

TRAFFIC ENGINEERING
DEPARTMENT
CITY OF PROVIDENCE

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City of Providence
TRAFFIC ENGINEERING DEPARTMENT
147 Fountain Street



CITY OF PROVIDENCE . MAYOR JOSEPH A. DOORLEY, JR.

TRAFFIC ENGINEERING DEPARTMENT

ROGER T. CHANDLER

Traffic Engineer

JOHN I. LOGAN

Assistant Traffic Engineer

147 Fountain Street

Providence 3, R. I.

February 23, 1965

The Honorable Joseph A. Doorley, Jr.
Mayor of Providence
The Honorable City Council
Providence, Rhode Island

Gentlemen:

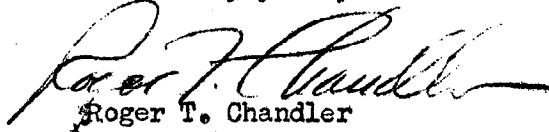
Submitted herewith is the Annual Report of your
Traffic Engineering Department for 1964.

The report reviews the activities of the Department
with respect to physical changes that have been made in the
street system, changes in traffic regulations, and a summary of
the expenditures for the past year.

I want to express my appreciation for your support
during the past ten years. During this period the principal
goal has been to make the best use of the existing streets and
to plan for the future traffic needs of not only the City but
also the Metropolitan area and the State as well, insofar as
these traffic facilities are to be located in Providence.

While substantial progress has been made in
developing these new facilities, much remains to be done in
the years ahead. With your continued support, the creation
of these new traffic facilities and other projects will
continue at a steady pace.

Very truly yours,


Roger T. Chandler
Traffic Engineer

RTC:EM

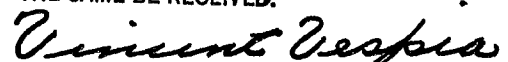
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DEPT. OF CITY CLERK
PROVIDENCE, R.I.

IN CITY COUNCIL

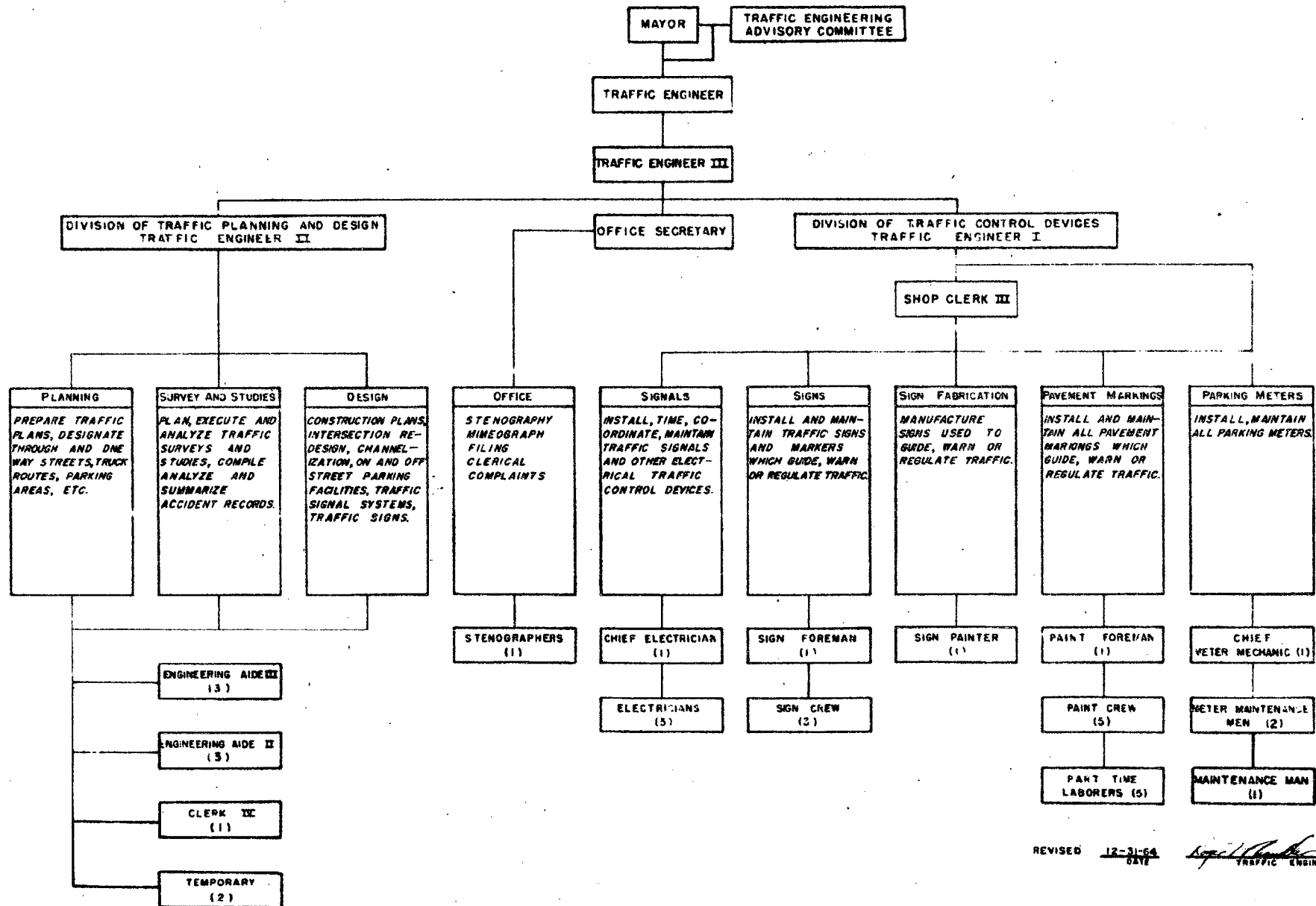
MAR 4 1965

READ:

WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.


CLERK

CITY OF PROVIDENCE TRAFFIC ENGINEERING DEPARTMENT



REVISED 12-31-64
DATE

[Signature]
TRAFFIC ENGINEER

PART I
INTRODUCTION

Downtown Providence now has two modern off-street parking garages, and an operating section of Interstate highway. The remaining portions of Interstate 95 in Providence are under construction and scheduled for completion in 1965.

The basic operational policy of this department has been to make the best use of the existing streets and highways, including those portions of the freeway system that are available for use, to provide the safest and most efficient transportation system possible. As each segment or separate freeway project has progressed from site clearance to construction involving temporary bypass roads to final completion, many changes have been required in the traffic patterns in the construction areas. As these various segments have been completed to form a continuous section of freeway, significant changes in traffic patterns have occurred which indicate

- a) The desire of the motorists to use these new highways;
- b) The value to be received through time saving, accident reduction, and relief of other streets when the system is completed;
- c) The magnitude of the temporary problems that are being created at the ends of each of these segments pending completion of the entire freeway system.

While usage of the complete freeway system is coming closer to being a reality, and the benefits to be derived from this will be tremendous, this system of roads will not be the total solution to all traffic problems of metropolitan Providence. Heavy usage of the completed freeway will create new problems in the vicinity of the various ramp connections to the local streets. On-street and off-street parking will continue to be a major problem in all areas of the City until a truly adequate supply of off-street

parking is created. The off-street spaces must be of such quantity, and the lots or garages designed in such a manner as to be compatible with the street system serving them.

Major traffic problems are involved in each of the redevelopment areas. These problems are not limited to the project area, but extend far beyond the limits of each individual project area.

A great deal of progress has been made in recent years, and the tangible results are just beginning to be realized; but even more remains to be done in the years ahead.

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
Joseph C. Keegan, Finance Director
William E. McCabe, City Solicitor
Howard A. Franklin, Chief of Police
Philip J. Holton, Jr., Director of Public Works
Ralph Matera, Chairman of the City Council's
Committee on Public Works
Frank H. Malley, Director, City Plan Commission
Peter J. Hicks, Jr., Public Service Engineer

The engineers comprising the staff of the Department during 1964 were as follows:

Roger T. Chandler, Traffic Engineer
John I. Logan, Assistant Traffic Engineer
Clinton F. Adams, in charge of the Planning
and Design Division
Norman K. Kollet, in charge of the Maintenance
and Operations Division

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 1963 - 1964

<u>Item</u>	<u>Original Appropriation</u>	<u>Transfer</u>	<u>Spent</u>	<u>Returned General Fund</u>
O	\$176,325.73		\$172,355.97	\$469.76
I	30,365.00	\$3,000.00	32,587.72	777.28
II	43,175.00	7,500.00	50,337.07	337.93
V	22,000.00		14,712.60	287.40
	<u>\$271,865.73</u>	<u>\$10,500.00</u>	<u>\$269,993.36</u>	<u>\$1,872.37</u>

BREAKDOWN OF OPERATING BUDGET

Item O - Salaries \$172,355.97

Item I - Services Other Than Personal

Narragansett Electric Company	\$23,814.31
Other	8,773.41
	<u>\$32,587.72</u>

Item II - Materials and Supplies

Stationery Supplies for Office and Shop	\$ 820.00
Maintenance Materials for Office and Shop	210.00
Repair Parts for Traffic Control Equipment	8,543.00
Materials for Sign Construction and Erection	12,336.00
Street Painting Materials	17,183.00
Repair Parts for Parking Meters	5,265.00
Other	5,980.07
	<u>\$50,337.07</u>

Item V - Plant Equipment

1 Truck Chassis and Cab with Service Body and Aerial Ladder - 1964	\$ 8,935.00
1 Truck Chassis and Cab with Special Service Body - 1964	5,010.00
1 Ultra-Sonic Cleaner System	760.00
Other	7.60
	<u>\$14,712.60</u>

Traffic Signal Installation Loan Account

Original Amount of Loan Account	\$100,000.00
Rebate on Interest	3,227.47
	<u>\$403,227.47</u>

Total Spent in 1964 . . . \$2,556.10

Amount Spent to December 31, 1964 403,204.64

Balance	<u>\$ 22.83</u>
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PART III

1964 ACTIVITIES

1. Construction Activity

Completion of the portions of the Interstate system that ring the downtown area were the most important projects of the year. This construction required scheduling of the contractors' operations so that traffic using major arterial streets would not be disrupted.

During 1964 the following progress was made on the Interstate system and other major projects:

A. Construction Completed and Opened to Traffic

1. Broad Street Bridge (at Byfield Street)
2 lanes . December 30, 1963
4 lanes . July, 1964
2. Broad Street Bridge (at Franklin Street) . April 30, 1964
3. Smith Street Bridge July 16, 1964
4. Orms Street Bridge July 30, 1964
5. Eddy Street Bridge August, 1964
6. I-95 main line
Hayward Park to West Exchange Street . . . August 5, 1964
7. Majestic Off-Street Parking Garage August 27, 1964
8. I-95 main line
Thurbers Avenue to Elmwood Avenue October 9, 1964
9. I-95 main line
West Exchange Street to Orms Street October 29, 1964
10. Elmwood Avenue at Roger Williams Park
Special left turn road (jug handle) November, 1964
11. Allens Avenue at Hurricane Barrier December 9, 1964

B. Construction Started or Continuing

1. I-95 - Elmwood Avenue to Friendly Interchange
2. I-95 - Charles Street to Pawtucket City Line

3. US-6 - Hartford Avenue to City Line
4. New Red Bridge and approach roads
5. Westminster Street Pedestrian Mall
(Construction began March 31, 1964.
Opened officially on November 27, 1964.)
6. I-95 to Route 146 temporary connection
(Started December 8, 1964 and completed January 8, 1965)

C. Street Reconstruction and Resurfacing Projects Which Required Special Handling, Such As Detours or Special Hours of Work Included:

1. Broad Street (three separate sections)
2. Kennedy Plaza
3. Emmet Square
4. South Main Street (Packet Street to Market Square)
5. North Main Street (Market Square to Thomas Street)

2. Traffic Signals, Signs, and Pavement Markings

This Department is responsible for the installation and maintenance of all traffic control devices used on City streets.

A. Traffic Signals

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

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
1. Traffic Actuated Equipment (Vehicle actuated only)	51	48	44	44	43
2. Traffic Actuated Equipment (Vehicle and pedestrian actuated)	14	13	12	12	12
3. Fixed Time Equipment	93	82	80	82	83
4. Fixed Time Equipment (Equipped with pedestrian signal heads)	26	24	24	24	23
5. Special Pedestrian Crossings	5	5	5	5	4
6. Flashing (Red and Amber)	<u>3</u>	<u>2</u>	—	—	—
Totals	<u>192</u>	<u>174</u>	<u>165</u>	<u>167</u>	<u>165</u>

A preventative maintenance program has been used to prolong the life of the equipment and to maintain optimum operating efficiency. This maintenance program includes the cleaning of lenses and reflectors, painting exposed equipment, periodic replacement of bulbs, testing and repair of vehicle detectors, checking time settings and adjusting controllers on the street, and periodically bringing the controllers into the shop for complete cleaning, lubrication, and repair.

One member of the crew is on stand-by duty for "trouble calls" during all non-working hours. The following summary shows the number of trouble calls for both working and non-working hours.

<u>Trouble Calls During Working Hours</u>	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
1. Mechanical or electrical	225	305	205	179	168
2. Lamps burned out	136	164	116	72	156
3. Damage to equipment	105	19	81	55	109
4. No trouble found	<u>64</u>	<u>78</u>	<u>59</u>	<u>55</u>	<u>69</u>
	<u>530</u>	<u>566</u>	<u>461</u>	<u>361</u>	<u>502</u>

<u>Trouble Calls During Non-Working Hours</u>					
1. Mechanical or electrical	234	214	211	219	127
2. Lamps burned out	94	60	64	47	70
3. Damage to equipment	52	12	22	27	41
4. No trouble found	58	36	37	39	46
5. Miscellaneous (bent posts, signs, etc)	<u>203</u>	<u>176</u>	<u>91</u>	<u>68</u>	<u>75</u>
	<u>641</u>	<u>498</u>	<u>425</u>	<u>400</u>	<u>359</u>

The major new signal construction by Department personnel included:

1. Installing signals at Prairie Avenue and Thurbers Avenue
2. Installing signals at Webster Avenue and Union Avenue
3. Revamping signals at Elmwood Avenue and Roger Williams Avenue

4. Installing neon sign at Benefit Street and North Main Street
5. Installing neon sign at Benefit Street and Wickenden Street
6. Installing flasher signals at Admiral Street and Douglas Avenue

B. Traffic Signs

The sign crews are responsible for the installation of all new signs and the maintenance of the signs that are already in use. Replacing faded signs, straightening bent posts, painting these posts, cleaning dirty signs, and the installation and repair of meter and pedestrian posts are part of the maintenance program for these crews. These crews also assist in the posting of detours and in snow removal in the Pershing Square Parking Lot.

<u>Sign Installation and Maintenance</u>	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
New installations	1348	1581	908	2486	757
Signs replaced	4545	6380	5342	2827	3229
Signs repaired	<u>409</u>	<u>390</u>	<u>331</u>	<u>257</u>	<u>306</u>
	<u>6302</u>	<u>8351</u>	<u>6581</u>	<u>5570</u>	<u>4292</u>
Steel posts installed	1017	1100	928	1052	665
Movable standards placed	1235	1138	1055	911	735
Parking meter posts	164	126	138	123	104
Pedestrian posts	<u>46</u>	<u>44</u>	<u>25</u>	<u>39</u>	<u>21</u>
	<u>2462</u>	<u>2408</u>	<u>2146</u>	<u>2125</u>	<u>1525</u>
<u>Signs Manufactured</u>					
Reflectorized - wood blanks	1440	1689	1371	1068	1195
Painted wood blanks	3637	6446	5103	4853	3419
Other (steel, plastic, etc.)	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>12</u>
	<u>5077</u>	<u>8135</u>	<u>6474</u>	<u>5921</u>	<u>4626</u>

C. Painting

The paint crews are responsible for applying all pavement markings throughout the City. Maximum effort in painting is concentrated in June and July when the weather has become warm enough to permit night work.

During inclement weather the crews prepare sign blanks, construct portable sign bases, and assist the sign or signal crews. During winter months they repair the paint machines and assist in snow removal in the Pershing Square Parking Plaza in addition to the other items mentioned.

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
Gallons of reflectorized paint used	4541	4629	4852	3832	4249
Miles of street marked (total program)	114.7	109	108	108	108
Miles of street repainted this year	73	88	-	-	-
Number of streets marked (total program)	1143	1142	1141	1141	1141
Number of streets repainted this year	100	115	-	-	-
Number of intersections marked with crosswalks:					
Total program	747	741	734	738	730
Repainted this year	680	710	-	-	-

3. Parking Meters and Parking Lots

The parking meter maintenance crew is responsible for the physical maintenance and repair of the meter system. All coin collection is done by a private firm under contract with the Finance Department.

During 1964 an extensive program of overhaul and rehabilitation was started. Under this program each meter will be completely overhauled, worn parts replaced, the housing cleaned and painted, and new instruction plates installed. This maintenance program will prolong the useful life of these meters for several years. It will become necessary to schedule a replacement of these meters, since this particular make and model is no longer being manufactured.

The following is a summary of all revenues collected from parking meters and other parking facilities by the City of Providence:

<u>Year</u>	<u>Forsling Sq. Parking Lot</u>	<u>Street Meters</u>	<u>Number of Meters in Service</u>
1947	----	\$ 41,245.20	----
1948	----	\$125,055.92	----
1949	----	\$111,656.02	----
1950	----	\$110,799.77	1121
1951	----	\$132,384.14	1621
1952	\$19,113.22	\$158,345.64	1659
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	\$187,774.62	1824
1957	\$29,593.03	\$184,713.15	1845
1958	\$28,021.73	\$173,094.76	1824
1959	\$27,016.88	\$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

The City also derived income from the Park 'n Lock Lot, the Francis Street Parking Deck, the Metropolitan Parking Lot, and the Eddy Street-Fountain Street Parking Lot (old bus station).

<u>Year</u>	<u>Park 'n Lock</u>	<u>Francis Street Parking Deck</u>	<u>Metropolitan Parking Lot</u>	<u>Eddy and Fountain Lot (Old Bus Station)</u>
1955	\$12,829.66			
1956	\$20,743.60			
1957	\$24,069.57			
1958	\$23,002.55	\$1,725.69 (3 months)		
1959	\$17,740.48 (11 months)	\$4,315.13 (7 months)		
1960	\$24,531.99	\$11,718.89		
1961	\$21,761.41	\$11,581.40		
1962	\$21,761.41	\$10,569.70	\$14,214.16	
1963	\$22,739.25	\$9,032.78	\$14,214.12	
1964	\$23,065.42	\$6,971.64	\$13,000.00 (Estimate)	\$40,000.00

4. Majestic Parking Garage

On August 27, 1964, the Majestic Parking Garage was opened to the public on a partial basis. It was opened completely and formally dedicated on September 2, 1964. The original report and recommendation that a modern multi-story parking garage be constructed on this site to serve the parking needs of downtown Providence was made by the City Plan Commission in 1950. The chronology of the more important events which led to the construction of this garage are:

- a. An Act Providing for Off-Street Parking
Facilities in Providence -- Chapter 2307 -- Public Laws of 1949
- b. An Act Providing for Off-Street Parking
Facilities in Providence -- Chapter 2514 -- Public Laws of 1950
- c. City Plan Commission Report on Parking September, 1950
- d. Voters of Providence approved issuance of
\$1,700,000 in "Off-Street Parking Facilities
Bonds" November 7, 1950

- e. State Constitutional Amendment regarding parking 1951
- f. Survey of off-street parking demand and development of Parking Site A June, 1951
- g. Supplemental Report on Site A September, 1951
- h. Architect hired to prepare plans and specifications for garage on Site A October, 1951
- i. Survey of off-street parking demand and development of Parking Garage Site B December, 1951
- j. Recommendation to build Garage Site A April, 1952
- k. Action on site withheld when site owner indicated intent to construct a garage
- l. Preliminary injunction issued in Superior Court to prevent condemnation of Site A February, 1955
- m. Restraining order denied by Superior Court October, 1956
- n. Case appealed to Supreme Court
- o. Decision by Supreme Court indicating need for additional legislation May 19, 1959
- p. An Act Providing for Off-Street Parking Facilities in the City of Providence
Chapter 121 - Public Laws of 1960
- q. Report to the City Council recommending acquisition of Site B February, 1961
- r. Resolution of acquisition passed by City Council April, 1961
- s. Outlet Company announces plans to construct a garage January, 1962
- t. Solicitation of bids for construction of garage on Site B by private developer (No bids received) April, 1962
- u. Construction of Outlet Company garage started May, 1962
- v. Updating of Feasibility Report on the Majestic Parking Garage (Site B) August, 1962
- w. Appointment of members to a non-profit corporation September, 1962

- x. Transfer of site to the Redevelopment Agency for inclusion within the Weybosset Hill Redevelopment area March, 1963
- y. Contract let for site clearance April, 1963
- z. Formal opening of Outlet Company garage July 16, 1963
- aa. Ruling by Internal Revenue Service that bonds of Non-profit Corporation will be tax exempt August, 1963
- bb. Non-profit Corporation opened bids for construction of garage October 1, 1963
- cc. Groundbreaking ceremony October 15, 1963
- dd. Unofficial opening of garage for business August 27, 1964
- ee. Formal opening of garage September 2, 1964

5. Complaints and Requests

Complaints and requests originating from individual citizens constitute a major part of the field investigation work of the Department. Upon receipt of either a complaint or request for some traffic control measure, a thorough field investigation is made, the results reviewed, and action taken where necessary.

The following indicates the general classification of complaints and requests received:

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
Parking problems	115	108	113	133	132
Loading zones	20	14	36	25	25
Intersections studied for control by:					
Signs	74	65	41	46	54
Traffic Signals.	12	6	9	8	8
One-way streets	12	12	5	12	3
Miscellaneous	<u>52</u>	<u>37</u>	<u>58</u>	<u>37</u>	<u>40</u>
	<u>285</u>	<u>242</u>	<u>262</u>	<u>261</u>	<u>262</u>

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

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>	<u>1960</u>
Requests granted	71%	65%	51%	50%	50%
Requests denied	24%	21%	26%	36%	26%
Requests pending	3%	8%	9%	8%	7%
Closed by complainant	<u>2%</u>	<u>6%</u>	<u>14%</u>	<u>6%</u>	<u>17%</u>
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

6. Traffic Regulations Established

For 1964 a total of 362 traffic regulations were established on the City streets, as shown in the following list. These changes were brought about by changes in the traffic flow, and include temporary regulations established during the construction periods, as well as regulations established as a result of complaints and requests.

Parking Prohibited in Designated Places	83
No Parking 8 AM to 6 PM or similar time limits	7
No Parking 8 AM to 10 AM or similar time limits	8
One Hour Parking 8 AM to 6 PM or similar time limits	13
Two Hour Parking 8 AM to 6 PM or similar time limits	6
No Parking to Corner	67
No Stopping, Standing to Corner	3
No Parking Between Signs	11
No Parking - Bus Stop	9
No Parking - Cab Stand	3
No Standing 4 PM to 6 PM	13

No Standing Any Time	2
Loading Zone	8
Yield Control	21
Stop Control	64
Traffic Signal Control	17
One Way Streets	10
Turn Restrictions	13
Truck Load Limit	<u>4</u>
	<u>362</u>

7. Traffic Accident Analysis

In order to establish a priority for engineering studies, to serve as a tool in determining accident prevention methods, and provide factual information to the police as well as the public, the Traffic Engineering Department assembles and analyzes all traffic accidents reported in the City. To obtain as complete coverage as is possible, reports are obtained directly from the Providence Police Department, the Rhode Island Department of Motor Vehicles, the United Transit Company, and the Yellow Cab Company.

A comparison of the 1963 and 1964 totals of accidents reported in writing shows a total of 22 fatalities during 1964 as compared with 13 fatalities for the previous twelve-month period, a decrease of 115 in the number of reported personal injury accidents, and an increase of 1,129 reported property damage accidents. A summary of accident statistics for the past four years is shown in the table on the following page.

Accident Statistics Summary

	<u>1964</u>	<u>1963</u>	<u>1962</u>	<u>1961</u>
<u>TYPE OF ACCIDENT</u>				
Fatal	22	13	21	14
Personal Injury	1659	1774	2079	2430
Property Damage	<u>5072</u>	<u>3943</u>	<u>3914</u>	<u>5374</u>
	<u>6753</u>	<u>5730</u>	<u>6014</u>	<u>7818</u>

FATALITIES

Pedestrians	15(a)	11(b)	12(c)	8
Riders	<u>7</u>	<u>2</u>	<u>9</u>	<u>6</u>
	<u>22</u>	<u>13</u>	<u>21</u>	<u>14</u>

PERSONS INJURED

Pedestrians	427	385	465	463
Riders	<u>1651</u>	<u>1818</u>	<u>2200</u>	<u>2949</u>
	<u>2078</u>	<u>2203</u>	<u>2665</u>	<u>3412</u>

ESTIMATED COST (d)

1964 - \$5,800,220
 1963 - \$6,300,000
 1962 - \$7,000,000
 1961 - \$7,000,000

- (a) Two children under 10
- (b) Two children under 10 including 1 bicyclist
- (c) Seven children under 10
- (d) Using current National Safety Council unit cost estimates for each year

Year	<u>Population</u>		<u>Vehicle Registration</u>		<u>Motor Fuel</u> <u>Purchased</u> <u>(Gallons)</u>	<u>Licensed</u> <u>Operators</u>
	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			7,608
1925	679,260	267,918	127,935			117,067
1930	687,497	252,981	140,092		86,606,700	159,155
1941	713,346	253,504	202,829		155,053,000	227,142
1943	----	----	177,396		89,197,000	206,093
1945	----	----	189,374		101,450,000	318,559
1950	791,896	248,674	257,024	64,000	172,155,000	309,659
1955	----	----	325,186	72,382	232,454,300	357,576
1956	----	----	333,517	74,817	236,500,000	362,545
1957	----	----	339,978	73,636	244,534,000	392,679
1958	----	----	345,620	72,469	247,779,700	397,701
1959	----	----	355,445	70,769	251,815,700	409,597
1960	859,488	207,498	363,958	71,274	256,438,195	415,792
1961	----	----	372,409	70,184	261,046,803	421,338
1962	----	----	388,735	69,988	273,001,747	430,526
1963	----	----	403,933	69,265	281,297,424	440,726
1964	----	----	424,028	71,683	288,749,593	456,600

Metropolitan Providence Population:

1950	783,210
1960	816,148

Downtown Providence Cordon Summary

	Total Vehicles Entering and Leaving CBD 8 AM - 6 PM	Passenger Cars Entering and Leaving CBD 8 AM - 6 PM	Number of Persons Entering and Leaving CBD			
			Auto	Bus	Walking	Total
1945	139,500	112,500				
Aug. 1955	173,500	144,200	230,200	66,300	23,200	319,700
Dec. 1955	178,600	148,600	223,400 (71%)	70,500 (22%)	20,900 (7%)	314,800
Aug. 1957	181,700	152,600	245,900 (73%)	62,800 (19%)	27,200 (8%)	335,900
Dec. 1957	195,600	162,700	247,600 (71%)	72,800 (21%)	30,300 (8%)	350,700
Oct. 1959	186,800	159,200	235,200 (74%)	57,400 (18%)	27,200 (8%)	319,800
Oct. 1960	186,200	157,200	224,500 (74%)	54,700 (18%)	24,800 (8%)	304,000
Oct. 1961	179,100	151,500	223,900 (74%)	52,100 (17%)	25,100 (9%)	301,100
Oct. 1962	161,300	136,200	197,100 (72%)	51,400 (19%)	23,800 (9%)	272,300
Oct. 1963	164,100	139,400	202,300 (74%)	46,700 (17%)	24,000 (9%)	273,000
Oct. 1964	162,751	138,733	199,765 (76%)	38,060 (15%)	22,845 (9%)	260,670

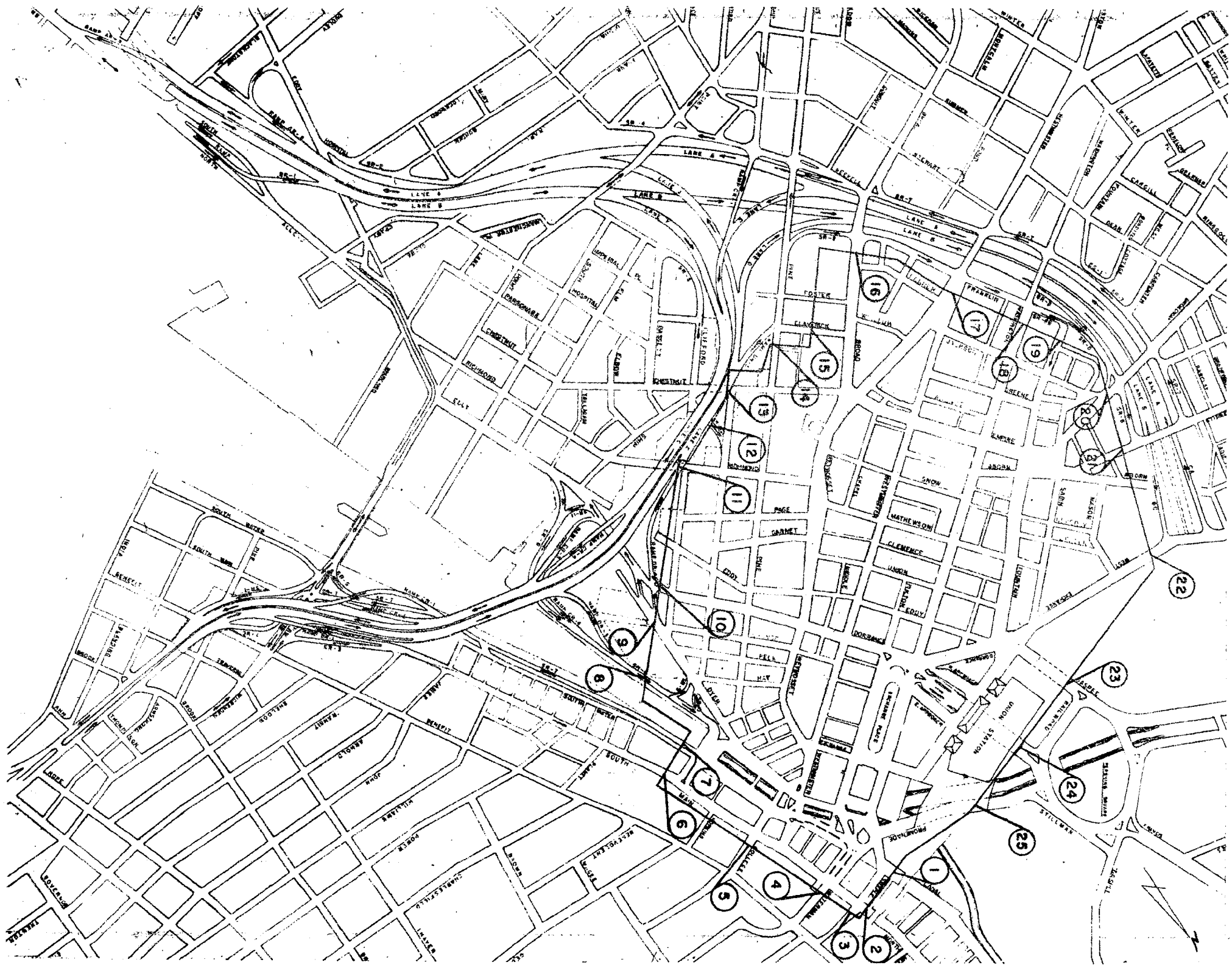
Downtown Parking Space Inventory

	Oct. 1945	Jan. 1949	Jan. 1955	Jan. 1959	Jan. 1963	Jan. 1964	Jan. 1965
Off Street Lots:							
Public	5,091	5,571	8,232	7,219	7,759	7,773	7,849
Private	706	755	1,078	1,247	1,169	1,204	1,268
Garages:	825	862	812	777	797	1,247	1,655
TOTAL OFF STREET	6,622	7,188	10,122	9,243	9,725	10,224	10,772
TOTAL ON STREET	2,070	1,490	1,409	1,196	1,114	1,084	1,050
GRAND TOTAL	8,692	8,597	11,531	10,439	10,839	11,308	11,822

Number of Vehicles Entering and Leaving the Central Business District
on a Weekday Between 8 a.m. and 6 p.m. at Downtown Cordon Stations

Station No. (f)	Street	1945	1955	1958	1960	1962	1963	1964
1	Canal	8,350	9,750	11,100	10,950	10,550	11,250	11,200
2	North Main	7,450	10,050	10,150	12,100	11,100	10,100	10,600
3	Thomas	4,350	7,050	7,600	7,250	6,150	6,850	6,700
4	Waterman	3,300	6,100	6,150	6,050	5,450	6,050	5,750
5	College	3,900	4,050	4,050	4,250	3,500	3,250	3,550
6	South Main	5,800	12,750	6,400	7,000	6,550	7,100	6,600
7	South Water	6,100	(c)	7,550	7,800	8,000	8,300	7,500
8	Service Road #8	(a)	(a)	10,800	10,950	11,000	12,000	10,900
9	Dyer	(b)	(b)	9,600	7,900	7,150	7,300	8,200
10	Dorrance	(b)	(b)	3,250	3,600	3,850	4,450	4,500
11	Richmond	3,550	3,800	3,900	3,700	4,150	3,600	3,350
12	Service Road #12	(a)	(a)	3,050	1,400	1,650	1,700	1,700
13	Chestnut	1,750	2,100	2,900	3,050	2,900	3,050	2,450
14	Pine	2,850	3,850	4,450	3,600	3,450	3,350	3,700
15	Claverick	1,550	1,450	1,700	2,350	3,450	2,900	2,350
16	Broad	7,300	10,400	10,200	11,700	9,050(d)	8,400	8,750
17	Westminster	6,000	9,000	9,150	8,650	10,450(d)	10,000	6,850
18	Washington	5,500	5,100	5,150	4,350	2,150	2,600	4,850
19	Fountain	1,950	3,450	3,450	3,450	(c)	150	300
20	Broadway	8,150	9,900	10,950	9,650	10,500	10,800	11,100
21	Atwells	2,950	4,250	4,500	4,450	5,450	5,700	5,800
22	West Exchange	2,900	2,550	2,550	2,550	2,800	2,650	4,250
23	Gaspee	14,100	18,050	17,500	19,700	16,200	16,500	17,500
24	Francis	3,100	4,000	3,150	3,500	3,750	3,850	3,600
25	Promenade	8,850	10,550	10,550	10,350	10,550	10,800	9,200
	Aborn	2,100	2,400	2,400	2,350	(e)	--	--
	Beacon	3,000	5,150	6,150	4,750	(e)	--	--
	Carpenter	1,800	1,750	1,750	1,750	--	--	--
	Clifford	1,150	1,800	(d)	--	--	--	--
	Eddy	11,800	16,650	(d)	--	--	--	--
	Franklin	3,100	5,200	5,200	5,200	(d)	--	--
	Friendship	3,400	3,350	(d)	--	--	--	--
	Minor Streets (Estimated)	3,350	4,050	2,050	1,800	1,500	1,500	1,500
	TOTALS	<u>139,450</u>	<u>178,550</u>	<u>187,350</u>	<u>186,150</u>	<u>161,300</u>	<u>164,200</u>	<u>162,750</u>

Notes: (a) not existing at this time
 (b) not a cordon line station at this time
 (c) closed due to construction at time of count
 (d) cordon line changed due to Freeway construction
 (e) street permanently closed due to Freeway construction
 (f) see map - opposite page



Average Daily Volumes of Traffic
Entering and Leaving the City of Providence
on Arterial Routes

No. (a)	Street	1951-52	1960	1962	1963	1964
1	Red Bridge	27,300	26,000	22,200	21,300	22,000
2	G. M. Cohan Blvd.	35,500	44,500	55,500	57,000	65,000
3	Narragansett Blvd.	19,400	22,600	24,000	22,900	19,300
4	Broad Street	16,100	19,500	22,000	20,500	21,700
5	Elmwood Avenue	17,400	15,600	16,000	16,400	24,000
6	Narragansett Avenue	3,100	4,200	4,200	4,200(c)	3,700
7	Pontiac Avenue	5,400	6,500	5,800	6,700	6,900
8	Reservoir Avenue	20,900	34,500	36,000	36,800	42,000
9	Cranston Street	16,000	16,000	13,000	17,300	13,200
10	Webster Avenue	8,000	10,000	6,000	6,200	6,100
11	Laurel Hill Avenue	3,200	3,600	3,300	3,400	3,600
12	Pocasset Avenue	6,400	8,500	9,000	10,100	10,000
13	Plainfield Street	4,700	7,800	10,000	11,700	12,600
14	Sunset Avenue	2,200	2,800	3,000	4,000	4,000
15	Hartford Avenue	13,600	13,200	12,000	17,400	20,600
16	Killingly Street	6,600	6,500	5,600	6,700	6,900
17	Manton Avenue	6,100	10,000	10,000	10,000	14,300
18	Fruit Hill Avenue	4,600	8,000	6,900	8,900	8,100
19	Smith Street	13,200	16,800	15,800	17,400	18,900
20	Admiral Street	1,700	3,000	6,000	5,200	5,700
21	Douglas Avenue	5,700	6,700	4,600	6,800	7,600
22	Louisquisset Pike	(b)	13,400	11,000	10,000	13,000
23	Charles Street	9,400	6,000	6,000	5,300	5,500
24	Smithfield Avenue	11,000	10,000	12,900	14,400	12,400
25	North Main Street	29,500	34,000	34,000	28,500	32,000
26	Hope Street	8,900	13,300	12,800	13,500	13,800
TOTALS		<u>295,900</u>	<u>363,000</u>	<u>367,600</u>	<u>382,600</u>	<u>412,900</u>

Notes: (a) See map on opposite page
(b) Not existing at this time
(c) Estimated figure

AVERAGE DAILY VOLUMES OF TRAFFIC
ENTERING AND LEAVING
THE
CITY OF PROVIDENCE
ON
ARTERIAL ROUTES

