ANNUAL

REPORT

230

1954

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 10, 1955

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 1954.

The report reviews the activities of this department with respect to physical improvements made in the street system, changes made in the downtown traffic pattern, additions made to the traffic signal system, and progress made toward providing additional off-street parking. The report also reviews the organization of the department and summarizes the expenditures made by the department.

With your continued support, the program of this department will be directed toward making the best use of the existing street system and toward planning new major traffic facilities.

Respectfully submitted,

Roger T. Chandler

Roger T. Chandler
Traffic Engineer

RTC:EM

IN CITY COUNCIL
MAR 24 1955
READ:
WHEREUPON IT IS ORDERED THAT THE SAME BE RECEIVED.

D. Everett Whelan
CLERK

CONTENTS

CITY OF PROVIDENCE
Traffic Engineering Department
147 Fountain Street

Part I

The Traffic Problem in Brief

Our traffic problem continues to grow!

Again in 1954 the size of our traffic problem increased by approximately 6%. In recent years we have been experiencing an annual increase of approximately 6% in all the components which comprise our traffic problem. These components are State motor vehicle registration, motor fuel consumption, vehicle miles traveled, and volume of traffic passing known control points.

With the continued increase in each of these components and the resultant increase in the over-all traffic problem, it becomes increasingly obvious that our existing streets cannot continue to carry the load efficiently and safely. It is therefore essential to the economic welfare of the City and its people to construct the North-South Freeway and similar projects immediately.

Vehicle Registration

	State	Providence
1947	212,000	54,000
1948	225,000	56,000
1949	235,000	58,000
1950	254,400	64,000
1951	260,000	68,000
1952	282,000	70,000
1953	296,226	71,000
1954	310,004	68,733
1955 est.	324,000	

Population

	State	Providence
1900	425,000	180,000
1910	525,000	210,000
1920	625,000	245,000
1930	680,000	254,000
1940	740,000	254,000
1950	795,000	248,000
1960 est.	820,000	245,000
1970 est.	830,000	240,000

Average Daily Traffic Volumes

	On Point Street Bridge	On Washington Bridge
1947	36,800	
1948	34,200	
1949	37,500	
1950	40,500	
1951	42,000	37,658
1952	43,000	35,845
1953	41,600	35,296
1954	42,667	39,954

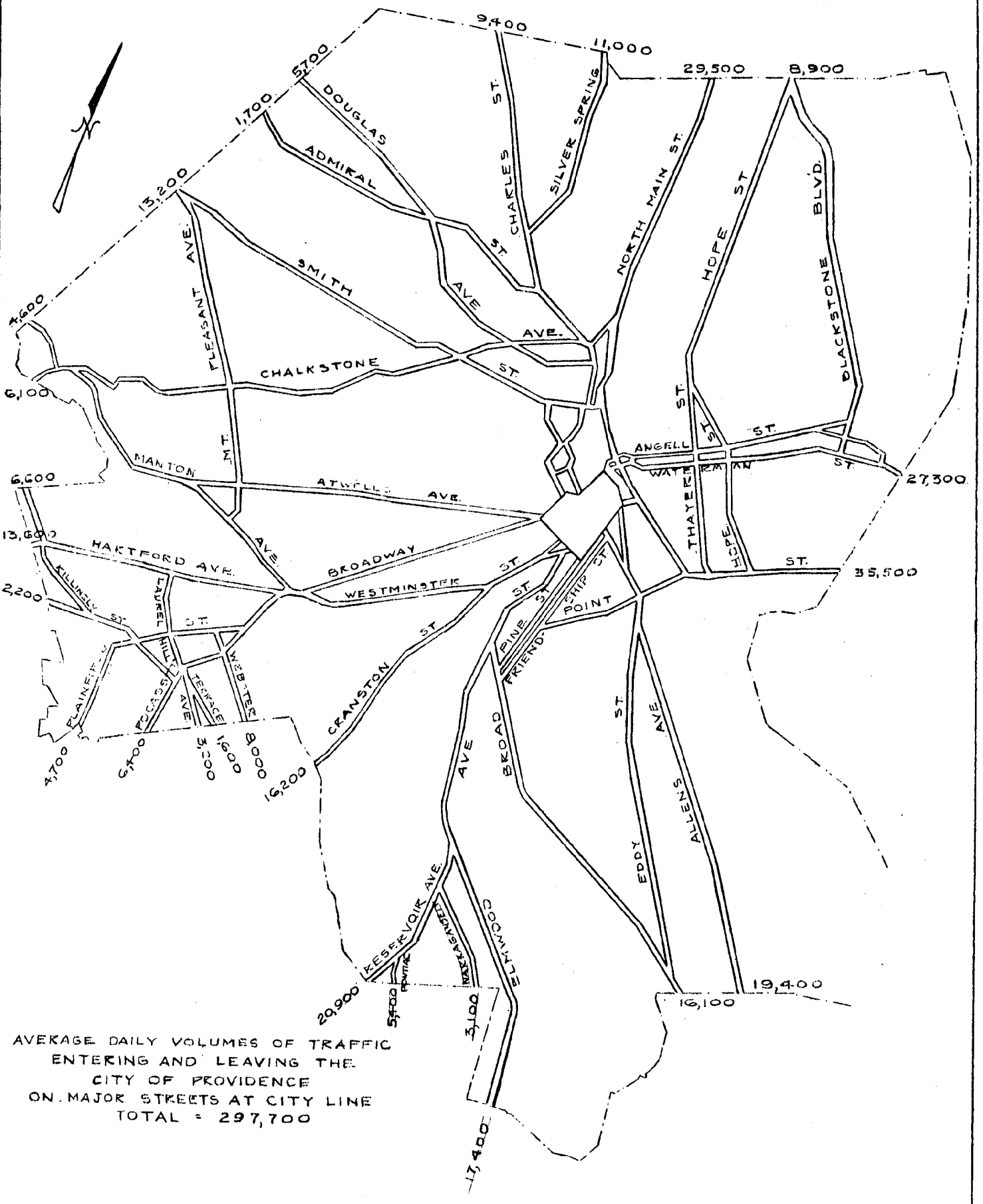
10 A.M. - 6 P.M. Weekday Volumes

Entering and Leaving Central Business District

1947	118,100
1948	122,800
1949	124,500
1950	125,100
1951	125,500
1952	126,200
1953	131,000
1954	147,540

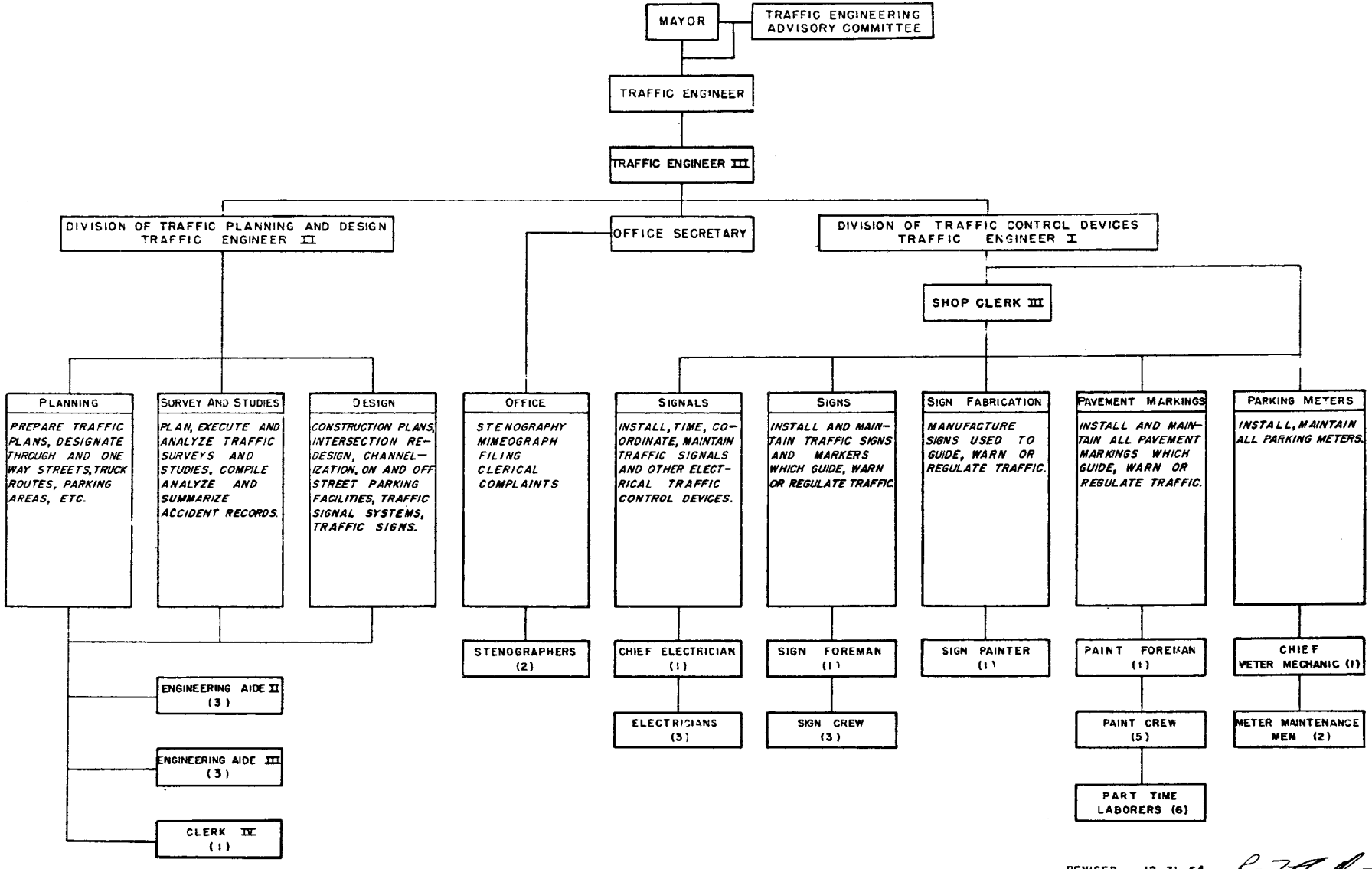
Motor Fuel Purchased

1930	86,606,713 gallons
1945	101,449,998 gallons
1948	144,933,544 gallons
1950	161,565,784 gallons
1951	166,720,891 gallons
1952	179,129,083 gallons
1953	199,191,596 gallons
1954	215,860,498 gallons



AVERAGE DAILY VOLUMES OF TRAFFIC
ENTERING AND LEAVING THE
CITY OF PROVIDENCE
ON MAJOR STREETS AT CITY LINE
TOTAL = 297,700

CITY OF PROVIDENCE
TRAFFIC ENGINEERING DEPARTMENT



REVISED 12-31-54 DATE

TRAFFIC ENGINEER

H/S

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
Angelo Aiello, Chairman of 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. Mr. Edwin F. Colby was appointed as the Assistant Traffic Engineer, and Mr. Robert L. Jaffe continued as Engineer in charge of the Division of Traffic Control Devices.

Cooperation with Other Departments in City Government

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, and the Redevelopment Agency.

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 has been spent.

Budget 1953-1954

	Original Appropriation	Additional Appropriation	Spent	Returned General Fund
0	$112,439.60	$4,896.00	$111,494.74	$5,840.86
I	31,458.00	3,500.00	32,901.87	2,056.13
II	35,650.00	-	35,398.64	251.36
V	10,570.00	-	9,195.84	1,374.16
	$190,117.60	$8,396.00	$188,991.09	$9,522.51

Breakdown of Operating Budget

Item 0 - Salaries	$111,494.74
Item I - Services Other Than Personal	
Automatic Signal Company (rental)	$ 4,800.66
Narragansett Electric Company	18,759.92
Other	9,341.29
	$32,901.87
Item II - Materials and Supplies	
Maintenance Materials of Office and Shop	$ 2,000.00
Repair Parts for Traffic Control Equipment	2,000.00
Materials for Sign Construction and Erection	9,100.00
Street Painting Materials	12,700.00
Other	9,598.64
	$35,398.64
Item V - Plant Equipment	
Cab Truck Complete with Utility Body	$2,733.50
Traffic Paint Spray Machine	812.50
Concrete Mixer	224.00
Snow Plow	337.25
Message Repeater	257.74
Paving Breaker	319.70
Remington Stud Driver	204.33
Portable Air Compressor	1,966.65
3 Fire Extinguishers	132.00
Radar Speed Meter	1,099.05
2 Traficounters	675.73
Other	433.39
	$9,195.84

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

Signal Installation Loan

Of the $400,000 bond authorized by the voters in November, 1950, $269,497.37 has been spent as of December, 1953. A total of $78,209.43 has been spent during 1954, leaving an unexpended balance of $52,293.20 for further traffic signal work.

Part III

Activities for 1954

"Making the best use of the existing streets" continues to be the basic philosophy governing the activities of this department. Although a major facility in the form of the North-South Freeway is planned and land for the first stage of this facility has been condemned by the State, construction has not begun, and the basic transportation system of the City continues to be the existing street system. Therefore, everything that can be done to reduce the accident toll, expedite traffic flow, provide for safe pedestrian movements, and maintain all control devices has been the goal for 1954. During the year the following have been the major activities of this department.

1. Traffic Construction Program

With the completion of the essential construction involved in the Smith-Dibble Report during the latter part of 1953, the 1954 program consisted primarily of new signal construction in the downtown area.

The new signals were installed at Fountain and Mathewson, Washington and Eddy, Washington and Union, Washington and Mathewson, Washington and Empire, Westminster and Union, Westminster and Mathewson, Westminster and Empire, and Weybosset and Union.

These new installations were coordinated with the existing signals at Weybosset and Richmond, and Weybosset and Empire, as well as with the Pine Street and Friendship Street systems, and also with the signals in the Mall area, and on Waterman and Angell Streets. A separate contract was awarded for the installation or rebuilding of signals at Branch and Charles, Broad and Winter, Broad and Summer, Broad and Franklin, Acorn and Kinsley, Acorn and Harris, Eaton and River, and Branch and Silver Spring.

2. Hurricane Damage

As the result of Hurricane Carol, eight traffic signal controllers were damaged by the high water and 468 parking meters were flooded. Before any of the flooded meters could be returned to service, the clock mechanisms had to be completely overhauled. Two hundred of the meters were found to be beyond repair, consistant with their age and type; and were therefore replaced with a new model.

The damage to the traffic signal controllers was moderate, but all signalized intersections were returned to service as soon as power was restored. The damage to both these types of equipment was materially reduced through the efforts of the maintenance crews.

Considerable damage was done to our shop building at New York Avenue. A large portion of the roof was ripped off, as well as a section of the side wall. Flood waters damaged some of the machinery and equipment in the building, requiring immediate attention to return them to operating condition.

No damage was suffered with Hurricanes Edna and Hazel due to the nature of these two storms. However, preparations were made for both of these storms by removing some 900 parking meter mechanisms from the street, and by moving all materials and equipment in the shop to high elevations.

3. Off-Street Parking

Substantial progress was made during 1954 in providing additional off-street parking spaces in the downtown area. The New York, New Haven, and Hartford Railroad and the City came to an agreement concerning the leasing of Yard 15 for parking purposes. The parking operator began improving the yard about November 1, and in a matter of only a few weeks had decided to advance the development schedule by two years. By the Christmas season,

the entire Yard 15 was developed for parking purposes. The construction plans for the Municipal garage to be built on the block bounded by Pine, Page, Friendship, and Garnet Streets have been completed, and the necessary legal formalities are now being processed in preparation for obtaining bids.

Additional gains in off-street parking have been made by other private parking lot operators by tearing down several old buildings. One one site, the operator has announced the intention of building a garage, which should create an additional 300 spaces. During 1954 a total of 1535 new off-street spaces were created, 1400 in the Railroad Yard and 135 within the Central Business District.

4. Routine Maintenance

The prime tools of the trade of a Traffic Engineering Department are signs, signals, and markings. By far the greatest single activity of the department is the maintenance of these traffic control devices.

a. Traffic Signs - The following tabulation of signs manufactured and installed as compared to 1953 and 1952 indicates the amount of work accomplished in this activity.

	1954	1953	1952
Signs installed	6129	4925	4809
Damaged or missing signs replaced	4140	2970	1075
Steel sign posts installed	1997	1069	1498
Movable standards placed	35	82	100
Parking meter posts set or replaced	108	170	166
Signs Manufactured			
Reflectorized on wood blanks	503	674	546
steel blanks	155	121	218
masonite	94	-	-
	752	795	764
Painted on wood blanks	1068	2676	1317
plastic blanks	-	500	501
steel blanks	170	608	1226
masonite blanks	3078	462	-
	4316	4246	3044

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

	1954	1953	1952
Intersection controlled by			
Vehicle actuated equipment			
City owned	47	44	42
Leased from Automatic Signal Co.	8	11	15
	55	55	57
Fixed time equipment	96	82	64
	151	137	121

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 926 trouble calls were received, of which 356 were answered during non-working hours.

The following tabulation indicates the types of trouble calls received.

Mechanical or electrical trouble	319
Lamps burned out	146
No trouble found	117
Damage to equipment	172

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.

	1954	1953	1952
Gallons of reflectorized paint used	3730	3586	4162
Miles of streets marked	86	83.5	89
Number of different streets marked	100	99	68.4
Number of intersections marked with crosswalks	636	532	-

5. Complaints and Requests

The following list indicates the type of requests received for investigation.

			1954		1953		1952
Parking problems			288		311		228
Loading zones			79		111		84
Intersection control)	6)			5)		74)	
Stop control)	91)	—	132	81)	— 127	17)	— 115
Yield control)	10)			14)		10)	
Traffic signals)	25)			27)		14)	
One way streets			14		6		66
Miscellaneous			79		70		13
			592		625		506

The disposition of these investigations are indicated in the following tabulation.

	1954	1953	1952
Requests granted	46%	38%	32%
Requests granted in part or alternate action	3%	6%	8%
Requests denied	37%	43%	30%
Requests pending	10%	9%	29%
Closed by request of complainant	4%	4%	1%
	100%	100%	100%

6. Changes in Traffic Regulations

A total of 597 changes in traffic regulations were made during 1954 as listed below.

	Established	Rescinded
Parking prohibited in designated places	62	14
No parking to corner	43	19
No parking between signs	17	3
No parking 7 a.m. to 4 p.m. or similar time limits	31	21
30 minute parking 8 a.m. to 6 p.m. or similar time limits	5	10
One hour parking 8 a.m. to 6 p.m. or similar time limits	37	41
Two hour parking 8 a.m. to 6 p.m./or 4:30 p.m.	33	2
Three hour parking 8 a.m. to 6 p.m.	11	--
No standing any time	--	--
No standing 4 p.m. to 6 p.m. or similar time limits	25	1

	Established	Rescinded
No stopping standing to corner	2	3
Left turn only	--	--
Traffic signal control	13	--
Stop control	90	5
Yield control	8	3
One way streets	2	--
Bus stops	30	4
Loading zones	22	17
Taxi stands	4	7
No right turn	1	--
No left turn 4 p.m. to 6 p.m.	1	1
Right turn only	1	--
No left turn	2	--
No parking bus zone	4	--
No turn	1	--
No left turn 7 a.m. to 9 a.m. - 4 p.m. to 6 p.m.	1	--
	446	151

This is the greatest number of regulations ever made in any one year since this department was reorganized in 1949. The previous high year was 1952 with 567 changes as compared to this year's 597 changes.

7. Parking Meters

A continued effort is being made to maintain the parking meter system in the best operating condition. The most important changes being made in the parking meter system are the conversion of the method of collection from a box-type collection to a dump-type collection, and a change in parking time limit from one hour to thirty minutes. The change in collection system will make it possible to collect each meter more frequently, and at the same time permit an appreciable saving in manpower. The change in parking time limit is being made to make a more efficient use of our available street space.

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

8. Traffic Accident Analysis

An important phase of Traffic Engineering in the analysis of trouble locations is that of assembling and applying all available accident facts in the City of Providence. In order to have a complete accident history, our accident files are composed of all accidents from the following sources.

	1954	1953	1952
Providence Police Department	6156	5718	5711
R.I. Department of Motor Vehicles	1215	1408	519
United Transit Company	518	590	952
Yellow Cab Company	172	153	156
	8061	7869	7338

These figures show a 2.4% increase in accidents for 1954 as compared to 1953. These 8061 accidents resulted in 13 persons being killed on the streets of Providence, 2004 persons being injured, and 6318 property-damage accidents. The cost of the accidents to the citizens of Providence is illustrated by the average accident costs based on national averages furnished by the National Safety Council.

	Fatalities @$11,500 each	Persons Injured @$425 each	Property Damage Accidents @$125 each	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

As a result of the efforts of the personnel assigned to collecting and analyzing these accident reports, Providence received a special award for outstanding achievement in accident facts.

9. Traffic Activities Inventory

Through participation in the National Safety Council Annual Traffic Activities Inventory and the American Automobile Association National

Pedestrian Protection Contest, Providence received the following awards in the 200,000 to 300,000 population group:

a. First place -- National Pedestrian Protection Program - awarded by the American Automobile Association

b. First place -- Outstanding achievement in Accident Facts - awarded by National Safety Council

c. Second place -- (Tied with Rochester) Outstanding performance in Traffic Engineering - awarded by the Institute of Traffic Engineers

d. Third place -- Over-all highway safety program - awarded by the National Safety Council

10. Visit by Foreign Engineers

Providence was honored by being selected as one of ten cities in the country to be host to four foreign engineers brought to this country as part of the program of the Foreign Operations Administration of the United States Government. The four engineers were Mr. Erich Plaschke, Germany; Mr. Sedat Mengiliboru, Turkey; Mr. Vincenzo Cusani, Italy; and Mr. Thor M. Johne, Norway. These gentlemen were our guests for two weeks, during which time we endeavored to show them how this department is operated and the scope of our traffic problems, as well as examples of solutions already made to other traffic problems, including major facilities such as the Olneyville Expressway and the Meshanticut Interchange.

11. Regulation Inventory

For the first time a complete inventory was made of every street to check the legality, the condition of signing, and the need for retaining existing regulations or writing new regulations. As a result of this inventory, many illegal signs were discovered and many areas were found where the existing regulations needed resigning. To insure the continued accuracy of the signing as it exists on the streets with respect to our

office records, and to insure that the condition of signing is maintained at a high level, a similar inventory will have to be conducted periodically.

12. Traffic Counting Program

A continuing effort is being made to obtain reliable volume information on all of our major arteries. This type of information is essential for normal operating and future planning activities.

13. Freeway Planning

An important phase of the department's activities has been the review of preliminary and construction plans for such major projects as the North-South Freeway, Huntington Avenue Expressway, Louisquisset Pike, and similar projects.

Part IV

Planned Program of Traffic Activities for 1955

General Objective

The primary objective of 1955 will continue to be one of maintaining the existing street system at its highest possible level of efficiency. This includes the maintenance of all existing traffic control devices as well as the installation of new devices, and the establishment of new regulations.

Traffic Planning

During 1955 investigations will be made to determine the feasibility of adopting additional one-way streets. The areas to be studied include Charles and Ashburton Streets, upper Weybosset Street, and Broadway-Jackson-Fountain-Washington Street area.

Freeway Plans

It is anticipated that construction of Stage 1 of the North-South Freeway will get under way during 1955. Continual review will be made of not only the basic plans but also of the stage construction plans to provide the maximum possible speed of construction with a minimum amount of traffic interference. During the several phases of construction, different detour plans will be required.

Traffic Signal Construction

A few selected locations will be signalized. Only those which will provide the greatest benefit toward coordinated traffic movement, reduction of accident potential, control of pedestrian crossing, and release of police personnel for general enforcement work will be selected for signalization.

Off-Street Parking

With the completion of the construction plans late in 1954, it is hoped that all legal problems can be speedily worked out so that construction of the first municipal off-street parking garage may begin in 1955.

Modern Bus Stops

As in past years a continued effort will be made to expand the number of modernized bus stops. The ultimate goal is to have all bus stops on the major arteries marked as modernized stops.