ANNUAL REPORT 1955

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.

February 14, 1956

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 1955.

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, the program of this department will be directed towards making the best possible use of the existing street system, and towards planning new major traffic facilities.

Respectfully submitted,

Roger T. Chandler
Traffic Engineer

RTC:gd

IN CITY COUNCIL
MAR 15 1956
READ:
WHEREUPON IT IS ORDERED THAT THE SAME BE RECEIVED.
Everett Whelan
CLERK

CONTENTS

City of Providence
TRAFFIC ENGINEERING DEPARTMENT
147 Fountain Street

Part I

Introduction

Existing traffic facilities are becoming saturated. This condition is being experienced by thousands of motorists at many locations throughout Providence nearly every day. The capacity of the antiquated street system is being taxed beyond its practical limits. Even more stringent rules and regulations will not provide a complete solution to the problem. The answer lies in the construction of new facilities designed not only for present traffic needs but also with a reserve capacity sufficient to meet the anticipated needs of the future.

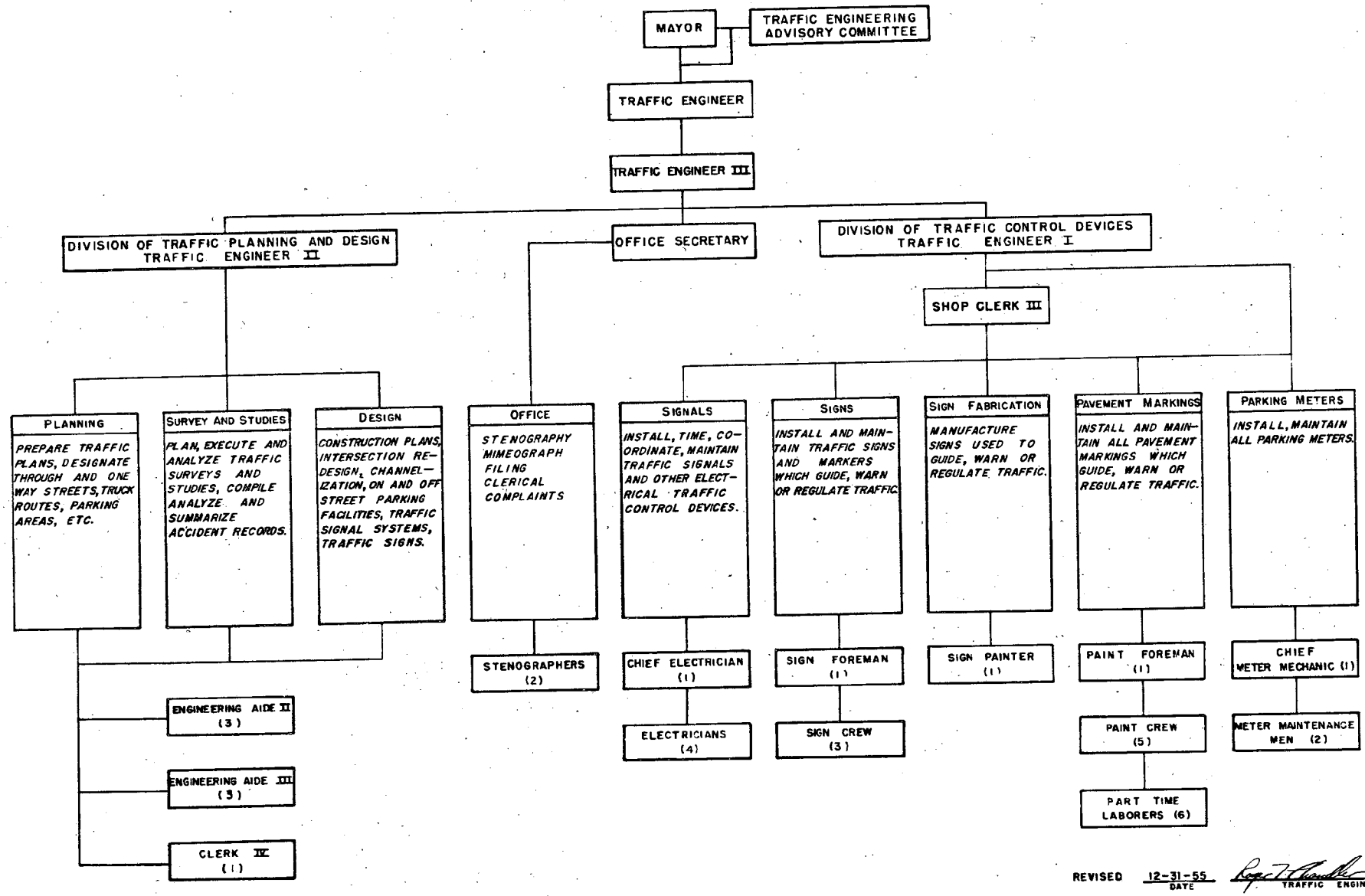
The first major start toward solving the problem was made in 1955 with the awarding of contracts and the start of construction on the North-South Freeway from George M. Cohan Boulevard to Hayward Park, including a new Providence River Bridge. The right-of-way for the Louisquisset Pike has been purchased, and early construction is scheduled. The Huntington Avenue Expressway is still in the planning stage, but is planned to connect the Roberts Expressway southerly to Reservoir Avenue. These and other major highway facilities are the only answers to existing traffic demands and the anticipated traffic increase of 6 per cent annually.

To avoid possible major catastrophies as well as the more usual delays and inconveniences occasioned by traffic jams, construction of all these important traffic facilities must be completed at the earliest possible date.

	Population		Vehicle Registration		Motor Fuel Purchased
	State	Providence	State	Providence	(State)
1800	69,122	7,614			
1850	147,545	41,513			
1900	428,556	175,597			
1910	542,610	224,326	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	185,086,000 gallons
1953	---	---	296,226	71,000	199,191,596 gallons
1954	---	---	310,004	68,733	215,862,000 gallons
1955	---	---	315,390	72,382	232,454,306 gallons

	Average Daily Traffic Volumes		10 A.M. - 6 P.M. Weekday Volumes
	On Point Street Bridge	On Washington Bridge	Entering and Leaving Central Business District
1947	36,800		118,100
1948	34,200		122,800
1949	37,500		124,500
1950	40,500		125,100
1951	42,000	37,658	125,500
1952	43,000	35,845	126,200
1953	41,600	35,296	131,000
1954	42,667	39,954	147,540
1955	40,483	38,000	140,300

CITY OF PROVIDENCE
TRAFFIC ENGINEERING DEPARTMENT



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TRAFFIC ENGINEER

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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 depart-

ments 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 newly formed 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, and 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 1954-1955

	Original Appropriation	Transfer	Spent	Returned General Fund
O	$128,005.76		$120,451.23	$5,554.53
I	31,508.00		30,313.15	1,194.85
II	33,475.00	$2,000.00	34,790.37	684.63
V	15,995.00		14,896.50	1,098.50
	$208,983.76		$200,451.25	$8,532.51

Breakdown of Operating Budget

Item 0 - Salaries	$120,451.23
Item I - Services Other Than Personal	
Automatic Signal Company (rental)	$ 2,693.19
Narragansett Electric Company	20,935.64
Other	6,684.32
	$30,313.15
Item II - Materials and Supplies	
Maintenance Materials of Office and Shop	$ 2,300.00
Repair Parts for Traffic Control Equipment	4,400.00
Materials for Sign Construction and Erection	8,000.00
Street Painting Materials	15,000.00
Other	5,090.37
	$34,790.37
Item V - Plant Equipment	
Cab over Engine Truck Chassis and Cab	$ 2,187.06
Cushman Truckster	814.65
Engines and Compressor	207.79
Telescopic Single Leg Derrick	288.00
Automatic Signal Equipment - 5 locations	750.00
225 Parking Meter Mechanisms and 50 GS4 Parking Meters	9,711.75
Traffic Counting Equipment	422.65
Other	513.60
	$14,896.50

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

Signal Installation Loan

Of the $400,000 bond authorized by the voters in November, 1950, $368,617.97 has been spent as of December, 1955, leaving an unexpended balance of $31,382.03. 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

Under Contract

12 Intersections on Elmwood Avenue
6 Intersections on Reservoir Avenue

Equipment Purchased for Replacement and Installations by Traffic Engineering Department

1,000 feet single conductor service cable

25,000 feet 3 conductor cable

45,000 feet 7 conductor cable

5,100 feet steel conduit

160 vehicle detectors

178 steel poles

220 signal heads

21 signal controllers

620 pole clamps

30 pickup relays

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

Part III

1955 Activities

1. Traffic Construction Program

The existing traffic signals on Broad Street at Winter Street, Summer Street and Franklin Street were rebuilt with new fixed-time equipment, and these signals were then interconnected to the existing signals on Pine and Friendship Streets as well as to the downtown signal system.

The traffic signal at Branch Avenue and Charles Street was rebuilt with a new traffic actuated controller, and additional signal heads were installed. A new vehicle actuated signal was installed at the intersection of Branch Avenue and Silver Spring Street.

New vehicle actuated traffic signals plus new concrete islands for channelizing traffic movements were installed at Acorn Street and Harris Avenue, Acorn Street and Kinsley Avenue, Acorn Street and Promenade Street, and at Eaton Street and River Avenue.

2. Off-Street Parking

Even though the construction plans for the City-owned parking garage at Pine, Page, Friendship, and Garnet Streets have been completed for over a year, no construction progress was made in 1955. The owners of the property secured a restraining order preventing the City from condemning the land. The case is scheduled to be heard in the Superior Court in January, 1956. A considerable amount of staff time has been spent during the past year in collecting and analyzing information to be used in the pending court action.

During the past year additional off-street parking spaces have been provided by private operators. One operator converted a parking lot into

a two level parking deck with a resulting net increase of 93 spaces. Other operators provided 291 new off-street spaces in the Central Business District through the removal of buildings. Private off-street spaces were also increased by 52 spaces. The total increase of 336 off-street spaces was, however, offset by the loss of 440 spaces by condemnation for construction of the North-South Freeway. In 1956 a further loss of off-street spaces will be experienced as the construction of the Freeway progresses.

3. Sign, Signal, and Painting Maintenance

The increases in traffic volumes have necessarily resulted in increases in traffic regulations which required additional street signing, signals, and paint markings.

a. Traffic Signs

The following tabulation of signs manufactured and installed as compared to 1954 and 1953 indicates the amount of work accomplished in this activity.

	1955	1954	1953
Signs installed	5310	6129	4925
Damaged or missing signs replaced	3017	4140	2970
Steel sign posts installed	944	1997	1069
Movable standards placed	233	35	82
Parking meter posts set or replaced	206	108	170
Signs manufactured			
Reflectorized on wood blanks	767	503	674
steel blanks	47	155	121
masonite	20	94	-
	834	752	795
Painted on wood blanks	3147	1068	2676
plastic blanks	-	-	500
steel blanks	20	170	608
masonite blanks	376	3078	462
	4377	4316	4246

b. Traffic Signals

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

	1955	1954	1953
Intersection controlled by			
Vehicle actuated equipment			
City owned	58	47	44
Leased from Automatic Signal Co.	-	8	11
	58	55	55
Fixed time equipment	99	96	82
	157	151	137

In 1955 the City purchased all signal equipment that was formerly leased from the Automatic Signal Company. This is the first time since the original traffic signal installation in the City of Providence in 1928 that the City has had no leased traffic signal equipment.

The maintenance of a traffic signal system in proper working condition is a twenty-four hour 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. A total of 898 trouble calls were received, of which 341 were answered during non-working hours.

The following tabulation indicates the types of trouble calls received.

Mechanical or electrical trouble	440
Lamps burned out	191
No trouble found	153
Damage to equipment	114

C. Painting

The proper and effective marking of our streets continues to be a major maintenance function. The following tabulation indicates the amount of work done in this category.

	1955	1954	1953
Gallons of reflectorized paint used	4154	3730	3586
Miles of streets marked	94	86	83.5
Number of different streets marked	124	100	99
Number of intersections marked with crosswalks	675	636	532

4. Complaints and Requests

Individual citizen's complaints and requests constitute an important part of the field investigation work of the department. Each of these complaints or requests is given a thorough field investigation and office review.

The following list shows the type of complaint or request received for investigation during the last three years.

	1955	1954	1953
Parking problems	241	288	311
Loading zones	65	79	111
Intersection control - 10)		6)	5)
Stop control - 54)		91)	81)
Yield control - 12)	- 95	10) - 132	14) - 127
Traffic signals - 19)		25)	27)
One way streets	8	14	6
Miscellaneous	111	79	70
	520	592	625

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

	1955	1954	1953
Requests granted	40%	46%	38%
Requests granted in part or alternate action	3%	3%	6%
Requests denied	40%	37%	43%
Requests pending	7%	10%	9%
Closed by request of complainant	10%	4%	4%
	100%	100%	100%

5. Changes in Traffic Regulations

A total of 540 changes in traffic regulations were made during 1955 as shown below. These regulation changes were brought about by changes in the traffic flow as well as a result of complaints and requests.

Changes in Traffic Regulations

	Established	Rescinded
Parking prohibited in designated places	43	14
No parking to corner	59	19
No parking between signs	13	5

	Established	Rescinded
No parking 7 a.m. to 4 p.m. or similar time limits	19	10
30 minute parking 8 a.m. to 6 p.m. or similar time limits	7	2
One hour parking 8 a.m. to 6 p.m. or similar time limits	10	17
Two hour parking 8 a.m. to 6 p.m. or 4:30 p.m.	20	1
Three hour parking 8 a.m. to 6 p.m.	5	2
No standing 4 p.m. to 6 p.m. or similar time limits	12	2
Through streets	5	
Parking meter locations	6	
12 minute parking	1	
No stopping, standing to corner	4	4
Traffic signal control	6	
Stop control	47	3
Yield control	8	3
One way streets	2	
Bus stops	114	14
Loading zones	24	17
No left turn 4 p.m. to 6 p.m.	19	
No parking bus zone	1	
No turn	2	
	427	113

6. Parking Meters

During 1955 all of the parking meters were converted from a box-type collection to a dump-type collection. This change greatly facilitated the task of coin collection.

New parking meter mechanisms were purchased to replace 225 obsolete mechanisms, thus changing the entire parking meter system to the improved model.

New parking meter installations were made in 1955 as follows:

Street Name	From	To	No. of Meters
Jackson Street	Carpenter	Westminster	36
West Exchange Street	Mathewson	Aborn	44
Mason Street	Aborn	West Exchange	14
			94

Following is a summary of yearly parking meter revenue:

Year	Net Revenue	Number of Meters in Service
1947	41,245.20	-
1948	125,055.92	-
1949	111,656.02	-
1950	110,799.77	1121
1951	132,384.14	1621
1952	158,345.64	1659
1953	179,344.83	1774
1954	185,996.66	1765
1955	188,145.46	1851

7. Traffic Accident Analysis

In order to evaluate existing hazardous locations, to check on new traffic changes, to aid in selective police enforcement, and to provide a statistical record of accident facts, the Traffic Engineering Department assembles and analyzes the traffic accidents from the following sources:

	1955	1954	1953
Providence Police Department	6592	6156	5718
R. I. Department of Motor Vehicles	1244	1215	1408
United Transit Company	473	518	590
Yellow Cab Company	142	172	153
	8451	8061	7869

These figures show a 4.8% increase in accidents for 1955 as compared to 1954. These accidents resulted in 17 persons being killed, 1964 persons injured, and 6837 property damage accidents. This is the worst fatality record since 1948. In terms of dollars and cents costs resulting from these accidents based on national averages furnished by the National Safety Council, they are as follows:

	Fatalities @$11,500 ea.	Persons Injured @$425 ea.	Property Damage Accidents @$125 ea.	Total Cost
1950	15	1693	4395	$1,441,400
1951	12	1392	5287	$1,390,475
1952	8	1517	5821	$1,608,975
1953	11	1773	6096	$1,642,025
1954	13	2004	6318	$1,790,950
1955	17	1964	6837	$1,884,825

8. Traffic Activities Inventory

Through participation in the National Safety Council Annual Traffic Activities Inventory for the population group for cities from 200,000 to 300,000, Providence won second place for outstanding performance in Traffic Engineering.

9. State of Rhode Island Highway Needs Study

During 1955, close cooperation was given by the Traffic Engineering Department to the State Department of Public Works and the Automotive Safety Foundation in preparing a highway needs study for the State of Rhode Island. This study is aimed at evaluating existing city streets from a traffic capacity standpoint as well as from a physical or structural basis. From assigned traffic volumes to these city streets, this report will serve as a guide in formulating a priority system for highway improvements, as a master thoroughfare plan for the entire state, and for programming local highway projects, such as, street widening, intersection redesign, expressways, and freeways.

10. Uniform Sign Manual

Much staff time was spent in cooperation with the Rhode Island State Traffic Commission in preparing and publishing a Uniform Sign Manual for the State of Rhode Island. This manual is available to all cities and towns in Rhode Island and will play a major role in standardizing the many street signs in use throughout the State. This standardization is needed to increase the safety as well as to ease the job of interpreting parking and driving regulations.

11. Modern Bus Stops

The program of providing space at the curb free of parked vehicles for the loading and unloading of bus passengers was continued in 1955. Such

major arteries as North Main Street, Elmwood Avenue, and Broad Street had modern bus stops established along their lengths on both sides of the streets. The need for these stops is felt, particularly on such heavily traveled streets, in order to remove the stopped transit vehicle from the moving traffic lane while in the process of passenger loading and unloading at the curb. A total of 114 modern bus stops was established in 1955.

12. Federal Route Markers

A continued effort was made to make the problem of the non-resident driver unfamiliar with Providence easier in traveling through Providence on U. S. Federal Routes. An adequately signed route not only eases the problem of finding one's way through a strange city, but it provides for a safer movement as well. Emphasis was placed on having turns signed well in advance so that lane selection could be made in a safe merging area before reaching the intersection.

Part IV

Planned Activities for 1956

Traffic Planning

Additional traffic regulations and more stringent restrictions, such as, turning prohibitions, no-standing areas, parking prohibitions, etc., will be forthcoming in order to handle the expected traffic increases and the problems of handling traffic in the North-South Freeway construction area.

Traffic Signals

Work has not yet begun on the traffic signal contract for the rebuilding of equipment at twelve intersections on Elmwood Avenue and six intersections on Reservoir Avenue. The new signal controllers will permit a change in signal offsets throughout the day that will better conform to the off-balance of directional traffic flow from the a.m. peak to the p.m. peak.

As part of the contract for rebuilding Hope Street, the traffic signal at Hope and Rochambeau will be rebuilt, and a new traffic signal will be installed at Hope and Olney.

The remainder of the signal bond will be used for installing traffic signals at the higher accident locations.

In conjunction with the first phase of the North-South Freeway, several intersections where the ramps to the overhead roadways meet the city streets will be signalized.

Parking Meters

With the increase in demand for parking spaces around the central business district, parking meter installations are planned for all the curb parking spaces within the boundary of the North-South Freeway in order to provide a better turnover in the use of curb parking spaces.