and sizes).....	0	0	0	0	9	43	8	38	4	19	3	14	5	24
Routing	0	0	0	0	10	48	8	38	2	10	1	5	1	5
Safety education	0	0	0	0	19	91	12	57	5	24	1	5	0	0
Traffic codes and ordinances.....	0	0	0	0	10	48	6	29	6	29	5	24	0	0
Channelization and Island Design	0	0	0	0	2	10	0	0	0	0	0	0	1	5
Checking new street plans for operations features	0	0	0	0	1	5	0	0	0	0	0	0	0	0
Checking plans for reconstruction operations features	0	0	0	0	2	10	0	0	0	0	0	0	0	0
Engineering studies at high-acc. and congested locations.....	0	0	0	0	8	38	7	33	0	0	0	0	0	0

for speed surveys in traffic engineering bureaus. In the remaining cities, approximately 25 per cent, the responsibility is given to the police.

In cities with populations over 500,000, all speed surveys are made by the traffic engineering bureau.

(c) Origin and Destination Surveys. As with other traffic studies, most of the cities with traffic engineering divisions place the responsibility for the conduct of studies of vehicular origin and destination in traffic engineering divisions.

(d) Other Traffic Surveys. Such a wide variety of surveys and studies can be included under this caption that the distribution of functions means very little. However, it is interesting to note that the influence of the police seems to increase somewhat over that evidenced in the surveys referred to above. In 8 of the cities with populations 50,000 to 100,000, twenty-nine per cent, the police have the total responsibility for additional traffic surveys. In only 4, or 14 per cent, are additional studies made by traffic engineering bureaus. In 3 cities, 11 per cent, the total responsibility for additional surveys is in the city engineering department; and in 2 cities, 7 per cent, in the planning department. Six of the cities, or 21 per cent, stated that no additional traffic surveys were normally conducted.

Parking Studies

In one-half of the cities with populations 50,000 to 100,000, the police take some part in the conduct of parking studies. In 10 of these cities, 36 per cent, they have total responsibility. Just 6 cities in this population group, 21 per cent, have the traffic engineer completely responsible for making parking surveys. One city gives the total responsibility to the city engineer. In 6 cities, no parking studies of consequence were reported.

Approximately one-half of the cities with populations 100,000 to 200,000 give responsibility for parking studies to

traffic engineering divisions. All the cities in this population group which have traffic engineers give them all or a large share of the responsibility. In 2 cities, the total responsibility for parking studies is in the general engineering department; in one it is the planning department, and in 6 it is the total responsibility of police. All cities of this size indicated some work in connection with parking surveys.

Every city in the population group 200,000 to 500,000 reported the conduct of parking studies. Thirteen, or 62 per cent, give the total responsibility to traffic engineering bureaus, and all the cities with traffic engineers give them at least a part of the responsibility. In 3 cities the total responsibility is given to police, and in one to the city engineer.

All parking studies in cities of populations over 500,000 are conducted by traffic engineering bureaus. In one, the planning department gives assistance.

Accident Studies

Studies of traffic accidents are carried out largely by the police in cities with populations from 50,000 to 100,000. Only one city in this population group indicated little or no work in connection with accident studies.

In cities with populations 100,000 to 200,000, 13 of 21, or 62 per cent, leave the work entirely to the police. In the other 8 cities it is the complete responsibility of traffic engineering divisions.

Cities with populations 200,000 to 500,000 have accident studies made by the police in 9, or 43 per cent, of the cases. The police assume the total responsibility for such studies in 6, or 29 per cent, of the cities. In 15 of these cities, 71 per cent, the traffic engineers have all or part of the responsibility.

In 3 of the cities with populations over 500,000 the total responsibility for accident studies is placed in the traffic

TABLE 29
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
IN CITIES WITH POPULATIONS 200,000-500,000

Function	Traffic Eng. Div.				City Engineering Department				Planning Dept.			
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Performing Function		Total Responsibility	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	16	76	10	48	0	0	0	0	0	0	0	0
Signs	16	76	14	67	2	10	0	0	0	0	0	0
Roadway markings	16	76	14	67	2	10	0	0	0	0	0	0
Vehicular volume studies.....	16	76	16	76	1	5	0	0	1	5	0	0
Speed surveys	16	76	15	71	0	0	0	0	0	0	0	0
Origin and destination studies.....	14	67	12	57	3	14	1	5	3	14	0	0
Other traffic surveys.....	15	71	15	71	2	10	2	10	0	0	0	0
Parking studies	16	76	13	62	3	14	1	5	0	0	0	0
Accident studies	15	71	11	52	1	5	0	0	0	0	0	0
Collection of accident reports.....	7	33	6	29	0	0	0	0	0	0	0	0
Complaints (traffic)	15	71	9	43	0	0	0	0	0	0	0	0
Public relations	9	43	6	29	0	0	0	0	0	0	0	0
Permits (weights and sizes).....	3	14	3	14	5	24	5	24	0	0	0	0
Routing	15	71	11	52	4	19	1	5	0	0	5	24
Safety education	9	43	2	10	0	0	0	0	0	0	0	0
Traffic codes and ordinances.....	10	48	5	24	0	0	0	0	0	0	0	0
Channelization and Island Design.....	16	76	6	29	14	67	3	14	3	14	0	0
Ckg. new street plans for operations features....	14	67	5	24	16	76	7	33	0	0	0	0
Ckg. plans for reconstr. operations features.....	13	62	4	19	17	81	8	38	0	0	0	0
Engineering studies at high-acc. and congested locations	16	76	14	67	6	29	2	10	0	0	0	0

(CONTINUED ON FOLLOWING PAGE)

engineering division. Generally it is a dual responsibility shared jointly by the traffic engineers and the police; in 5 of the 8 cities, 62 per cent, such is the case.

Collection and Analysis of Accident Reports

The responsibility for collecting and analyzing accident reports, which entails the maintenance of an accident record bureau, is more generally vested in the police department than in any other city agency. In 23 of the 28 cities with populations 50,000 to 100,000, or 82 per cent, the police have the total responsibility for the collection and analysis of accident records; in 3 of these cities, it is the complete responsibility of the traffic engineer.

The responsibility of police for collection and analysis of accident records was not found to lessen in cities with populations 100,000 to 200,000. Here they have complete responsibility in 81 per cent of the cases, and in 86 per cent they have all or part of the responsibility.

Fifteen of the 21 cities with populations of 200,000 to 500,000, or 71 per cent, have the work of collecting and analyzing accident reports in the police department. In only 6 of these cities, 29 per cent, is the total responsibility for this function given to traffic engineers. No other agencies of the city government have any part in the collection and analysis of traffic accident records.

In cities with populations over 500,000, the traffic engineers have a much higher degree of responsibility for the collection and maintenance of accident records than they do in smaller cities.

Traffic Complaints

As with accident records, the police bear a large portion of the responsibility for handling complaints which are received by public officials relative to traffic conditions. In 23 of 28 cities with populations 50,000 to 100,000, 82 per cent, all

or part of this work is done by the police; in 19, or 68 per cent, they have the complete responsibility.

Seventeen of the cities with populations of 100,000 to 200,000, or 81 per cent, place the responsibility for traffic complaints in the police department. In 71 per cent of these cities the police have total responsibility. Only 3 of the cities, 14 per cent, give the complete responsibility for handling traffic complaints to the traffic engineering division.

More than one-half of the cities with populations of 200,000 to 500,000 have traffic complaints handled in the police department. In 5 of the 21 cities, or 24 per cent, the police have the total responsibility for these complaints. The larger cities give more of the responsibility for traffic complaints to traffic engineering divisions. Fifteen of these cities give at least a part to the traffic engineers. In 9 of these cities, or 43 per cent, traffic engineers are given total responsibility relative to such complaints.

In cities with populations over 500,000, 7 of the 8 reporting traffic engineering divisions give all or part of the responsibility for complaints to them. One of these cities gives the total responsibility for traffic complaints to the police, and in the others it is a joint responsibility of the police and traffic engineers.

Permits for the Operation of Oversize or Overweight Vehicles

Most of the cities with populations 50,000 to 100,000 give the responsibility for issuing permits for the operation of oversize or overweight vehicles to the police, where any attention is given to the functions. The activities of traffic engineers in connection with this function is negligible.

Nine, or 43 per cent, of the cities with populations 100,000 to 200,000 give all or part of the responsibility for issuing permits for oversize and overweight vehicles to the police; in 38 per cent they have the complete responsibility. In only one city does the traffic engineer have any part whatsoever in the issuance of such permits.

TABLE 30
TRAFFIC FUNCTIONS
REPORTED BY PUBLIC WORKS DEPARTMENTS
IN CITIES WITH POPULATION OVER 500,000

Function	Traffic Eng. Div.				City Engineering Department				Planning Dept.			
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Performing Function		Total Responsibility	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	8	100	6	75	1	12	0	0	0	0	0	0
Signs	8	100	6	75	1	12	0	0	0	0	0	0
Roadway markings	8	100	6	75	1	12	0	0	0	0	0	0
Vehicular volume studies.....	8	100	7	88	0	0	0	0	1	12	0	0
Speed surveys	8	100	8	100	0	0	0	0	0	0	0	0
Origin and destination studies.....	8	100	7	88	0	0	0	0	1	12	0	0
Other traffic surveys.....	7	88	6	75	0	0	0	0	1	12	0	0
Parking studies	8	100	7	88	0	0	0	0	1	12	0	0
Accident studies	8	100	3	38	0	0	0	0	0	0	0	0
Collection of accident reports.....	6	75	3	38	0	0	0	0	0	0	0	0
Complaints (traffic)	7	88	4	50	0	0	0	0	0	0	0	0
Public relations	6	75	3	38	0	0	0	0	0	0	0	0
Permits (weights and sizes).....	1	12	0	0	2	25	2	25	0	0	0	0
Routing	8	100	5	12	1	12	0	0	1	12	0	0
Safety education	5	62	3	38	0	0	0	0	0	0	0	0
Traffic codes and ordinances.....	7	88	4	50	0	0	0	0	0	0	0	0
Channelization and Island Design.....	8	100	4	50	4	50	0	0	0	0	0	0
Ckg. new street plans for operations features....	8	100	1	12	7	88	0	0	3	38	0	0
Ckg. plans for reconstr. operations features.....	8	100	1	12	7	88	0	0	2	25	0	0
Engineering studies at high-acc. and congested locations	8	100	8	100	0	0	0	0	0	0	0	0

(CONTINUED ON FOLLOWING PAGE)

In cities with populations 200,000 to 500,000, the issuance of permits for the operation of oversize and overweight vehicles is divided almost evenly between several different departments. Three of these cities, 14 per cent, place the total responsibility with the traffic engineer; 5, or 24 per cent, with the city engineer; 7, or 33 per cent, with the police; and 4, or 19 per cent, with other city agencies.

Cities with populations over 500,000 do not have the traffic engineers issue permits for the operation of oversize or overweight vehicles; in but one instance do they have a partial responsibility, shared with other city agencies.

Public Relations in Traffic

Most of the cities under 100,000 population depend upon traffic agencies of the police department and upon general administrative agencies of the city government to carry out public relations activities in traffic.

In cities with populations 100,000 to 200,000, the principal responsibility for public relations work in traffic is also with the police; in 14 of the 21 cities, 67 per cent, they perform all or part of the function, and in 10, or 48 per cent, they have complete responsibility.

Cities with populations 200,000 to 500,000 also give traffic public relations responsibility principally to the police.

The largest cities, those over 500,000, give a large portion of the responsibility for public relations in traffic to traffic engineers.

Highway Routing

The total responsibility for routing traffic on highways, or otherwise through cities, is vested with the police in 7 of the 28 cities with populations of 50,000 to 100,000. In an additional 4 cities the police have a part of the responsibility for traffic routing; in 5 of these cities, 18 per cent, the total responsibility for this work is in the traffic engineering bureau; in 2 cities, 7 per cent, in the city engineering depart-

ment; and in 2 other cities, 7 per cent, with other agencies of the city government. Six of the cities, 21 per cent, reported no special work on the part of city agencies in traffic routing, considering it principally a function for state highway departments or other state groups.

In cities between 100,000 and 200,000 population, the police have a part of the responsibility for traffic routing in approximately one-half; traffic engineers have total responsibility in 7, or 33 per cent; the city engineer in one, or 5 cent; and another city agency in one, or 5 per cent.

With cities between 200,000 and 500,000 population, the traffic engineering bureaus assume a major role in routing matters. In all except one of these cities having traffic engineering divisions, 15, or 71 per cent, the traffic engineer has part or total responsibility for routing highways through cities.

All of the cities with populations over 500,000 reporting traffic engineering departments give the traffic engineer total or partial responsibility for routing.

Traffic Safety Education

The scope and basic phases of safety education were apparently misinterpreted by a number of city officials in filling in the questionnaires. Many of them consider safety education to apply only to those endeavors which are formalized and administered by educational agencies. On the other hand, some of the officials obviously consider safety educational activities to embrace all planned and administered public educational programs regardless of which agency of government is responsible for them. This is the interpretation which was intended. However, because of this discrepancy, the results procured are not necessarily representative of the placement of safety engineering functions in the various cities reported.

According to questionnaire returns, cities with popula-

tions 50,000 to 100,000 place the total responsibility for safety education in the police department in 14, or 50 per cent, of the cases. In 4, or 14 per cent, the total responsibility is with traffic engineers.

Cities between 100,000 and 200,000 population give the police complete responsibility for safety educational activities in 12 of 21 cities, or 57 per cent. In only one of the cities is the complete responsibility in the traffic engineering bureau. One city places the responsibility in the department of education.

In most cities with populations 200,000 to 500,000, safety educational functions are performed totally or in part by the police in 10 of 21 cities, or 48 per cent. Six of these cities, 29 per cent, have the police completely in charge of activities. While traffic engineers are engaged in the matter of safety education in 43 per cent of the cities in this population group they have the complete responsibility in only 2, or 10 per cent.

In the larger cities, those with populations over 500,000, safety education is handled completely or in part by the police in one-half of the cases. In 25 per cent they perform the entire function. In 3 of these cities, 38 per cent, the traffic engineering division is totally responsible, and in one, 12 per cent, the safety educational activities are performed by the department of education.

Channelization and Island Design

The total responsibility for channelization of intersections and the design of traffic islands is vested in the city engineering department in 17 of the 28 cities with populations of 50,000 to 100,000. In 2 additional cities, making a total of 68 per cent, these engineers perform the major part of this function. Only 4 of the traffic engineering divisions, 14 per cent, have complete responsibility for channelization and island design. Four of these cities, 14 per cent, reported no

channelization or traffic island design work of consequence.

Considering the population group of 100,000 to 200,000, the city engineering or public works department has total responsibility for the design of traffic islands and channelization of intersections in 8, or 38 per cent, of the cases. The part of traffic engineers in this function increases substantially in the larger cities as indicated by the fact that in 9, or 43 per cent, of those in this population group, they have complete responsibility for design of islands and for intersection channelization. In 2 of these cities the police carry out a part of the work of island design and channelization. Only one city in this population group reported no work of this type.

Cities with populations of 200,000 to 500,000 place the total responsibility for design of traffic islands and for channelization with the traffic engineering division in 6 of 21 cases reported. The city engineer has the responsibility completely in 3, or 14 per cent, of the cities; and in one city, 5 per cent, the total responsibility is with the police. Other cities have the work shared jointly by traffic engineers, city engineers, and the police.

Cities with populations over 500,000 give the traffic engineering bureaus total responsibility for channelization and island design in one-half of the cities reporting. The remaining cities have the responsibility shared jointly by traffic engineers and city engineers.

Traffic Codes and Ordinances

Most of the smaller cities, those between 50,000 and 100,000 population, depend upon their legal departments or administrative units of city government for preparation of traffic codes and ordinances.

In cities with populations between 100,000 and 200,000, total responsibility for traffic codes and ordinances is vested in the police in 6, or 29 per cent, of the cases reported; with

the planning bureau in one, or 5 per cent; with the city engineering department in one, or 5 per cent; and with the traffic engineer in 4, or 19 per cent. Five of these cities, 24 per cent, give the total responsibility for traffic codes and ordinances to legal and administrative departments.

Those cities with populations of 200,000 to 500,000 make the development of traffic codes and ordinances the complete responsibility of police in only 5, or 24 per cent; in another 5, or 24 per cent, it is the complete responsibility of traffic engineers; in 6 other cities, 29 per cent, they are developed by administrative and legal agencies. In the remaining cities, approximately 25 per cent, the responsibility is divided between these three groups.

Cities with populations over 500,000 give complete responsibility for developing traffic codes and ordinances to traffic engineering bureaus in one-half of the cases reported. In 7 of the 8 cities, 88 per cent, the traffic engineers have all or part responsibility, sharing it jointly with the police and legal divisions.

Checking New Construction Plans for Traffic Operations Features

Responsibility for checking new construction plans to ascertain whether or not traffic operations features are considered is the complete responsibility of the city engineering department in 20 of 28 cities, or 72 per cent, with populations between 50,000 and 100,000. Traffic engineering bureaus have total responsibility for this work in only 3, or 11 per cent, of the cities; however, in an additional 2 cities they have a share of the responsibility.

Cities with populations from 100,000 to 200,000 give complete responsibility for checking new construction plans for traffic operations features to the city engineers in 12 of the 21 cities, or 57 per cent. In 81 per cent they have all or part of the responsibility. The traffic engineers have complete responsibility in 4, or 19 per cent, of the cities, and in

another 4 cities they share responsibility with city engineering bureaus.

Seven of the cities with populations 200,000 to 500,000, 33 per cent, give total responsibility for checking new construction plans to the city engineering department. Five, or 24 per cent, give it to the traffic engineers.

In the 8 cities with populations over 500,000, checking of new construction plans for operations features is almost always shared jointly by the traffic engineering and the city engineering departments.

Checking Reconstruction Plans for Operations Features

There is practically no difference noted in the distribution of responsibility for checking reconstruction plans for city streets as compared with checking new construction plans. In each population group responsibilities were almost identically distributed. It was also noted that the police are more frequently called upon to aid in checking plans for reconstruction of streets than in checking plans for construction of new streets.

Engineering Studies at High-Accident and Congested Locations

Cities with populations from 50,000 to 100,000 reported total responsibility for making engineering studies at high accident and congested locations in traffic engineering divisions in 5 cases, or 18 per cent. The city engineering bureaus have complete responsibility in another 8 cities, or 29 per cent.

Cities with populations from 100,000 to 200,000 place total responsibility for engineering studies with the traffic engineering division in 38 per cent of the cases. In approximately one-half of the cities, the traffic engineers have all or part of the responsibility. City engineers have total responsibility in only 4, or 19 per cent, of the cities, although in one additional city they share responsibility with the police. Police have a large part of this responsibility, being totally

in charge of it in 7, or 33 per cent of the cities and working on it in one additional city.

In the 21 cities with populations from 200,000 to 500,000, the traffic engineering bureaus have all or partial responsibility for engineering studies in every case in which there is a traffic engineer. This means that in 16, or 76 per cent, the traffic engineering department is completely or partially responsible. In 14, or 67 per cent, they do the work exclusive of other bureaus and agencies. While the city engineers are called upon for assistance in this function in 6, or 29 per cent, of the cities, they have complete responsibility in only 2, or 10 per cent. The police are called upon for aid in 4, or 19 per cent, of the cities.

Work of making engineering studies at high accident and congested locations is vested completely in the traffic engineering bureau in all 8 cities with populations over 500,000.

CHAPTER IV

Traffic Activities in State Highway Departments

Traffic Engineering Organizations

Thirty-five of the 45 states reporting, 78 per cent, indicated the existence of traffic engineering, or equivalent divisions, in normal peacetime operations. There was very little difference noted between existence of traffic engineering divisions according to geographical areas. The southern states were not generally found to have these divisions in the same ratio as the other states; however, almost three-fourths of the southern states reported divisions which deal primarily with traffic engineering matters.

Traffic Engineering Functions in States Not Having Traffic Divisions

In the 10 states which did not report traffic engineering divisions, even for normal pre-war years, there was an indication that the maintenance engineers carry out the functions in 4 cases, the state police in 4, the safety department of the highway commission in one, and the state planning commission in one. In several of these cases, interpretation of traffic engineering functions was not definite. Some officials apparently confuse them with law enforcement functions in traffic control and others limit them largely to work on traffic control devices.

Names of Traffic Divisions

Many different names, or titles, are assigned to divisions which carry out traffic engineering functions in state highway departments. These are summarized in Table 31.

Twenty-three per cent of the divisions doing traffic engineering work in states are called traffic divisions, or departments. Another 8 states, 23 per cent, are called traffic

engineering divisions. The importance of "safety" is stressed by its appearance in 8 titles, traffic and safety division, traffic safety division or safety department. Traffic and planning divisions are reported in 6 states, 17 per cent. In 2 more states the division of highway planning performs the traffic engineering functions. Other titles used include division of highway control, highway marking division, and traffic control section.

TABLE 31
 NAMES OF TRAFFIC DIVISIONS IN
 STATE HIGHWAY DEPARTMENTS

<i>Name of Division</i>	<i>No. of States</i>	<i>Per Cent</i>
Traffic Division (or Department).....	8	23
Traffic Engineering Division (or Department).....	8	23
Traffic and Safety Division (or Traffic Safety Division).....	7	20
Traffic and Planning Division.....	6	17
Division of Highway Planning.....	2	6
Safety Department (or Bureau).....	1	3
Miscellaneous Titles	3	8
Total.....	35	100

Fifteen of the 35 traffic divisions embrace both highway planning survey and traffic engineering functions. Three of the traffic divisions have combined within them both traffic engineering and highway planning survey functions. Traffic engineering divisions in only two cases include both traffic planning survey and traffic engineering functions. As expected, all the traffic and planning divisions combine both functions. All divisions of highway planning assume both traffic engineering and highway planning survey activities. Two of the 7 traffic and safety divisions cover planning survey and traffic engineering functions.

Titles of Division Heads

The title of the head of 19, or 54 per cent, of the departments reporting traffic engineering or equivalent divisions

is "traffic engineer." A broad title, such as director, traffic director, or chief engineer is applied to the heads of 17 per cent of the 35 departments. Eleven per cent give the director of the division the title traffic and planning engineer. Other titles used include safety engineer, traffic control engineer, engineer of highway control, and engineer of safety and traffic. Titles of heads of state traffic divisions are summarized in Table 32.

TABLE 32
TITLES OF TRAFFIC HEADS IN
STATE HIGHWAY DEPARTMENTS

<u>Title</u>	<u>No. of States</u>	<u>Per Cent</u>
Traffic Engineer	19	54
Director, Chief Engineer, etc.....	6	17
Traffic and Planning Engineer.....	4	11
Engineer of Safety and Traffic.....	2	6
Safety Engineer	1	3
Traffic Control Engineer.....	1	3
Engineer of Highway Control.....	1	3
Traffic Supervisor	1	3
Total.....	35	100

How Division Heads Are Appointed

In 24 of 35 states with traffic engineering or equivalent divisions, the division heads are appointed by officials of the highway department. In the other 11 states, traffic engineering heads are selected on the basis of civil service or merit systems. Thirty-two per cent of the heads are appointed by the state highway engineer or the chief engineer of the highway department. The highway director, or chief highway commissioner appoints the department heads in 23 per cent of the cases. The highway commission makes the appointments in 14 per cent of the cases. Thirty-one per cent are appointed by accepted civil service or merit system techniques.

Minimum qualifications for the positions of heads of the

divisions were reported by 13, or 37 per cent, of the states. It is likely that minimum qualifications and promotional examinations may be used in some of the other states, but were not reported because of policies preventing the general distribution of sample examinations.

Effects of War on Traffic Engineering Organizations

In 7, twenty per cent, of the 35 states normally having traffic engineering divisions, it was found necessary or desirable to discontinue them for the duration of the war.* Acute financial conditions, manpower shortages, and traffic conditions were listed as reasons for discontinuance of these divisions. The degree of discontinuance was highest in Southern and Western States. In each case about one-third of the traffic engineering divisions have been discontinued for the duration. Only one midwestern state and no northeastern states reported discontinuance of these divisions during the war. All departments except two in which the divisions have been discontinued as a war measure indicate definite plans for re-activation of the division as soon as manpower restrictions permit.

In the 7 departments which discontinued traffic engineering divisions during the war, 5 assigned most of the normal functions of these divisions to maintenance departments. In one, the functions are divided between various divisions of the department through the highway engineer's office and, in another, the traffic safety commission of the state is assigned traffic engineering functions.

Persons to Whom Heads of Traffic Divisions Report

In 27 of 35 states, 77 per cent, the head of the traffic engineering or equivalent division reports directly to the state highway engineer. In 4 states, 11 per cent, the traffic head

*At least one state is known to have already re-established the division.

reports to the maintenance engineer, and in only one state, 3 per cent, is the traffic head reporting directly to the commissioner of highways. In the remaining 3 states, 9 per cent, the head of the traffic division reports to some other division head of the highway department, i.e., design engineer, patrol supervisor, and planning director. A study of organization charts furnished by 17 departments shows that most highway directors feel that heads of traffic engineering divisions should report directly to the chief engineering officer of the department, thus placing the responsibilities and functions of the division on a par, insofar as organizational procedures are concerned, with those of other principal divisions.

Salaries

Information on salaries of the heads of traffic divisions was summarized and compared with those of other division heads. Most states did not give the salary ranges (minimum and maximum values), making it necessary to compare only maximum salaries. In Table 33 the "lowest" and "highest" salaries reported by departments which submitted reports are shown along with "average" salaries for various division heads.

TABLE 33
 MAXIMUM ANNUAL SALARIES REPORTED FOR DIVISION HEADS
 OF STATE HIGHWAY DEPARTMENTS

<i>Head of Division</i>	<i>Range of Annual Maximum Salaries</i>		<i>Average Annual Salary</i>	<i>No. States Reporting</i>
	<i>Lowest</i>	<i>Highest</i>		
Traffic (all)	\$2880	\$8250	\$4560	35
Traffic Engineering and Planning Combined	3780	8250	5220	15
Traffic Engineering only.....	2880	5400	4100	20
Highway Planning (all).....	2640	9000	4570	43
Highway Planning only.....	2640	9000	4220	28
Maintenance	3600	9000	5130	43
Construction	3360	9000	5115	40
Materials	3000	8250	4673	40
Design	3600	9000	5014	41

Not all the states gave salary data, but, nevertheless, a wide range is noted. Heads of traffic divisions vary in salary from \$2880 to \$8250 per year with an average of \$4560 in the 35 states reporting. While the range is very close to that of older and more established highway department divisions, i.e., maintenance, construction, and design, the average annual salary is approximately \$500 lower than averages for the older units.

In 15 states, where traffic engineering and highway planning survey functions have been combined, the salaries are generally higher than in the other states. Under these conditions, the lowest salary for the head of the combined functions is \$3780 per year and the highest \$8250. The average is \$5220 per year. This average salary value is the highest of any group reported, the next highest being for maintenance engineers—\$5130.

Considering salaries of division heads responsible for traffic engineering functions alone, a range from \$2880 to \$5400 with an average of \$4100 per year is found. This is the lowest average of any group, the next lowest being for planning heads—\$4220.

Aside from traffic heads, the maintenance engineers are the best paid. They average \$5130 per year with a low of \$3600 and a high of \$9000. Very little difference is noted between salaries of maintenance, design and construction engineers.

Starting salaries for traffic heads go as low as \$1800 per year, with an average of \$3830. This compares with minimum starting salaries of \$2640 for maintenance engineers, \$2010 for planning survey directors and \$3000 for design engineers. Average starting salaries reported are \$4580 for maintenance engineers, \$3930 for planning survey directors, and \$4422 for design engineers. Maximum starting salaries vary from \$7500 per year for maintenance, construction, planning, and design engineers to \$6930 for materials and traffic engineers.

Thirty-one per cent of the heads of traffic departments receive annual salaries ranging from \$3600 to \$4000. Seventy-eight per cent are included in the range from \$3600 to \$5400 per year. Only 20 per cent of the traffic heads earn more than \$5400 per year. Just one state pays the traffic head more than \$7500 per year.

Recapitulations of salaries by geographic regions revealed no significant facts. Contrary to common belief, there was found to be about as wide a range in salaries of division heads in one region of the country as in another. While average salaries are slightly higher in the eastern states, wide fluctuations in minimum and maximum values were reported in all geographical areas.

Traffic Engineering Functions

Twenty-two traffic functions were listed and the various state highway departments were asked to indicate the divisions which handle them. For simplicity, the highway divisions most likely to deal with traffic matters were listed as, (a) Traffic Engineering, or equivalent, (b) Maintenance, (c) Highway Planning, and (d) Design. A space was also provided for the listing of "Other" divisions engaged in traffic work. Where the responsibility is divided, the approximate portion assigned to each division was indicated. Traffic functions are summarized in Table 34. Where a division of the highway department performs both traffic engineering and highway planning functions, its activities have been tabulated under "Traffic Division," not under "Highway Planning."

Traffic Control Devices

Traffic control devices, for the purpose of this study, were listed as signs, signals, and markings. Each function was treated separately in order to determine the differences in responsibilities of various divisions for each.

(a) Traffic Signals. In 18 of 45 states, 40 per cent, total

TABLE 34
TRAFFIC FUNCTIONS IN STATE HIGHWAY DEPARTMENTS

Function	Traffic Division*				Maintenance Division				Highway Planning			
	Performing		Total		Performing		Total		Performing		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic signals	29	64	18	40	20	44	9	20	1	2	0	0
Signs	26	58	13	29	30	67	17	38	0	0	0	0
Roadway markings	22	49	15	33	28	62	20	45	0	0	0	0
Vehicular vol. studies.....	22	49	15	33	1	2	0	0	29	64	22	49
Speed surveys	29	64	25	56	2	4	1	2	15	33	11	24
Origin and destination studies.....	21	47	16	36	0	0	0	0	29	64	23	51
Other traffic surveys	31	69	22	49	2	4	0	0	21	47	12	27
Parking studies	30	67	28	62	2	4	1	2	11	24	10	22
Accident studies	29	64	24	53	6	13	3	7	4	9	2	4
Traffic studies in municipalities.....	23	51	18	40	6	13	4	9	1	2	0	0
Collection of accident reports.....	27	60	21	47	2	4	1	2	21	47	14	31
Complaints (traffic)	28	62	21	47	16	36	7	16	1	2	0	0
Traffic public relations	20	44	10	22	6	13	1	2	2	4	0	0
Permits (weights and sizes).....	7	16	5	11	19	42	18	40	0	0	0	0
Departmental traffic safety	19	42	18	40	6	13	5	11	1	2	0	0
Departmental industrial safety	8	18	7	16	9	20	8	18	0	0	0	0
Rural routing	22	49	15	33	16	36	9	20	1	2	0	0
Municipal routing	23	51	14	31	15	33	7	16	1	2	0	0
Public safety education	14	31	11	24	1	2	0	0	2	4	1	2
Traffic codes and ordinances	23	51	17	38	3	7	1	2	1	2	1	2
Channelization and island design.....	23	51	7	16	2	4	0	0	2	4	0	0
Checking new cons. plans for op. feature	19	42	11	24	3	7	0	0	1	2	0	0
Reconstruction	20	44	12	27	4	9	0	0	1	2	0	0
Engineering studies at high-acc. and congested locations	29	64	23	51	6	13	1	2	5	11	2	4
Overall traffic control in municipalities..	12	27	6	13	4	9	0	0	1	2	1	2
State highway construction in municipalities	23	51	18	40	6	13	2	4	1	2	1	2

*Includes planning survey where activities of traffic engineering and highway planning are combined.

(CONTINUED ON FOLLOWING PAGE)

TABLE 34
TRAFFIC FUNCTIONS IN STATE HIGHWAY DEPARTMENTS

Function	Design Division				Other Divisions				Functions Not Performed By	
	Performing Function		Total Responsibility		Performing Function		Total Responsibility		Highway Dept.	
	No.	%	No.	%	No.	%	No.	%	No.	%
Traffic Signals	3	7	1	2	1	2	1	2	4	9
Signs	1	2	1	2	0	0	1	2	0	0
Roadway Markings	2	4	1	2	0	0	1	2	0	0
Vehicular Vol. Studies.....	1	2	1	2	0	0	0	0	0	0
Speed Surveys	1	2	1	2	0	0	0	0	3	7
Origin and Designation Studies.....	1	2	0	0	0	0	0	0	0	0
Other Traffic Surveys.....	1	2	1	2	0	0	0	0	0	0
Parking Studies	1	2	1	2	0	0	0	0	3	7
Accident Studies	2	4	1	2	9	20	7	16	2	4
Traffic Studies in Municipalities.....	1	2	1	2	11	24	7	16	9	20
Collection of Accident Reports.....	1	2	0	0	1	2	0	0	1	2
Complaints (traffic)	1	2	0	0	8	18	5	11	1	2
Traffic Public Relations.....	0	0	0	0	22	49	17	38	5	11
Permits (weights and sizes).....	0	0	0	0	22	49	19	42	0	0
Departmental Traffic Safety.....	0	0	0	0	10	22	9	20	10	22
Departmental Industrial Safety.....	0	0	0	0	18	40	17	38	12	27
Rural Routing	5	11	4	9	11	24	8	18	0	0
Municipal Routing	3	7	3	7	9	20	6	13	4	9
Public Safety Education.....	0	0	0	0	21	47	18	40	12	27
Traffic Codes and Ordinances.....	1	2	1	2	14	31	10	22	9	20
Channelization and Island Design.....	37	82	20	44	0	0	0	0	0	0
Checking New Cons. Plans for Op. Feature.....	31	69	21	47	0	0	0	0	2	4
Reconstruction	30	67	19	42	0	0	0	0	2	4
Eng. Stud. at high-acc. and Congested locations.....	12	27	4	9	0	0	0	0	5	11
Overall Traffic Control in Municipalities.....	2	4	0	0	17	38	15	33	16	36
State Construction on Highways in Municipalities.....	2	4	0	0	11	24	10	22	8	18

responsibility for traffic signals is with the division carrying out traffic engineering functions. An additional 24 per cent of the states have some part of work on traffic signals performed by traffic engineering or equivalent divisions. In 20 per cent of the states the maintenance division of the highway department has the total responsibility for traffic signals.

(b) Traffic Signs. The traffic divisions of state highway departments do not have as much responsibility for the installation and maintenance of traffic signs as they do for signals. Only 13 of the 45 states, 29 per cent, reported the traffic division as having total responsibility for the work of installing and maintaining traffic signs. Thirty-eight per cent of the states place total responsibility with the maintenance division. In only 2 of the 45 states is the total responsibility with design or divisions other than maintenance and traffic. It was noted that this large difference between the percentage of states in which the traffic division has total responsibility and the percentage in which it has some responsibility is due to the fact that in many cases the traffic division decides where signs shall be located and prepares general specifications as to types and applications, but does not control the actual installation and maintenance which is generally a function of the maintenance division.

(c) Roadway Markings. The marking of highways is largely a responsibility of the traffic and maintenance divisions. The maintenance division assumes a greater portion of the total responsibility for markings than any of the other functions related to traffic control devices. In 45 per cent of the states the work in traffic markings is the total responsibility of the maintenance division. In 33 per cent, the traffic division has the total responsibility. In 2 states the total responsibility is divided between design and other divisions than maintenance and traffic. It is significant that in 4 per cent of the states the design division has some responsibility in connection with pavement markings.

Traffic Surveys

(a) **Vehicular Volume Studies.** Traffic Divisions have the total responsibility for the conduct of vehicular volume studies in 33 per cent of the 45 states. In 49 per cent they have all or partial responsibility. The highway planning survey came to the front in the matter of vehicular volume studies with 49 per cent of the states giving them the total responsibility for such studies. In 64 per cent of the states they have some or all of the responsibility.

(b) **Speed Surveys.** Twenty-five states, 56 per cent, reported the total responsibility for the conduct of speed studies in the traffic division. An additional 8 per cent of the states indicated that part of the responsibility for speed studies was with the traffic division. Highway planning divisions have a much smaller responsibility in speed studies than in volume studies, with only 24 per cent of them having the complete responsibility for speed surveys, and just an additional 9 per cent doing part of the speed survey work.

(c) **Origin and Destination Surveys.** Surveys of the origin and destination of highway traffic are primarily the responsibility of highway planning survey groups, although it is noted that traffic divisions bear a large portion of the responsibility. Fifty-one per cent of the states place the total responsibility in the planning survey, and 36 per cent in the traffic division. In all other states the responsibility for such studies is divided between these two divisions with the addition of assistance from the design division in just one state. In view of recent emphasis placed on origin and destination studies in connection with plans for postwar highway systems, it is interesting that all states reported some work in this connection.

(d) **Miscellaneous Traffic Surveys.** Other traffic surveys such as pedestrian studies, cordon counts, observance studies, mass carrier studies, etc., are performed principally by the traffic division. Forty-nine per cent of the states placed the

total responsibility for these miscellaneous traffic surveys with this division, and in 69 per cent of the states, an additional 20 per cent, the traffic division has a part of the responsibility. As was the case with other traffic studies and surveys, the planning survey assumes a significant place in these miscellaneous studies. In 27 per cent of the states it has the total responsibility and in an additional 20 per cent it has a partial responsibility.

(e) **Parking Studies.** The Traffic Division has a greater responsibility for the conduct of parking and terminal studies than any other traffic survey. In 62 per cent of the states, the total responsibility for such studies is with the traffic division, whereas 22 per cent of the states give the total responsibility to the highway planning division.

Accident Studies

Studies and investigations at high-accident locations are done principally by the traffic division, with 53 per cent of the states giving these divisions total responsibility in such work. In an additional 11 per cent of the states they have a part of the responsibility for such studies. The maintenance division has a higher interest in accident studies than in those surveys discussed above. In 3 of the states, 7 per cent, the total responsibility for studies of high-accident locations is in maintenance, and in 13 per cent of the states they have all or part of the responsibility. Work of the planning survey in accident studies drops very low, with only 2 of the states, 4 per cent, placing total responsibility in planning surveys. In one state the design division has total responsibility for accident studies.

Collection of Traffic Accident Reports

In a surprisingly high percentage of the states, total responsibility for collection of accident reports is in the highway department. Eighteen, or 40 per cent, of the states have total responsibility for collection of these reports in the traffic

division of the highway department. In 4 states, 9 per cent, the total responsibility is in the maintenance division, and in one state in the design division. While it is believed that there was some error in interpreting the function (whether it applied only to reports received by the highway department or to all reports received by any state agency), the values cited, nevertheless, reflect a broad interest and major responsibility for the collection of accident records in highway departments.

Traffic Studies in Municipalities

All except one state reported some work on traffic surveys and studies in municipalities. In many instances these studies were limited to studies of traffic conditions on streets used as state highways. In 47 per cent of the states the total responsibility for studies in municipalities is in the traffic division, and in an additional 13 per cent, making a total of 60 per cent, the traffic division has partial responsibility. Fourteen of the states, 31 per cent, give total responsibility for studies in municipalities to highway planning survey units. In almost half, 47 per cent, of the states the planning surveys have all or a portion of the responsibility. In one state, 2 per cent, the maintenance division is totally responsible for studies in municipalities, and in another state they assist in such studies.

Traffic Complaints

Complaints received relative to traffic operations matters are referred to traffic divisions in 21 states, 47 per cent, for complete handling. In 62 per cent of the states the traffic divisions have some of the responsibility. Because of the maintenance aspects involved, seven states, 16 per cent, place total responsibility in maintenance divisions, with 16 states giving some of the responsibility to maintenance. The planning survey is called upon to assist in only one state.

Public Relations in Traffic Matters

Public relations activities, even on matters relating primarily to traffic, are generally assigned to administrative heads or

administrative divisions of the department. This is evidenced by the fact that 22 of the states, practically one-half of those reporting, have divisions other than those listed on the questionnaire, working on matters of public relations as related to traffic. Five states reported no significant work in traffic public relations matters, leaving the function largely for other state groups such as the police.

Special Permits—Vehicle Sizes and Weights

Responsibility for the issuance of permits to operate over-size vehicles or over-weight vehicles on state highways is assumed primarily by administrative heads. Nineteen states, 42 per cent, have the function performed entirely by administrative groups and departments other than those listed. Approximately one-half of the states have other divisions than traffic, maintenance, planning, and design working on this function. However, in 18 states, 40 per cent, the maintenance division has the total responsibility for the issuance of permits for the operation of over-sized and over-weight vehicles; and in 5 states, 11 per cent, the responsibility has been transferred to the traffic division.

Departmental Safety

(a) Departmental Traffic Safety. Ten of the 45 states, 22 per cent, reported no formal program of traffic safety for employees. Where such programs exist, however, they are principally the responsibility of the traffic division. Eighteen of the states, 40 per cent, indicated that the traffic division has the total responsibility for traffic safety among employees of the highway department. In the maintenance department the total responsibility for employees' safety in traffic is assigned in 5 states, 11 per cent. Twenty per cent of the states place the total responsibility for this activity in other divisions, usually administrative, personnel, or general office divisions.

(b) **Departmental Industrial Safety.** Programs of employees' industrial safety are less popular than those of traffic safety. Twelve of the 45 states, 27 per cent, reported no activity whatsoever in this field. In 8 states the maintenance department assumes the total responsibility for industrial safety activities, and in 7 states, 16 per cent, the total responsibility is with the traffic division. Seventeen, or 38 per cent of the states, place the total responsibility for this work with general administrative divisions.

Routing

(a) **Rural Routing.** The designation of state routes is primarily the responsibility of the traffic division in 15 of the states, 33 per cent. Nine states, 20 per cent, place the total responsibility with maintenance. The design division has total responsibility in 4 states.

(b) **Municipal Routing.** The responsibility for determining routes through municipal areas is the complete responsibility of the traffic division in 14 states, 31 per cent. In 23 states they have all or part of the responsibility. The responsibility of the maintenance division for routing in municipalities is not as great as in rural areas. Six of these states reported routing through municipalities as principally an administrative function.

Public Safety Education

More than one-fourth of the states reported no activity in the highway department in the matter of public safety education. Where performed, it is largely the responsibility of enforcement units attached to the highway commission.

Traffic Codes and Ordinances

All except 9 of the highway departments reported work on traffic codes. Seventeen of the states, 38 per cent, place the principal responsibility for this work in the traffic divisions. In another 6 states, making a total of 51 per cent, this divi-

sion has part of the responsibility. In one state the total responsibility is with maintenance, and in 2 additional states the maintenance division assists in this work. Highway planning survey units have the total responsibility for work in the highway department on traffic codes, in one state. In one state the total responsibility for this work is in the design division, and in 10 states, 22 per cent, it is the function of other divisions, principally enforcement groups attached to the highway department.

Channelization and Island Design

While traffic divisions have some responsibility for the design of traffic islands in one-half of the states, they have complete responsibility for the design of such islands in only 7, or 16 per cent. As expected, the principal responsibility for the design of traffic islands is in the design division. Twenty states, 44 per cent, place the total responsibility there, and in 82 per cent of the states all or part of the responsibility is vested in that division.

Checking Road Plans for Operational Features

The states were requested to indicate whether or not road plans were checked for safety and operational features by various divisions of the highway department.

(a) New Construction. The responsibility for checking new construction plans for operational and safety features follows almost exactly the same distribution as that of channelization and island design. The total responsibility was slightly higher in the case of the traffic division for the checking of new construction plans, with 11 states, 24 per cent, having such complete responsibility. The design division continued to have the major responsibility, with 21 states, 47 per cent, giving them complete authority for the checking of new construction plans for operational features, and in 69 per cent of the states they have all or part of the responsi-

bility. It is interesting to note that 2 states, 4 per cent, reported no fixed procedure for the checking of new construction plans. It is assumed in such cases that the responsibility for the development and the checking of the plans rests with the design division.

(b) Reconstruction Plans. The checking of plans for roadway reconstruction follows almost the identical pattern as that of checking new construction plans. Forty-two per cent of the states place the total responsibility in the design division, 27 per cent in the traffic division, and 2 states, 4 per cent, report no activity. The work of the maintenance division increased slightly in this function, with 4 states, 9 per cent, reporting some assistance on its part.

Special Accident and Congestion Studies

One-half of the states place total responsibility for making traffic and accident studies at points of high-accident frequency, or acute congestion, in the traffic division. One state gives total responsibility for high-accident and congestion studies to maintenance. Highway planning surveys have the total responsibility in 2 states. The design division has total responsibility in four states, 9 per cent. Five states, 11 per cent, reported no functional plans for the conduct of such studies, although several of these indicated that it was principally the function of enforcement groups attached to the highway department.

Traffic Control in Municipalities

(a) Overall Control in Municipalities. Overall control of traffic in municipalities is not generally assigned to state highway departments. Thirty-six per cent of the states reported that they had no control over the regulation of traffic in municipalities; 38 per cent of the states indicated some control over traffic control devices in municipalities by divisions other than traffic, maintenance, planning, and design.

It was evident that the control is not generally practiced in the true legal sense except where it is vested in traffic commissions or special state agencies which have this as their principal activity in state government. In 6 states, however, the total responsibility of highway departments for the control of traffic control devices in municipalities is in the traffic division.

(b) **Traffic Control on State Highways in Cities.** All except 8 of the states, 18 per cent, reported some legal authority to regulate traffic control devices on state highways through municipalities. Eighteen of the states, 40 per cent, place the total responsibility for the highway department's control of such devices with the traffic division; two of the states, 4 per cent, with the maintenance division; one of the states, 2 per cent, gives the total responsibility to the planning division; and 10, or 22 per cent, place it with other divisions.