

ANNUAL REPORT

1956

TRAFFIC ENGINEERING DEPARTMENT

CITY OF PROVIDENCE



CITY OF PROVIDENCE • RHODE ISLAND • Walter H. Reynolds • Mayor

TRAFFIC ENGINEERING DEPARTMENT

ROGER T. CHANDLER
Traffic Engineer
EDWIN F. COLBY
Assistant Traffic Engineer

147 Fountain Street
Providence 3, R. I.

January 30, 1957

The Honorable Walter H. Reynolds
Mayor of Providence
The Honorable City Council
City Hall
Providence, Rhode Island

Gentlemen:

Submitted herewith is the Annual Report of your
Traffic Engineering Department for 1956.

The report reviews the activities of this
department with respect to physical changes that have been
made in the street system, changes in regulations, a
review of department organization, and a summary of the
expenditures made in the traffic signal bond money, as
well as a summary of expenditures of the annual budget.

With your continued support, this department
will continue in its efforts to make the best possible use
of our existing streets and to minimize as much as possible
the traffic disruptions necessary as a result of the major
new construction now taking place.

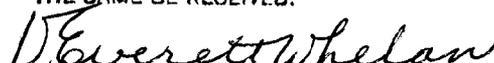
Respectfully submitted,


Roger T. Chandler
Traffic Engineer

RTC:EM

IN CITY COUNCIL
FEB 21 1957

.....
READ:
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.


CLERK

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City of Providence
TRAFFIC ENGINEERING DEPARTMENT
147 Fountain Street

Part I

Introduction

Construction is under way on portions of a highway network that will eventually serve as the major traffic distribution system of the City. Stage one of the North-South Freeway from George M. Cohan Memorial Boulevard to Hayward Park is the first segment of this network. Certain portions are already in service, and additional sections will be completed in 1957.

The Louisquisset Pike from the intersection of Admiral and Charles Streets to the City line is also under construction at the present time.

Plans are now being drawn for the rebuilding to expressway standards of Huntington Avenue as an extension to the Roberts Expressway in Olneyville.

Similar projects to these must be constructed as soon as possible in order to have a coordinated major arterial distribution system.

	<u>Population</u>		<u>Vehicle Registration</u>		<u>Motor Fuel Purchased (State)</u>
	State	Providence	State	Providence	
1800	69,122	7,614			
1850	147,545	41,513			
1900	428,556	175,597			
1910	542,610	224,306	5,970		
1925	679,260	267,918	104,390		
1930	687,497	252,981	138,573		86,606,713 gallons
1941	713,346	253,504	202,829		155,053,000 gallons
1943	---	---	177,396		89,197,000 gallons
1945	---	---	183,419		101,449,998 gallons
1950	791,896	248,674	254,400	64,000	172,155,000 gallons
1951	---	---	260,000	68,000	175,782,000 gallons
1952	---	---	282,000	70,000	185,066,000 gallons
1953	---	---	296,226	71,000	199,491,596 gallons
1954	---	---	310,004	68,733	215,862,000 gallons
1955	---	---	315,390	72,382	232,454,306 gallons
1956	---	---	323,947	74,817	*236,500,000 gallons

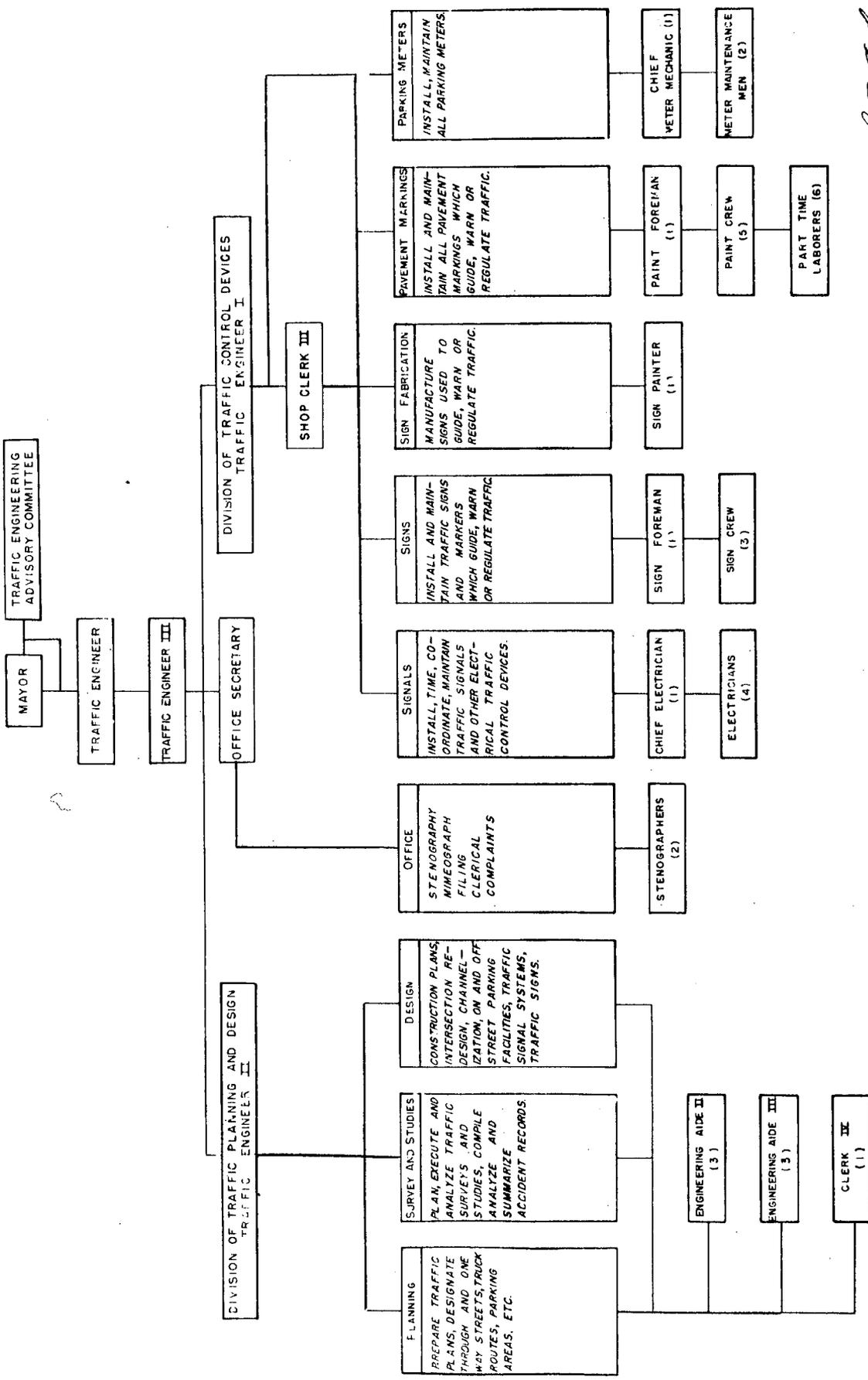
*December estimated

Average Daily Traffic Volumes

10 A.M. - 6 P.M.
Weekday Volumes

	<u>On Point Street Bridge</u>	<u>On Washington Bridge</u>	<u>Entering and Leaving Central Business District</u>
1947	36,800		122,500
1948	34,200		127,300
1949	37,500		128,000
1950	40,500		126,500
1951	42,000	37,658	124,500
1952	43,000	35,845	133,800
1953	41,600	35,296	133,800
1954	42,667	39,954	147,500
1955	40,483	38,000	146,100
1956	---	---	146,100

CITY OF PROVIDENCE
TRAFFIC ENGINEERING DEPARTMENT



REVISED 12-31-56
DATE

[Signature]
TRAFFIC ENGINEER

MHS

Part II

Traffic Engineering Department Organization

General Organization

The Traffic Engineering Department was authorized by City Council Ordinance in October, 1948, and the department was activated on March 1, 1949, with the appointment of a Traffic Engineer, the reassignment of other maintenance personnel, and the use of a separate budget. The Traffic Engineer is appointed by the Mayor with confirmation of the City Council. To assist in forming advisory policy, the Ordinance established the Traffic Engineering Advisory Committee composed of the members of the official City family. The members include:

Mayor Walter H. Reynolds, Chairman
John J. Cashman, Finance Director
William E. McCabe, City Solicitor
John E. Murphy, Chief of Police
Charles F. McElroy, Director of Public Works
Ralph Matera, Chairman of the City Council's Committee of
Public Works
Frank H. Malley, Director, City Plan Commission
Peter J. Hicks, Jr., Public Service Engineer

On June 16, 1953, Mayor Reynolds appointed Roger T. Chandler as Traffic Engineer, replacing Dwight T. Myers, who resigned at the termination of a year's leave of absence. Edwin F. Colby was appointed as the Assistant Traffic Engineer, with John I. Logan in charge of the Planning and Design Division and Clinton F. Adams in charge of the Maintenance and Operations Division.

Inter-Department Activities

It is essential to the efficient operation of the transportation system in the City that close cooperation be continued between all

departments of City and State governments having some responsibility in developing and maintaining the transportation system. The other departments most affected are the Police, Public Works, City Plan Commission, the Redevelopment Agency at the City level, and the Traffic Engineering Department of the Rhode Island Department of Public Works at the State level.

Civic and Business Organizations

One of the responsibilities of this department is to work closely with all business and civic organizations in operating the transportation system of the City. Organizations such as the United Transit Company, the Chamber of Commerce, the Retail Trade Board, the Automobile Club of Rhode Island, and the Rhode Island Truck Owners Association are only a few of the many groups with which the department has repeated contact. Other groups, such as, the various businessmen's organizations, are frequently contacted when they have some specific problem to discuss or the department wants to acquaint the members with the details of some plan under consideration. This phase of the department's activities is important in expanding sound public relations among the various users of the transportation system. Newspaper releases, radio, and television appearances have also been made to extend to the general public as far as possible all available information concerning the plans and proposals of the department.

Budget

The accompanying breakdown indicates the manner in which the money appropriated for this department's use during the past year has been spent.

Budget 1955-1956

<u>Item</u>	<u>Original Appropriation</u>	<u>Additional Appropriation</u>	<u>Transfer</u>	<u>Spent</u>	<u>Returned General Fund</u>
0	\$126,842.00			\$122,422.02	\$2,354.98
I	30,034.00			27,211.95	2,822.05
II	32,525.00		\$2,533.61	35,062.13	16.48
V	3,150.00	\$3,000.00		5,661.39	
	<u>\$192,551.00</u>	<u>\$3,000.00</u>	<u>\$2,533.61</u>	<u>\$190,357.49</u>	<u>\$5,193.51</u>

Breakdown of Operating Budget

Item 0 - Salaries \$122,422.02

Item I - Services Other Than Personal

Narragansett Electric Company	\$ 21,537.25
Other	5,674.70
	<u>\$ 27,211.95</u>

Item II - Materials and Supplies

Maintenance Materials for Office and Shop	\$ 1,400.00
Repair Parts for Traffic Control Equipment	3,100.00
Materials for Sign Construction and Erection	9,600.00
Street Painting Materials	15,200.00
Repair Parts for Parking Meters	1,500.00
Other	4,262.13
	<u>\$ 35,062.13</u>

Item V - Plant Equipment

2 Four-Door Sedans	\$ 2,693.00
Walk-in Panel Delivery Truck	2,797.75
Other	170.64
	<u>\$ 5,661.39</u>

The total amount spent during the past fiscal years:

1949 - 1950	\$197,892.94
1950 - 1951	\$256,929.83
1951 - 1952	\$199,033.32
1952 - 1953	\$190,729.31
1953 - 1954	\$188,991.09
1954 - 1955	\$200,451.25
1955 - 1956	\$190,357.49

Signal Installation Loan

Of the \$400,000 bond authorized by the voters in November, 1950, \$380,775.45 has been spent as of December, 1956, leaving an unexpended balance of \$19,224.55. The following lists show work and equipment purchased under this bond to date:

Traffic Signal
Intersections Rebuilt

Branch and Charles
Broad and Winter
Broad and Summer
Broad and Franklin
Broad, Weybosset, and Empire
North Main and Matilda
Point and Plain
Prairie and Public
Exchange Place and West Approach
Exchange Place and Dorrance
Exchange Place and Exchange Terrace
Exchange Place and Exchange Street
Elmwood and Reservoir
Elmwood and Westfield
Elmwood and Bellevue
Elmwood and Daboll
Elmwood and Greenwich
Elmwood and Potters
Elmwood and Carter
Elmwood and Earl
Elmwood and Adelaide
Elmwood and Sackett
Elmwood and Roger Williams
Elmwood and Roger Williams Park
Elmwood and Depew
Elmwood and Thurston
Reservoir and Adelaide
Reservoir and Narragansett
Reservoir and Ardoene
Reservoir and Roger Williams
Reservoir and Pontiac
Reservoir and Niantic

New Installations of
Traffic Signal Equipment

Branch and Silver Spring
Acorn and Kinsley
Acorn and Promenade
Acorn and Harris
Eaton and River
Washington and Eddy
Washington and Union
Washington and Mathewson
Washington and Empire
Westminster and Union
Westminster and Mathewson
Westminster and Empire
Weybosset and Union
Fountain and Mathewson
Hartford and Killingly
Huntington and Union
Prospect and Waterman
Exchange Place and Washington Row
Weybosset and Richmond
Waterman and Brook
Angell and Brook
Hope and Doyle
Friendship and Lockwood
Friendship and Summer
Friendship and Beacon
Friendship and Richmond
Friendship and Chestnut
Friendship and Dorrance
Pine and Dorrance
Pine and Richmond
Pine and Chestnut
Pine and Beacon
Pine and Summer
Pine and Lockwood
North Main and Mill
North Main and Smith
Smith and Canal
Benefit and Wickenden
Eddy and Richmond
Pocasset and Webster
Eddy and Public
Elmwood and Earl
Elmwood and Carter

Equipment Purchased for Replacement and Installations by
Traffic Engineering Department

1,000 feet single conductor service cable

25,000 feet three conductor cable

45,000 feet seven conductor cable

5,100 feet steel conduit

167 vehicle detectors

178 steel poles

235 signal heads

24 signal controllers

620 pole clamps

34 pickup relays

Part III

1956 Activities

1. Traffic Construction Program

New three-dial signal controller equipment was installed to replace obsolete controllers at thirteen locations on Elmwood Avenue and at six locations on Reservoir Avenue. Each street has its own master controller so that the intersections along the street maintain a timing relationship to permit a progressive flow of traffic. Since the new machines have three separate dial units, a progressive flow is established favoring the inbound traffic during the morning peak traffic flow. Another progressive flow is established for outbound traffic during the afternoon peak traffic flow and still another for the average condition throughout the rest of the day. These changes, which occur daily, are automatically governed by time clocks placed in the master controllers. The flexibility offered by this new equipment has greatly improved the traffic flow along these two major arteries and makes it possible to maintain better coordination between signal timing and traffic volumes as variations take place.

A new traffic signal controller with pedestrian signals was installed at the intersection of Broad Street and Montgomery Avenue. This installation was made by personnel from this department and from the City of Cranston working jointly, since the location is on the Cranston-Providence City line. Both cities shared in the cost of the equipment.

For the construction of the North-South Freeway, the traffic signals at Benefit Street and Wickenden Street and at Bridge Street and South Main Street were removed from service when a new detour system around

this area was opened. In order to control the cross traffic on this new detour system, the Traffic Engineering Department installed traffic signal control. This signal will remain in operation until the detour system is abandoned in the coming year.

The traffic signal at Friendship Street and Beacon Avenue was removed from service and rebuilt to conform to the new roadway patterns constructed in the Hayward Park area as a part of the North-South Freeway construction. At the same time the signal at Chestnut Street and Friendship Street was removed permanently from service, and a new traffic signal installation was made at Chestnut Street and Clifford Street. This change was required by the closing of Friendship Street for Freeway construction.

During the reconstruction of Hope Street from Lloyd Avenue to the City line, a new traffic actuated signal was installed at the intersection of Hope Street and Olney Street; and the existing traffic signal at Hope Street and Rochambeau Avenue was rebuilt with new traffic actuated equipment.

2. Off-Street Parking

In October the Superior Court filed a decision rejecting the injunction suits of the Remington Realty Company and the Central Parking Realty Company. Although the decision has been appealed to the Supreme Court, the favorable decision in the Superior Court is a major step toward the ultimate goal of building off-street parking garages in the central business district. Until this case is completely settled, no further action can be taken by the City in providing additional off-street parking space.

3. Sign, Signal, and Painting Maintenance

The steady increase in traffic volumes is reflected in a steady increase in traffic maintenance requirements.

a. Traffic Signs

The number of signs manufactured and installed in 1956 shows a significant increase over the years 1955 and 1954 as shown by the comparison of the following figures:

	<u>1956</u>	<u>1955</u>	<u>1954</u>
Signs installed	7057	5310	6129
Damaged or missing signs replaced	5293	3017	4140
Steel sign posts installed	1022	944	1997
Movable standards placed	366	233	35
Parking meter posts set or replaced	203	206	108

Signs Manufactured

Reflectorized

Wood blanks	661	767	503
Steel blanks	4	47	155
Masonite	<u>1</u>	<u>20</u>	<u>94</u>
	666	834	752

Painted

Wood blanks	3565	3147	1068
Steel blanks		20	170
Masonite	1563	376	3078
Harborite - (plastic coated wood)	<u>311</u>	—	—
	5439	3543	4316

The function of the sign installation department is the clear and adequate signing of those sections of streets affected by new traffic regulations and the proper maintenance of all the existing signing. The maintenance operation is one of the most important

duties of this department, as a damaged or missing sign may cause confusion and congestion of traffic or even a serious accident. Therefore, sign trouble calls are given high priority on the work schedule. Some of the other duties of this department are installation and maintenance of parking meter posts, sidewalk pedestrian chains, and traffic barriers. Another phase of this operation is a preventative maintenance program consisting of periodic sign pole painting and street-by-street replacement of faded or illegible signs.

b. Traffic Signals

The following is a summary of traffic signals operating in Providence as of December of each of the years shown:

	<u>1956</u>	<u>1955</u>	<u>1954</u>
Intersections controlled by Vehicle actuated equipment			
City owned	55	58	47
Leased	—	—	<u>8</u>
	55	58	55
Fixed time equipment	<u>103</u>	<u>99</u>	<u>96</u>
	158	157	151

All of the traffic signal equipment operating in the City of Providence is now owned by the City. The last of the leased equipment was purchased from the Automatic Signal Company in 1955.

The maintenance of a traffic signal system in proper working condition is a twenty-four operation. The electricians responsible for signal maintenance are therefore required to operate on a

stand-by basis to receive trouble calls during all non-working hours.

The following tabulation indicates the types of trouble calls received during 1956:

Mechanical or electrical trouble	494
Lamps burned out	99
Damage to equipment	72
No trouble found	<u>119</u>
Total	784

Of the 784 calls received, 256 were received during non-working hours.

Although 24-hour trouble duty is a necessary and important part of proper signal maintenance, it is only one phase of maintenance operations. Most of the working day is spent in the performance of various activities connected with a preventative maintenance program designed to reduce trouble calls to a minimum and to prolong the life of the equipment. This program includes painting signal poles, painting equipment, cleaning signal lenses and reflectors, changing signal lamps, and shop overhaul of signal controllers--all of which is repeated periodically.

c. Painting

As the volume of traffic grows, the more important the marking of our streets becomes. Following is a tabulation showing a comparison of the amount of work done in this category in the years 1954, 1955, and 1956:

	<u>1956</u>	<u>1955</u>	<u>1954</u>
Gallons of reflectorized paint used	4446	4154	3730
Miles of streets marked	96	94	86
Number of different streets marked	133	124	100
Number of intersections marked with crosswalks	662	675	636

Street painting is a warm weather project because of the inherent characteristics of the painting machines and marking material. The work is scheduled to present a minimum of interference with the orderly flow of traffic; therefore, most of the streets must be painted at night.

During the 1956 season two crosswalk crews and one lane line crew worked a night shift, and one crosswalk crew worked the regular day shift. The work schedule is arranged in accordance with a priority list.

During the off season members of the paint department prepare traffic sign blanks for the sign manufacturer and assist the signal and sign crews with their maintenance programs.

4. Complaints and Requests

Complaints and requests originating from individual citizens constitute an important part of the field investigation work of the department.

Upon receipt of either a complaint or request for some traffic control measure, a thorough field investigation and office review is completed and action taken where necessary.

The following breakdown indicates the categories into which complaints and requests received in the past three years may be compiled.

	<u>1956</u>	<u>1955</u>	<u>1954</u>
Parking problems	218	241	288
Loading zones	67	65	79
Intersection control	3)	10)	6)
Stop control	43)	54)	91)
Yield control	7)	12)	10)
Traffic signals	9) 62	19) 95	25) 132
One way streets	7	8	14
Miscellaneous	<u>64</u>	<u>111</u>	<u>79</u>
	418	520	592

The disposition of these investigations is indicated in the following tabulation:

	<u>1956</u>	<u>1955</u>	<u>1954</u>
Requests granted	40%	40%	46%
Requests granted in part or alternate action	3%	3%	3%
Requests denied	33%	40%	37%
Requests pending	11%	7%	10%
Closed by request of complainant	<u>13%</u>	<u>10%</u>	<u>4%</u>
	100%	100%	100%

5. Changes in Traffic Regulations

For 1956 a total of 488 traffic regulation changes were made on the City streets as shown on the following list. These changes were brought about by changes in the traffic flow, including temporary regulations during construction periods, as well as a result of complaints and requests.

Changes in Traffic Regulations

	<u>Established</u>	<u>Rescinded</u>
Parking Prohibited in Designated Places	69	16
No Parking 7 a.m. to 6 p.m.	4	
No Parking 7 a.m. to 4 p.m.	1	
No Parking 7 a.m. to 9 a.m.	3	
No Parking 8 a.m. to 6 p.m.	12	2
No Parking 8 a.m. to 4 p.m.	3	
No Parking 8 a.m. to 10 a.m.	10	17
No Parking 9 a.m. to 3 p.m.	1	
No Parking 6 p.m. to 12 midnight	1	
30 Minute Parking 8 a.m. to 6 p.m. - or similar time limits	3	5
One Hour Parking 8 a.m. to 6 p.m. - or similar time limits	17	5
Two Hour Parking 8 a.m. to 6 p.m. - or similar time limits	47	5
Three Hour Parking 8 a.m. to 6 p.m. - or similar time limits	13	
No Parking to Corner	42	17
No Stopping, Standing to Corner	2	1
No Parking - Hackney Stand	2	1

	<u>Established</u>	<u>Rescinded</u>
Temporary Cab Stand	1	
Yield control	13	1
Stop control	33	5
Traffic signal control	7	3
No Stopping - Bus Stop	3	4
No Parking - Bus Stop	7	
No Parking - Bus Zone 7 a.m. to 9 a.m., 4 p.m. to 6 p.m.	4	
Loading Zones	28	8
No Standing 7 a.m. to 9 a.m.	14	
No Standing 3 p.m. to 6 p.m.	7	
No Standing 4 p.m. to 6 p.m.	15	
One-way street	2	
Emergency one-way street	10	2
Right Turn Only	1	
No Left Turn	1	
No Left Turn 7 a.m. to 9 a.m.	2	
No Left Turn 4 p.m. to 6 p.m.	2	
No Parking Between Signs	6	
No Parking Between Signs 7 a.m. to 6 p.m.	1	
No Parking Between Signs 7 a.m. to 4 p.m.	2	
No Parking Between Signs 8 a.m. to 6 p.m.	2	
Through street	4	
Through Yield street	<u>1</u>	
	396	92
	<u>92</u>	
	488	

6. Parking Meters

Parking meter maintenance consists of meter winding, trouble calls, post straightening, and preventative maintenance. Trouble calls are usually the result of mechanism failures or during the winter of freeze-ups. These calls are serviced immediately, and repairs are completed in the field if possible. The preventative maintenance program is designed to reduce these trouble calls to a minimum by a periodic complete cleaning and overhaul of each meter mechanism.

During 1956, 58 metered locations were lost because of the North-South Freeway construction; while 60 metered locations were lost to

Part IV

Planned Activities for 1957

Traffic Planning

Full cooperation will be extended by this department to all agencies, particularly the Rhode Island Department of Public Works, for the planning and construction of all new highway facilities within the City limits. Maintaining existing traffic flow through construction areas by means of detours and temporary roadways will be an important phase in traffic operations. Tighter restrictions in parking regulations and turning movements along major streets will be needed to keep pace with the increasing traffic loads.

Traffic Signals

With increased traffic plus a rise in intersection accidents, the need for checking locations for traffic signal installation is ever constant. There are several intersections that will be reviewed for possible signalization during 1957.

Modern Bus Stops

In order to permit a freer flow of traffic along our major arteries, it is necessary to assign curb space for busses to load and unload so that they can be removed from the traffic stream. Many locations have already had modern-type bus stops established. Additional main arteries will be included in the bus stop modernization program for 1957.

Parking Meters

Parking meters will be installed in those areas of high demand adjacent to the North-South Freeway as soon as the construction is completed. There are other sections of the City where parking meters offer a possible solution to local parking problems.

CITY CLERK OFFICE
PROVIDENCE R.I.