

687

# TRAFFIC ENGINEERING DEPARTMENT



[Redacted text]

IN CITY COUNCIL  
AUG 7 1975

READ:  
WHEREUPON IT IS ORDERED THAT  
THE SAME BE RECEIVED

*Wmmt Vespa*  
CLERK

ANNUAL REPORT

1974

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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

June 1, 1975

The Honorable Vincent A. Cianci, Jr.  
Mayor of Providence  
The Honorable City Council

Gentlemen:

Respectfully submitted is the annual report of your Traffic Engineering Department for calendar year 1974.

Contained herein is a compilation 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 1974 expenditures necessary to effect this effort.

The task 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 goal.

Only through your continued strong support will we 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.

Very truly yours,

*Frank A. Tibaldi*  
Frank A. Tibaldi  
Traffic Engineer

JJD/it

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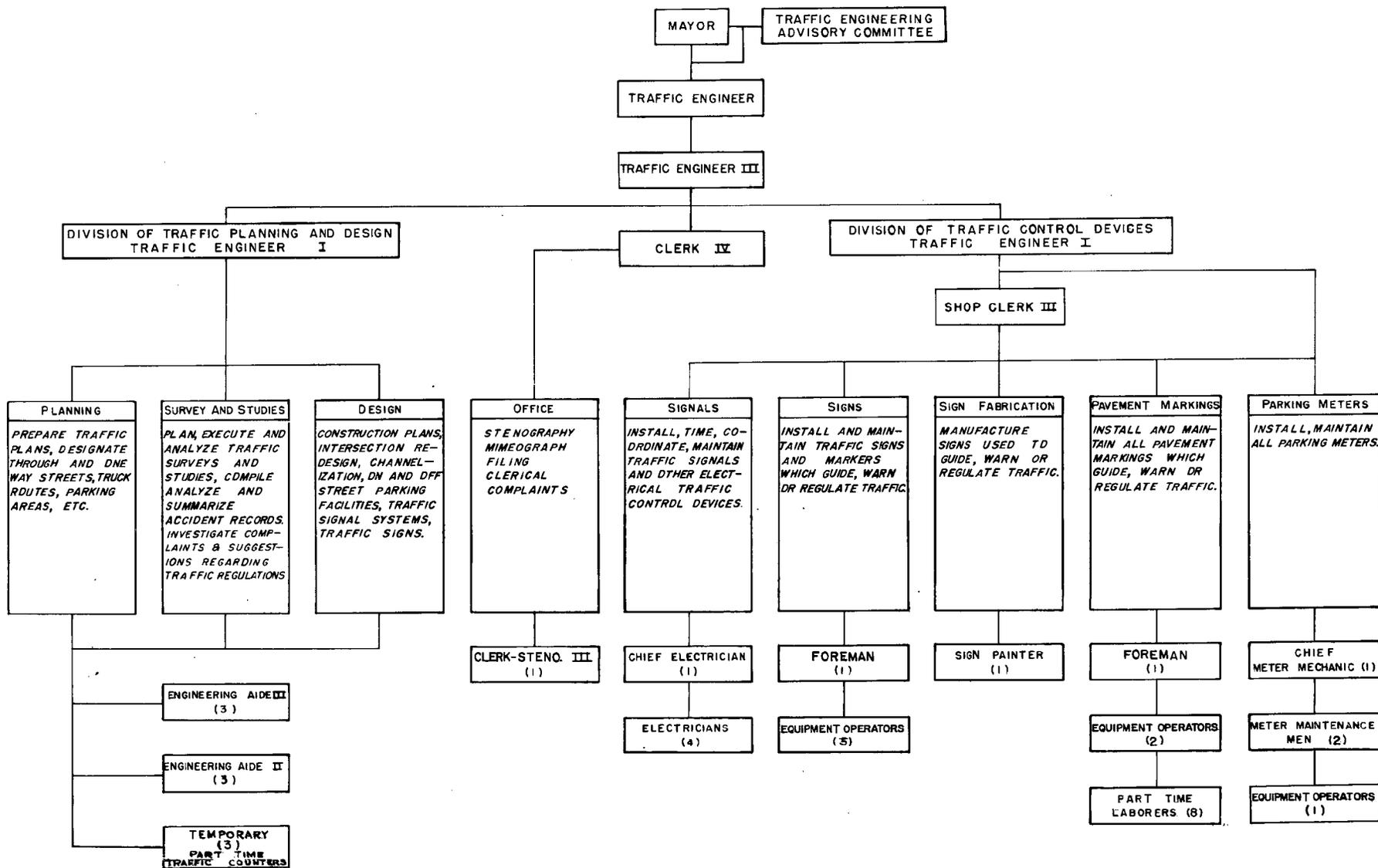
1974 Activities

City of Providence

TRAFFIC ENGINEERING DEPARTMENT

60 Ernest Street

# CITY OF PROVIDENCE TRAFFIC ENGINEERING DEPARTMENT



## PART I

### INTRODUCTION

Major construction in the Rhode Island area continues, although at a substantially reduced rate as compared with previous years and still provides a principal source of relief for our congested highways. However, it usually seems that as soon as one roadway is completed and opened to traffic, it soon becomes heavily travelled and thus planning must begin on yet another new highway. For many years, this cycle of building more and more highways was given top priority in an attempt to keep abreast with the rapid increase in motor vehicle registrations.

Changes in the international situation and related shortages of critical commodities such as gasoline, fuel oil, etc., combined with new stringent Federal anti-pollution requirements, have caused a basic change in our transportation philosophy - a change which is destined to have far reaching ramifications in the near future. We will no longer continue trying to "match" the automobile, but must instead strive to reduce its numbers through such programs as car-pooling, increased rapid-transit, PRT or personalized rapid-transit, vehicle free zones, exclusive bus lanes, and increased usage of our existing

public transit facilities. In an attempt to meet these challenges, we are working closely with several groups and civic organizations to formulate a transportation strategy or plan for downtown Providence which will continue to permit necessary access for emergency and business purposes while providing for less traffic congestion and a much cleaner environment for all to enjoy.

New construction will always be necessary although its purpose will be increasingly to modernize existing highways rather than build new ones. Many such modernization projects involving the Traffic Engineering Department are currently underway throughout the city. These projects include, but are not limited to, Randall Square, East Side, West Broadway, Weybosset Hill, Route 6 Connector, and new traffic signalization. The basic policy of this department is to make the best use of our existing streets and highways in order to provide the safest and most efficient transportation system possible. As the above projects and additional ones progress from site clearance, to construction requiring temporary vehicular and pedestrian detours, and to final completion, many changes will be mandatory in the traffic patterns and traffic control within the various construction areas and this department will be working closely to effect

such changes in as safe and convenient a manner as is possible.

In the next few years, changes in transportation philosophy and implementation will require all of the resources and ingenuity that can be brought to bear on solving such problems as the increasing use of our inadequate highways by ever larger volumes of traffic. The city street network can accommodate this excess traffic only through considerable modernization and application of increasingly sophisticated forms of traffic control such as computerized digital traffic signal systems which are programmed to fully monitor the actual traffic flows and adjust the signal timing accordingly.

Even though a substantial amount of progress has been accomplished, we still have much to do. We will continue to utilize all the funds available from all sources including Federal, State, and Local in order to effect the necessary improvements so vital to our goal of providing for the best possible use of our existing street system.

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 Carvalho, Supervisor of the Division of  
Maintenance and Operations

Budget

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

BUDGET 1973-1974

-5-

	<u>AMOUNT APPROPRIATED</u>	<u>AMOUNT EXPENDED</u>	<u>RETURNED TO CITY</u>
ITEM 0	\$255,767.00	\$203,811.39	\$ 51,955.61
ITEM I	49,375.00	48,992.59	382.41
ITEM II	45,700.00	45,699.40	.60
ITEM V	51,200.00	51,200.00	-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 expressed 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 automotive 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, heating fuel, 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 used repeatedly 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

1974 ACTIVITIES

1. Construction Program

Several projects required the continued services of the Traffic Engineering Department during the year in reviewing and approving plans and specifications, establishing detours, and rerouting traffic. These projects include the following:

- A. Weybosset Hill (reconstructed roads and new signals)
- B. Randall Square (revised flow patterns and new signals)
- C. East Side (reconstruction of North Main street, some side streets, and new signals)
- D. West Broadway (reconstruction of Broadway and signals)
- E. Route 6 Connector (new Dean street and highway ramps)
- F. Route 146 Connector (new signals, approaches, and ramps)

Additionally, this Department has promulgated a considerable amount of "in house" planning and design especially in the areas of traffic signalization, signing, and pavement markings. The net result of these efforts has been the successful acquisition, under the Federal "TOPICS" program, of two projects as follows:

A. Traffic Signals

- 1. Admiral street at River avenue
- 2. Silverspring street at Smithfield avenue
- 3. Smith street at Gentian avenue

B. Traffic Signing

- 1. Purchase of 4,305 directional, regulatory, warning, and urban parking signs.
- 2. Purchase of 4,305 steel U-posts for the signs

Upon completion of these "TOPICS" (Traffic Operations to Increase Capacity and Safety) projects along with an earlier one for long-life Thermoplastic pavement markings, additional

relief will be afforded the weary motorists and pedestrians from traffic delays and congestion with a resulting increase in traffic safety.

The year 1974 also saw final completion of plans and specifications for the City of Providence's first computerized master traffic signal system in which a digital computer will control several new traffic signal installations in the Randall Square and North Main street area. This will be accomplished through the use of traffic sampling detectors strategically placed beneath the respective road surfaces. This system, by constantly monitoring and regulating the traffic flow in response to the actual "real-time" demand, will be most beneficial in reducing traffic delays, congestion, and air-pollution levels within its area of operations.

An additional significant feature of the master digital computer will be its ability to easily handle all forms of traffic engineering analyses such as pedestrian and vehicular accident records, peak-hour and average-hour traffic counts, origin and destination data, etc., and to subsequently compile, upon demand, such information or statistics as may be necessary by this Department in its efforts to continue to make the best use of our existing streets and highways. We expect this new computer system to provide us with a degree of flexibility virtually impossible to achieve under the present circumstances.

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:

	<u>1974</u>
1. Traffic Actuated Equipment (Vehicle-actuated only)	45
2. Traffic Actuated Equipment (Vehicle and pedestrian actuated)	20
3. Fixed Time Equipment (No pedestrian signal heads)	83
4. Fixed Time Equipment (With pedestrian signal heads)	41
5. Special Pedestrian Crossings	6
6. Flashing Only, Red and Amber	<u>2</u>
TOTAL	197

The amount of work necessary to keep the traffic signal system in normal working condition is continually 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 optimum operating efficiency, a preventative maintenance program is continuously in effect. 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. In addition, the controllers are periodically 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 in continuous operation and therefore always subject to failure from either component breakdown or damage from traffic accidents, it is necessary to have personnel available "around the clock" to effect all emergency repairs as needed. Thus, in this Department, one signal maintenance man is always on a standby basis and receives "trouble calls" usually from the Police Department during all nonworking hours. The following summary shows the number and type of trouble calls received for both the working and nonworking hours during the twelve month period covering the year 1974. Also shown is a listing of all "in-house" signal construction either completed or planned for 1975.

<u>Trouble Calls During Working Hours</u>	<u>1974</u>
1. Mechanical or electrical	435
2. Lamps burnt out	503
3. Damage to equipment	177
4. No trouble found	<u>222</u>
	TOTAL 1337

<u>Trouble Calls During Non-Working Hours</u>	
1. Mechanical or electrical	211
2. Lamps burnt out	65
3. Damage to equipment	26
4. No trouble found	171
5. Miscellaneous (Bent posts, etc.)	<u>107</u>
	TOTAL 580

New Signal Construction By Department Personnel

1. Mount Pleasant avenue at Chalkstone avenue

New Signal Construction Planned For 1975

1. Chalkstone avenue at Academy avenue
2. Chalkstone avenue at River avenue
3. Chalkstone avenue at Raymond and Oakland streets

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, regulate, or warn 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 missing signs.

Additional activities of the sign crews are the installation and maintenance of all parking meter posts and pedestrian posts and the placement of temporary signs on the concrete bases. In the winter, these crews also assist in the removal of snow where necessary. The following is a summary of the above for 1974.

<u>Sign Installation and Maintenance</u>	1974
1. New installations	322
2. Signs replaced	2102
3. Signs repaired	105
4. Steel posts installed	941
5. Parking meter posts installed	204
TOTAL	3674
<u>Signs Manufactured</u>	1974
1. Reflectorized blanks	693
2. Painted blanks	2987
TOTAL	3680
C. <u>Pavement Markings</u>	

The paint crews are responsible for applying all the required pavement markings throughout the City. These markings include double yellow center lines, single white skip lines, approach lines, stop lines, and cross-walks. Maximum effort in painting is concentrated in June and July when the weather has become warm enough to permit the proper application of the paint. Because of the heavy volumes of traffic on the City's streets during the day-time 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 rig and the cross-walk stripers and also assist in the snow removal efforts in the Pershing Square Parking Plaza. The following is a summary of the pavement marking effort during the summer of 1974.

	<u>1974</u>
1. Gallons of reflectorized paint used	1250 (Contracted)
2. Miles of street marked (total program)	72
3. Miles of street repainted	13.5 + 22.1*
4. Number of streets marked (total program)	111
5. Number of streets repainted	12 + 15*
6. Number of intersections marked with cross-walks (total program)	657
7. Number of intersections repainted	533 + 117*

\* Thermoplastic material -- under "TOPICS" contract

### 3. Parking Meters

The parking meter maintenance crew is responsible for the physical maintenance and repair of all of the meters in Providence. 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 possible. The

preventative maintenance program is designed to reduce to a minimum all trouble calls by 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 few 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 a week, these new meters are self-winding. Also, because of their superior construction, they require a substantially less amount of maintenance than the older models.

Since this Department assumed the responsibility for parking meter collection, it has saved the City budget approximately \$10,000.00 each year over the amount previously required by the private contractor. All parking meter revenues revert to the City's "Revolving Fund" and not to this Department. It is interesting to note that from 1953 to the end of 1974, the parking meter system has generated over 3.7 million dollars in revenue for the City of Providence. The following is a summary of all revenues collected from parking meters and other parking facilities during 1974 and prior years.

PARKING METER SUMMARY

<u>Year</u>	<u>Pershing Sq. Parking Lot</u>	<u>Street Meters</u>	<u>Number of Meters in Service</u>
1953	\$26,063.83	\$179,344.83	1774
1954	26,229.93	185,996.66	1765
1955	27,492.23	188,145.46	1851
1956	28,673.41	187,724.62	1824
1957	29,593.03	184,713.15	1845
1958	28,021.73	173,094.76	1824
1959	27,016.68	162,395.53	1813
1960	27,383.04	154,213.50	1802
1961	26,201.36	143,213.50	1728
1962	25,331.01	139,226.94	1685
1963	24,962.21	128,293.33	1638
1964	24,824.43	121,807.35	1595
1965	22,769.39	103,111.80	1435
1966	23,599.21	96,725.40	1503
1967	22,692.96	93,326.23	1525
1968	20,446.61	84,016.51	1500
1969	30,099.96	101,527.17	1550
1970	29,875.71	108,535.38	1551
1971	34,159.32	139,712.52	1731
1972	31,971.71	137,461.22	1699
1973	16,648.36*	166,971.14	1472
1974	<u>17,502.77*</u>	<u>184,896.24</u>	1846
TOTALS	\$ 571,558.89	\$ 3,164,453.24	

The City of Providence also derived income from the Park 'n Lock Lot and the Francis Street Parking Deck.

\* Drop in revenue due to Mayor's six month parking experiment in which only automobiles carrying three or more passengers were allowed to use the Pershing Square Parking Lot.

4. Complaints and Requests

Processing of the continuous stream of traffic complaints and requests constitutes an important part of this Department's work. All complaints and requests normally originate from individual citizens, community groups, other City agencies, and Department personnel. From the time a request or complaint is initiated until the time our crews install the appropriate traffic controls on the street, thorough field investigations and traffic surveys must be conducted in order to compile all pertinent information 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 the decision is made, and the required traffic regulation is written, notification is sent to the Supervisor of the Division of Maintenance and Operations to implement the traffic orders, and copies of the traffic regulation are sent to the Commissioner of Public Safety, various Police Department sections, the City Solicitor, the Chamber of Commerce, the appropriate councilman, and the Press.

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, then the traffic regulation becomes effective. The following indicates the general classification of complaints and requests received:

	<u>1974</u>
1. Parking problems.....	100
2. Loading zones.....	20
3. Stop or Yield signs.....	31
4. Traffic Signals.....	5
5. One-way streets.....	15
6. Miscellaneous.....	<u>18</u>
TOTAL	189

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

1. Requests granted.....	80.42%
2. Requests denied.....	5.82%
3. Requests pending.....	6.35%
4. Requests rescinded.....	4.76%
5. Requests withdrawn.....	<u>2.65%</u>
TOTAL	100%

#### 5. Traffic Regulations Established

During 1974, a total of 152 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 of the citizens of the City.

TRAFFIC REGULATIONS ESTABLISHED

No Parking Anytime.....	25
No Parking To Corner.....	16
No Parking Between Signs.....	8
No Stopping or Standing To Corner.....	2
No Parking 8AM To 6PM.....	3
No Parking 8AM To 10AM School Days.....	5
No Parking Loading Zone.....	7
No Parking Loading Zone 7AM To 4PM.....	2
No Parking Loading Zone 7AM To 6PM.....	6
Pedestrian Signs.....	1
Traffic Signal Control.....	3
Stop Control.....	21
Yield Control.....	6
One Way Streets.....	10
Crosswalks.....	2
No Parking Bus Stop.....	3
One Hour Parking 8AM To 6PM.....	5
Two Hour Parking 8AM To 10PM.....	2
One Hour Metered Parking.....	3
No Parking Taxi Stand.....	4
Truck Restriction Over 4-Ton.....	2
Truck Restriction Over 15-Ton.....	1
Playground Signs.....	2
Miscellaneous Signs.....	<u>13</u>

TOTAL 152

## 6. Traffic Accident Analysis

The Traffic Accident Section of the Traffic Engineering Department has been maintaining records of all reported motor vehicle accidents that have occurred in the City of Providence since January 1, 1950. These accident records are used for engineering purposes in analyzing the needs for changes in traffic control at specific locations particularly 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, but they are also particularly helpful in evaluating such control after its establishment. The accident history of a certain location offers the Traffic Engineer an accurate gauge through which he can prove the merits of the various changes at his disposal.

This accident information is obtained by Department personnel from three sources: a. State of Rhode Island, Registry of Motor Vehicles Division, b. Rhode Island Public Transit Authority, and c. Providence Police Department. The Accident Analysis personnel are currently in the process of computerizing all the accident data which heretofore has been rather unwieldy and time-consuming in its dissemination. With the expected arrival of our new digital master computer, the Accident Analysis Section will have an exceedingly powerful tool to further strengthen its capabilities and effectiveness.

1974 ACCIDENTS STATISTICS SUMMARY

1. The total number of accidents for 1974 is 6346 as compared to a total of 6753 for 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	1974
313	550	517	501	489	271	437	435	482	412	453	493	5353

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	1974
27	83	80	95	99	66	106	92	73	79	57	41	993

4. The total number of Pedestrian accidents by month is as follows:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1974
3	11	10	17	10	8	6	4	6	8	5	7	95

5. The total number of Passengers injured by month is as follows:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1974
173	450	427	571	589	386	559	493	444	454	402	226	5174

6. The breakdown of all accidents by age and sex of driver is as follows:

<u>AGE GROUP IN YEARS</u>	<u>SEX OF DRIVER</u>	
	19Males	5Females
15 & Under		
16	148 "	83 "
17	252 "	70 "
18 - 19	715 "	279 "
20 - 24	1467 "	515 "
25 - 34	1775 "	597 "
35 - 44	896 "	279 "
45 - 54	812 "	294 "
55 - 64	697 "	166 "
65 - 74	292 "	90 "
75 & Over	109 "	20 "
Not Stated	907 "	53 "

7. The total number of Pedestrian fatalities for 1974 is 6.
8. The total number of Operator fatalities for 1974 is 8.
9. The total number of Passenger fatalities for 1974 is 5.
10. The total number of all Fatalities for 1974 is 19 which represents 0.3% of the total of all accidents for 1974. Ten years ago, in 1964, there was a total of 22 Fatalities. Therefore, 1974 has witnessed a decrease of 13.64% in Fatal accidents from those of 1964.
11. 1021 or 16.09% of all 1974 accidents occurred between 4 - 6 PM. Of the 1021 accidents, 20.37% were on a Friday while 6.46% were on a Sunday.
12. 5.61% of all 1974 accidents occurred between 12 - 3AM on Saturday and Sunday alone while during the remaining five days, only 3.81% occurred for the same time period.
13. The total number of motor vehicles involved in accidents in 1974 is 10,540. Of these, 61.58% were male drivers and 38.42% were female drivers.
14. 49.95% of the 6491 male drivers were between the ages of 20 and 34.
15. 27.46% of the 4049 female drivers were between the ages of 20 and 34.
16. The analysis of all 1974 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 1974

Off - Street Lots:

Public	7,122
Private	1,838

Parking Garages: 1,550

TOTAL OFF - STREET SPACES: 10,510

TOTAL ON - STREET SPACES: 789

GRAND TOTAL OF ALL PARKING SPACES: 11,299



LOCATION OF CORDON COUNTING STATIONS  
FOR  
CENTRAL BUSINESS DISTRICT

COMPARISON OF CORDON LINE STREET VOLUMES FOR 1971 AND 1973

	<u>Cordon Station</u>	<u>Oct. 30,31</u>	<u>Oct. 26,27</u>	
	<u>Number</u>	<u>&amp; Nov. 1</u>	<u>&amp; 28</u>	<u>Difference</u>
		<u>1973</u>	<u>1971</u>	
ATWELLS AVENUE	21	8,899	5,833	3,066
BROAD STREET	16	9,050	8,945	105
BROADWAY	20	10,728	11,377	- 649
CANAL STREET	1	8,582	7,084	1,498
CHESTNUT STREET	13	2,091	1,631	460
COLLEGE STREET	5	3,260	3,430	- 170
DORRANCE STREET	10	4,483	4,912	- 429
DYER STREET	9	5,323	7,765	-2,442
FRANCIS STREET	24	3,201	3,201	0
FOUNTAIN STREET	19	2,447	2,271	176
GASPEE STREET	23	12,204	11,555	649
HOYLE	--	--	340	- 340
NORTH MAIN STREET	2	6,432	7,466	-1,034
PINE STREET	14	3,221	3,417	- 196
POND STREET	--	1,139	1,139	0
PROMENADE STREET	25	6,615	5,330	1,285
RICHMOND STREET	11	2,996	3,028	- 32
SOUTH MAIN STREET	6	5,096	4,697	399
SOUTH WATER STREET	7	6,311	5,424	887
THOMAS STREET	3	6,735	7,212	- 477
WASHINGTON STREET	18	3,081	4,588	-1,507
WATERMAN STREET	4	4,902	4,925	- 23
WEST EXCHANGE STREET	22	4,801	7,417	-2,616
SERVICE ROAD NO. 8	8	8,533	10,395	-1,862
SERVICE ROAD NO. 12	12	<u>1,129</u>	<u>1,287</u>	<u>- 158</u>
GRAND TOTAL		131,259	134,669	

TOTAL DIFFERENCE -3,410

1974 CORDON COUNT SUMMARY

October 30, 31, & November 1, 1974

( 8:00 AM - 6:00 PM )

	<u>IN</u>	<u>OUT</u>	<u>TOTALS</u>	<u>PERCENT</u>
PASSENGER VEHICLES	58,293	56,190	114,483	87.2
BUSSES	984	975	1,959	1.5
TRUCKS (All Types)	<u>6,739</u>	<u>8,078</u>	<u>14,817</u>	<u>11.3</u>
TOTAL VEHICLES	66,016	65,243	131,259	100.0
PASSENGERS IN AUTOS	80,385	78,018	158,403	76.1
PASSENGERS IN BUSSES	15,593	16,920	32,513	15.6
PEDESTRIANS	<u>8,493</u>	<u>8,860</u>	<u>17,353</u>	<u>8.3</u>
TOTAL PEOPLE	104,471	103,798	208,269	100.0

ACCUMULATION IN CORDON AREA

	<u>TIME</u>	<u>TOTAL ACCUMULATION</u>	<u>PERCENT</u>
AUTOMOBILES	3:00-3:30PM	6,591	5.7
BUSSES	2:30-3:00PM	29	1.5
TRUCKS	8:30-9:00AM	1,407	9.4
TOTAL VEHICLES	2:00-2:30PM	6,345	4.8
PASSENGERS IN AUTOS	3:00-3:30PM	10,424	6.6
PASSENGERS IN BUSSES	12:30-1:00PM	4,801	14.8
PEDESTRIANS	1:30-2:00PM	2,726	15.7
TOTAL PEOPLE	2:00-2:30PM	15,659	7.5

	<u>VEHICLES</u>	<u>PASSENGERS</u>	<u>PERCENT</u>
One Person Per Auto	80,445	80,445	68.1
Two Persons Per Auto	26,238	52,476	23.8
Three Persons Per Auto	6,397	19,191	5.4
Four Persons Per Auto	887	3,548	1.8
Five Persons Per Auto	353	1,765	0.6
Six Persons Per Auto	<u>163</u>	<u>978</u>	<u>0.3</u>
TOTALS	114,483	158,403	100.0

AVERAGE PERSONS PER AUTO..... 1.39