

FRANK A. TIBALDI
TRAFFIC ENGINEER
JAMES J. D'AGOSTINO
ASSISTANT TRAFFIC ENGINEER



VINCENT A. CIANCI, JR.
MAYOR

TRAFFIC ENGINEERING DEPARTMENT
60 ERNEST ST. PROVIDENCE, R. I. 02905 781 - 4044

February 22, 1977

Mr. Vincent Vespia
City Clerk
City Hall
Providence, Rhode Island 02903

Dear Mr. Vespia:

Attached herewith are thirty copies of the 1975 annual report of the Traffic Engineering Department for your distribution.

In the near future, you will be receiving a like number of copies of our 1976 annual report which we are currently preparing.

In appreciation of your efforts in this regard, I remain

Sincerely,

James J. D'Agostino
Assistant Traffic Engineer

JJD/jd
Attachments (30)

TRAFFIC ENGINEERING DEPARTMENT



IN CITY COUNCIL
MAR 2 1977

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

Ernest Caspary
CLERK

ANNUAL REPORT

1975

CITY OF PROVIDENCE, RHODE ISLAND

FRANK A. TIBALDI
TRAFFIC ENGINEER
JAMES J. D'AGOSTINO
ASSISTANT TRAFFIC ENGINEER



VINCENT A. CIANCI, JR.
MAYOR

TRAFFIC ENGINEERING DEPARTMENT
60 ERNEST ST. PROVIDENCE, R. I. 02905 781 - 4044

March 1, 1977

The Honorable Vincent A. Cianci, Jr.
Mayor of Providence
The Honorable City Council
City Hall
Providence, Rhode Island 02903

Gentlemen:

Submitted herewith is the annual report of your Traffic Engineering Department for calendar year 1975.

Inherent within is a plethora of data reviewing the activities of the department including changes in traffic patterns, changes in traffic regulations, ongoing construction projects, and a breakdown of the 1975 expenditures necessary to effect this effort.

The goal of obtaining the best possible use of our existing streets will continue to be a major function of the department. Modernization of existing traffic signs, signals and pavement markings utilizing the most modern and efficient equipment and procedures shall continue as an important adjunct.

Through your continued strong support, we will be able to initiate positive programs designed to maintain a safe, effective, and convenient movement of persons and goods along our existing street network in the City of Providence.

Respectfully yours,

A handwritten signature in cursive script that reads "Frank A. Tibaldi".

Frank A. Tibaldi
Traffic Engineer

JJD/it

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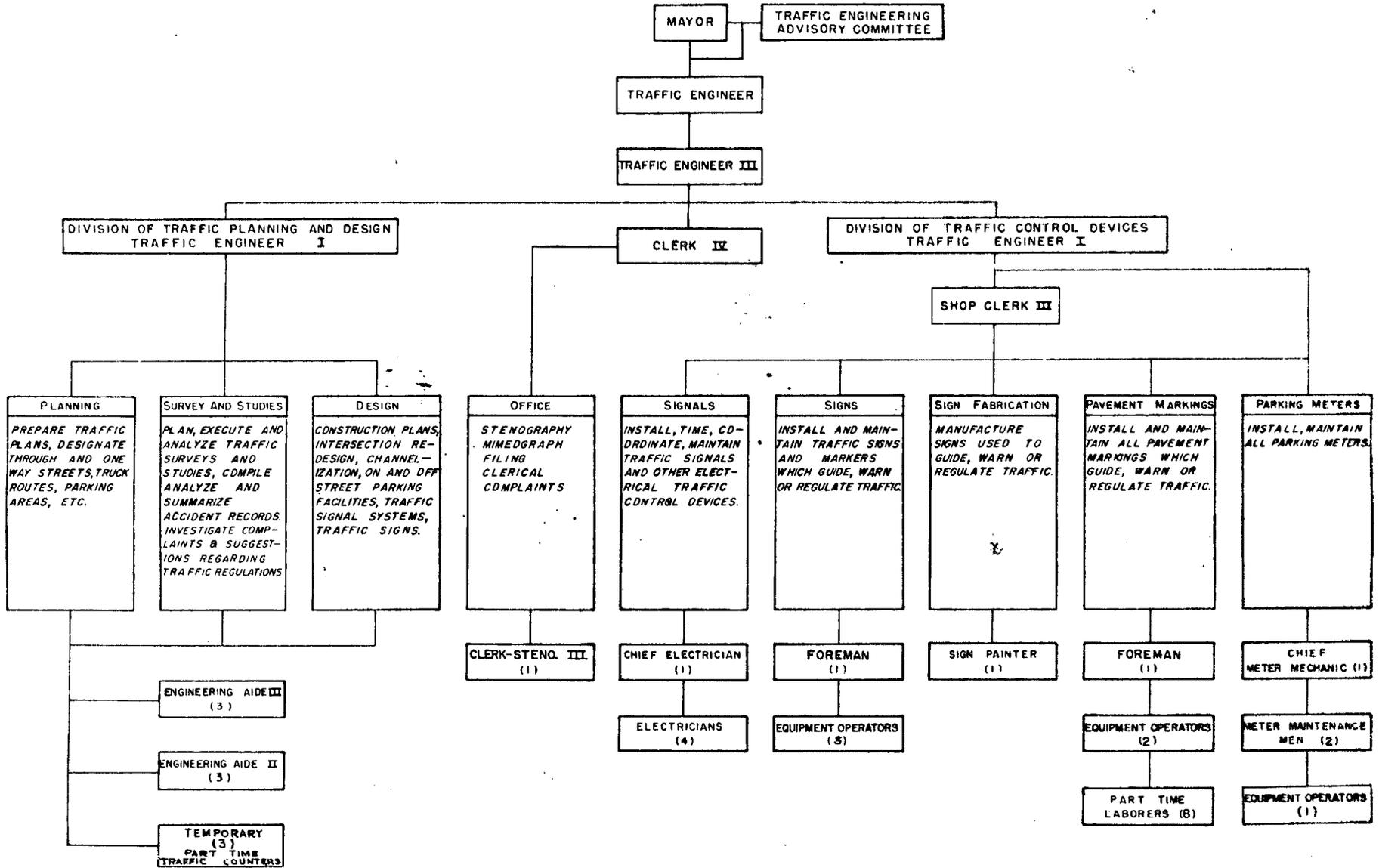
1975 Activities

City of Providence

TRAFFIC ENGINEERING DEPARTMENT

60 Ernest Street

CITY OF PROVIDENCE TRAFFIC ENGINEERING DEPARTMENT



PART I

INTRODUCTION

Highway construction activity in the Rhode Island area declined substantially during the year primarily because of strong voter apathy relative to highway and transportation bond issues in general. This decline is most unfortunate because our network of streets thruout the state is generally quite old and therefore in need of considerable upgrading in order to provide the safest possible environment for motorists and pedestrians alike. Debate continues between highway advocates and opponents over such proposed projects as Route 84, Route 4, and Interstate Route 895. The basic question is whether or not these expensive new highways are really needed to better move existing and future traffic. Essentially, the populace feels that enough has been allocated for new highways in the past and that no more land should be provided for highway use with its accompanying disruption of family and business life. Further, future monies should be expended on upgrading or otherwise refining existing major corridors as this alternative will be considerably less expensive and certainly more amenable to those directly affected.

In past years, the state faced relatively few obstacles in proposing, financing, and constructing any

of several major highway projects primarily because of strong public support. However, the last ten years has brought a new and strongly vocal element into the highway picture - the "anti-pollution" and "earth conservationist" people. The arrival of this radical element has caused the federal and state transportation agencies to drastically alter their traditional planning processes. Now, lengthy and time-consuming "environmental impact statements" are mandatory requirements in addition to numerous public-hearings before any decision can be rendered regarding any highway proposal or, for that matter, any industrial proposal. Nevertheless, these changes were long overdue and certainly are having a positive affect on the preservation of our natural environment.

On the local level, new emphasis has been placed on eliminating traffic congestion and all its pollution from part of the Central Business District partly in response to federal requirements and partly as a desirable adjunct to the proposed revitalization of the area. The Interface: Providence study team in close collaboration with various city agencies such as Traffic Engineering and Planning and Urban Development is developing a proposal for the CBD in which various alternatives to the automobile are being reviewed. Such novel concepts as vehicle free zones, personalized rapid transit, and

mini-bus networks are being actively studied in an attempt to recommend the most practical and effective future means of movement in the downtown area. With the energy crisis upon us and the distinct possibility that gasoline costs will skyrocket in the near future, new thoughts such as these must be entertained if we are to reduce our fuel requirements and hence avoid becoming prisoners of our automobiles.

Over the next several years, transportation changes necessitated by the international oil situation will require the application of all our resources and ingenuity in an attempt to effectively meet these challenges. We must find ways to increase the capacity of our existing streets and highways while providing for more streamlined and efficient flows of traffic. We must continue our efforts to provide pedestrians with safe paths of travel in and around the ever increasing numbers of automobiles.

The basic objective of this department is to make the best use of our existing streets and over the years, we have made significant progress in meeting that continuing goal. However, we still have much to do. Through continued and effective utilization of all available funding from federal, state, and local sources, we shall continue our efforts to modernize our "physical plant" in anticipation of future demands.

PART II

TRAFFIC ENGINEERING DEPARTMENT ORGANIZATION

General Organization

The Traffic Engineering Department was authorized by City Council Ordinance 592 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 by the City Council. To assist in forming advisory policy, the Ordinance established the Traffic Engineering Advisory Committee composed of members of the official City family. The members include:

Mayor Vincent A. Cianci, Jr. - Chairman
Vincent T. Izzo - Director of Finance
Daniel J. Healy - Director of Public Works
John Crowley, Acting Public Service Engineer
Louis A. Mascia - City Solicitor
Walter A. McQueeney - Chief of Police
Laurence K. Flynn - Chairman of the City Council's
Committee on Public Works
Stanley Bernstein - Acting Director of the Department
of Planning and Urban Development

The Engineers comprising the staff of the Department are as follows:

Frank A. Tibaldi - Traffic Engineer
James J. D'Agostino - Assistant Traffic Engineer
Robert F. Carvalho - Traffic Engineer II - Division
of Maintenance and Operations
James N. Salem - Traffic Engineer II - Division
of Planning and Design

Budget

The accompanying breakdown indicates the manner in which the money appropriated for this Department has been spent.

BUDGET 1974-1975

	<u>AMOUNT APPROPRIATED</u>	<u>AMOUNT EXPENDED</u>	<u>RETURNED TO CITY</u>
Item 0	\$256,090.00	\$237,995.73	\$ 18,094.27
Item I	55,605.00	55,605.00	-0-
Item II	41,850.00	41,850.00	-0-
Item V	67,800.00	67,800.00	-0-

ITEM 0 - PERSONAL SERVICES

This major item includes all payments to permanent employees of the City of Providence for salaries and wages.

ITEM I - SERVICES OTHER THAN PERSONAL

This item includes payments for operations maintenance and other services rendered by firms or individuals under express or implied contract, such as; medical services, registration fees, teletype machine rental, postage, automobile allowance, travel expenses and subsistence, printing services, advertising, payments to the Providence Gas Company, payments to Narragansett Electric Company for service to traffic signal lights, repairs to automobiles and trucks and office equipment, repairs to building, dues and subscriptions and exterminating services.

ITEM II - MATERIALS AND SUPPLIES

This item is used for commodities which are consumed in operation, which are materially changed during use or which have, during use an appreciable impairment of physical condition, such as; stationery supplies, small tools, work gloves, tires and tubes, repair parts for automotive and mechanical equipment, medical and housekeeping supplies, cement, fabricated metal products (sign posts and parking meter posts), paint and supplies, street line paint, metal sign blanks, reflective sign faces, hardware and electrical equipment.

ITEM V - EQUIPMENT - CAPITAL OUTLAY

This general group includes all articles which can be repeatedly used without materially changing or having an appreciable impairment of their physical condition over a period of extended use, such as; trucks parking meters and traffic signal control equipment.

PART III

1975 ACTIVITIES

1. Construction and Planning Program

During the year, the Traffic Engineering Department continued to examine proposals and enact traffic regulations that would be most beneficial to the welfare and safety of the citizens of Providence.

The project that continued to require the most effort of the department was the computerized traffic control system for the Randall Square and North Main street areas. This project consumed a great deal of time because its specifications had to be finalized and written. In addition, several "pre-bid" conferences had to be conducted to determine which private companies were qualified to undertake such a proposal.

Upon completion of the above specifications and meetings, formal invitations to bid were forwarded to the pertinent companies to select a prime contractor. Bids were received from the following companies: the Automatic Signal Division of LFE Corporation of East Norwalk, Conn., \$329,000; the Honeywell Corporation, \$358,200; the Coken Company of Providence, \$388,000; A.E.S. Computers Inc. of Union, N.J., \$405,000; and the Singer Company, \$419,382.60. After a careful review

of all these bid packages, the system contract was awarded to the Automatic Signal Division at its quoted price. Today, because of a heavy nationwide demand for traffic control computers, delivery periods of twelve to eighteen months are not uncommon. Actual construction of the system will get under way next year with full operational capability scheduled for late 1977.

As an on-going process, this department regularly conducts traffic studies to determine what non-signalized intersections warrant the installation of traffic signals. The results of this process have yielded the following "Priority List of New Traffic Signal Installations and Modernizations:"

TRAFFIC SIGNALS

1. Douglas Avenue and Eaton Street
2. Hope Street, Lloyd Avenue, and Brook Street
3. Roger Williams Avenue and Narragansett Avenue
4. Valley Street, Eagle Street, and River Avenue
5. Candace Street and Chalkstone Avenue
6. Fire Stations (Allens Avenue, Broad Street, and Hartford Avenue)
7. Smith Street and Mount Pleasant Avenue
8. Mount Pleasant Avenue, R.I. College, and Leslie Drive
9. Branch Avenue and Veazie Street
10. Ford Street, Dexter Street, and Bucklin Street
11. Barton Street and Westminster Street
12. Douglas Avenue and Branch Avenue
13. Elmgrove Avenue and Rochambeau Avenue
14. Elmgrove Avenue and Lloyd Avenue
15. Elmgrove Avenue and Sessions Street
16. Smith Street, Francis Street, and Service Road
17. Hope Street and Cypress Street
18. Camp Street and Cypress Street
19. Plainfield Street and Duxbury Street
20. Branch Avenue, Hawkins Street, and Charles Street
21. Laurel Hill Avenue and Union Avenue
22. Glenbridge Avenue, Petteys Avenue, and Hartford Avenue

TRAFFIC SIGNAL MODERNIZATIONS

1. Smith Hill Area
2. Downtown Central Business District Area
3. Service Roads #7 and #8
4. Broad Street
5. Elmwood Avenue
6. Reservoir Avenue
7. Angell Street
8. Waterman Street
9. Broadway from Knight Street to Service Road #7
10. Cranston Street and Huntington Avenue

2. Traffic Signals, Signs, and Pavement Markings

A major operational function of this department continues to be the installation and maintenance of all types of traffic control devices.

A. Traffic Signals

The following summary indicates the number and type of signalized intersections in Providence:

1975

1. Traffic Actuated Equipment (Vehicle actuated only)	49
2. Traffic Actuated Equipment (Vehicle and pedestrian actuated)	32
3. Fixed Time Equipment (No pedestrian signal heads)	83
4. Fixed Time Equipment (With pedestrian signal heads)	41
5. Special Pedestrian Crossings	9
6. Red - Amber Flashing Only	4
	<u>TOTAL 218</u>

The amount of work necessary to keep the traffic signal network in normal working condition is ever

increasing due to the addition of more signalized intersections, increasing age of much of the equipment and unavailability of certain controller parts. In order to prolong the life of the equipment and to maintain its peak operating efficiency, a preventative maintenance program is continuously operable. This program includes the cleaning of lenses and reflectors, painting exposed equipment, periodic replacement of bulbs, testing and repair of vehicular and pedestrian detectors, and adjusting and oiling controllers on the street. Also, the controllers are routinely brought into the electrical shop for a complete cleaning, lubrication, timing, and repair.

The signal maintenance crews are also responsible for a limited amount of new construction which includes such operations as digging holes, pouring concrete bases, jackhammering, installing conduit, setting steel poles, installing vehicle detectors, and installing signal heads, controllers, and all related wiring.

Because the signal system is operating constantly and therefore always subject to failure from either component breakdown or damage from traffic accidents, it is necessary to have personnel available twenty-four hours a day to handle any emergency repairs. Thus, one signal maintenance man is always on a standby

basis and receives "trouble calls" usually from the Police Department during all non-working hours. The following summary shows the number and type of trouble calls received for both the working and non-working hours during the twelve months of 1975.

Trouble Calls During Working Hours

1. Mechanical or electrical	549
2. Lamps burnt out	567
3. Damage to equipment	130
4. No trouble found	<u>227</u>
	TOTAL 1473

Trouble Calls During Non-Working Hours

1. Mechanical or electrical	190
2. Lamps burnt out	64
3. Damage to equipment	27
4. No trouble found	127
5. Miscellaneous (Bent posts, etc.)	<u>94</u>
	TOTAL 502

B. Traffic Signs

The sign crews are responsible for the installation and maintenance of all traffic signs in the city which are used to guide, warn, or regulate vehicular and pedestrian traffic. Sign maintenance includes such operations as replacing faded signs, straightening bent or twisted u-posts, cleaning dirty signs, and checking for and replacing missing signs. Additional activities of the sign crews are the

installation and maintenance of all parking meter posts and pedestrian barrier posts and the placement of temporary signs on concrete bases. In the winter months, these crews also assist in the removal of snow where necessary. The following is a summary of the above activities for 1975.

Sign Installation and Maintenance

1. New installations	301
2. Signs replaced	2006
3. Signs repaired	101
4. Steel posts installed	957
5. Parking meter posts installed	-
	<u>TOTAL 3365</u>

Signs Manufactured

1. Reflectorized blanks	671
2. Fainted blanks	<u>2867</u>
	<u>TOTAL 3538</u>

C. Pavement Markings

The paint crews are responsible for the application of all required pavement markings throughout the city. These markings include double yellow center lines, single white skip lines, approach lines, stop lines, and cross-walk lines. Maximum effort in painting is concentrated in June and July when the weather is warm enough to permit the correct application of the paint. Because of the heavy volumes of traffic on the city's streets during the daytime hours,

all painting is carried out at night. During inclement weather, the crews prepare sign blanks, construct portable sign bases, and assist the sign or signal crews. During the winter months, these men repair the various paint machines including the long-line unit and the cross-walk machines as well as assisting in the snow removal efforts in the Pershing Square Parking Lot. The following is a summary of the pavement marking effort during the summer of 1975.

Pavement Marking Operation

1. Gallons of paint used	1032
2. Miles of street marked (total)	72
3. Miles of street repainted	22.1*
4. Number of streets marked (total)	111
5. Number of streets repainted	15*
6. Number of intersections marked with cross-walks (total)	660
7. Number of intersections repainted	117*

* Thermoplastic material -- under "TOPICS"

3. Parking Meters

The parking meter maintenance crews are responsible for the physical well-being of all the meters in the city. This maintenance consists of trouble calls, post straightening, and preventative measures.

Trouble calls are usually the result of mechanism failures or winter freeze-ups. These calls are serviced immediately and repairs are completed in the

field, if at all possible. The preventative maintenance program is designed to reduce to a minimum all trouble calls through periodic cleaning and overhaul of each meter mechanism. The parking meter personnel also collect all revenues from the meters with the assistance of a private armored car service. These funds are immediately transported to the bank upon completion of the collection.

Over the last several years, the parking meters have been completely replaced by the most modern type available. Whereas the old meters had to be rewound at least twice weekly, the new meters are self-winding. Also, because of superior design, they require much less maintenance than the older models.

Since this department assumed the responsibility for parking meter collections, it has saved the city approximately \$10,000.00 each year over the amount previously budgeted for a private contractor. All parking meter revenues revert to the general treasury of the city and not to this department. It is interesting to observe that the parking meter system has generated over 1.6 million dollars in revenue for the city from 1965 to the end of 1975. The following is a summary of all the monies generated by the system of parking meters placed either on various city streets or in the city owned Pershing Square Parking Lot.

PARKING METER REVENUE SUMMARY

<u>Year</u>	<u>Revenues Generated</u>	<u>Number of Meters*</u>
1965	\$125,881.19	1435
1966	120,324.61	1503
1967	116,019.19	1525
1968	104,463.12	1500
1969	131,627.13	1550
1970	138,411.09	1551
1971	173,871.84	1731
1972	169,432.93	1699
1973	183,619.50	1472
1974	202,399.01	1846
1975	<u>158,942.83</u>	1844
TOTAL	\$1,624,992.44	

*Indicates the number of parking meters in service at the beginning of each year shown.

4. Complaints and Requests

An important aspect of this department's work is the processing of a continuous stream of traffic complaints and requests generally originating from individual citizens, community groups, city agencies, and departmental personnel. From the moment a request or complaint is received until the time our crews actually install the appropriate traffic controls on the street, thorough field investigations and traffic studies must be conducted in order to compile all relevant data necessary to assure a proper evaluation. The principle behind gathering this information is to place any decisions regarding changes in traffic control or regulation on a factual basis, rather than on a basis which relies strictly on personal opinion.

When a decision is effected and the pertinent traffic regulation is promulgated, notification is sent to Traffic Engineer in charge of the Division of Maintenance and Operations to implement the orders and copies of the regulation are forwarded to the Commissioner of Public Safety, various sections of the Providence Police Department, the City Solicitor, the Chamber of Commerce, the appropriate councilman, and the news media.

All changes in traffic regulations are advertized once a month in one issue of the Providence newspaper

in accordance with the provisions of Ordinance 592. When the necessary traffic signals, signs, or pavement markings are completed, the new traffic regulation becomes effective. The following gives the general classification of complaints and requests received.

1. Parking problems	106
2. Loading zones	25
3. Stop or Yield signs	31
4. Traffic signals	2
5. One - way streets	13
6. Miscellaneous	<u>42</u>
	TOTAL 219

The disposition of these investigations is given by the following tabulation.

1. Requests granted	77.17%
2. Requests denied	9.13%
3. Requests pending	6.39%
4. Requests rescinded	4.56%
5. Requests withdrawn	<u>2.74%</u>
	TOTAL 100%

5. Traffic Regulations Established

During 1975, a total of 169 traffic regulations were established on the city streets as shown in the following summary. These changes were caused in part by changes in traffic flow patterns, traffic volumes, elimination and relocation of certain streets due to new construction, and safety and business requirements.

TRAFFIC REGULATIONS ESTABLISHED

No Parking Anytime.....	25
No Parking to Corner.....	17
No Parking Between Signs.....	7
No Stopping 7AM to 9AM.....	1
No Stopping or Standing to Corner.....	2
No Parking 8AM to 4PM.....	1
No Parking 8AM to 6PM.....	3
No Parking 7PM to 9PM.....	1
No Parking 8AM to 10AM School Days.....	5
No Parking Loading Zone.....	9
No Parking Loading Zone 7AM to 4PM.....	2
No Parking Loading Zone 7AM to 6PM.....	5
No Parking Loading Zone 8AM to 4PM.....	1
Pedestrian Signs.....	1
Stop Signs.....	21
Yield Signs.....	6
One - Way Streets.....	9
Crosswalks.....	3
No Parking Bus Stop.....	3
No Stopping 7AM to 9AM; No Stopping 4PM-6PM	1
One Hour Parking 8AM to 6PM.....	8
One Hour Parking 9AM to 4PM.....	1
Two Hour Parking 8AM to 10PM.....	2
Two Hour Parking 8AM to 6PM.....	2
One Hour Metered Parking.....	9
No Parking Taxi Stand.....	4
Truck Restriction Over 4-Ton.....	4
Truck Restriction Over 15-Ton.....	2
Miscellaneous Signs... ..	<u>14</u>
	TOTAL 169

6. Traffic Accident Analysis

The Traffic Accident Analysis Section of this department is charged with the continuous maintenance of all records of reported motor vehicle accidents which have occurred in the City of Providence since January 1, 1950. These accidents are used for engineering purposes in analyzing the necessity for implementing changes in traffic control at specific locations especially for investigations concerning warrants for Stop control, Yield control, and Traffic Signal control. Not only are these accidents records essential in initiating a change in traffic control, they are also particularly helpful in evaluating such control after its implementation. The accident history of a certain location offers the Traffic Engineer an accurate gauge through which he can prove the merits of the various alternatives at his disposal.

The above accident data is procured by department personnel from three prime sources: 1. State of Rhode Island, Registry of Motor Vehicles Division; 2. Rhode Island Public Transit Authority; 3. Providence Police Department. The accident analysis personnel are continuing the process of computerizing all the accident information in anticipation of the receipt of our new digital master traffic computer which will end the original unwieldy and time consuming operation.

1975 ACCIDENT STATISTICS SUMMARY

1. The total number of accidents for 1975 is 6732 as compared to 6346 in 1974 and 6753 in 1964.

2. The total number of property damage (PD) accidents by month is as follows:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1975
490	484	476	460	493	518	456	458	523	528	453	491	5830

3. The total number of personal injury (PI) accidents by month is as follows:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1975
47	68	66	55	105	96	85	104	95	82	58	41	902

4. The total number of pedestrian accidents by month is:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1975
6	5	7	8	10	15	13	11	12	10	5	7	109

5. The total number of passengers injured by month is:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1975
405	501	533	285	577	562	577	552	674	488	452	226	5832

6. The following is a breakdown of accidents by age and sex:

<u>AGE GROUP IN YEARS</u>	<u>SEX OF DRIVERS</u>			
15 and Under	27 Males		3 Females	
16	151	"	64	"
17	279	"	93	"
18 - 19	755	"	294	"
20 - 24	1533	"	669	"
25 - 34	1852	"	669	"
35 - 44	909	"	307	"
45 - 54	924	"	275	"
55 - 64	667	"	201	"
65 - 74	301	"	87	"
75 and Over	103	"	28	"
Not Stated	1079	"	90	"

7. The total number of pedestrian fatalities is 5.
8. The total number of operator fatalities is 8.
9. The total number of passenger fatalities is 2.
10. The total number of all fatalities for 1975 is 15 which represents 0.22% of the total of all accidents for 1975. In 1974, a total of 19 fatalities occurred out of a total of 6346 accidents. Thus, the year 1975 has witnessed a drop of 0.08% in fatal accidents from that of 1974.
11. 1455 or 21.61% of all 1975 accidents occurred between 4 - 6PM. Of the 1455 accidents, 231 or 15.88% were on a Friday.
12. The total number of motor vehicles involved in accidents in 1975 was 11,360. Of these, 8580 or 75.53% were driven by males and 2780 or 24.47% were driven by females.
13. 3385 or 39.45% of the 8580 male drivers were between the ages of 20 and 34.
14. 1338 or 48.13% of the 2780 female drivers were between the ages of 20 and 34.
15. The analysis of all 1975 accidents showed that the most accident prone time and day was between the hours of 4:00PM and 6:00PM on a Friday afternoon.

DOWNTOWN PARKING SPACE INVENTORY FOR 1975

Off - Street Lots:

Public 7122

Private 1838

Parking Garages: 1550

TOTAL OF OFF - STREET SPACES: 10,510

TOTAL OF ON - STREET SPACES: 789

GRAND TOTAL OF ALL PARKING SPACES: 11,299