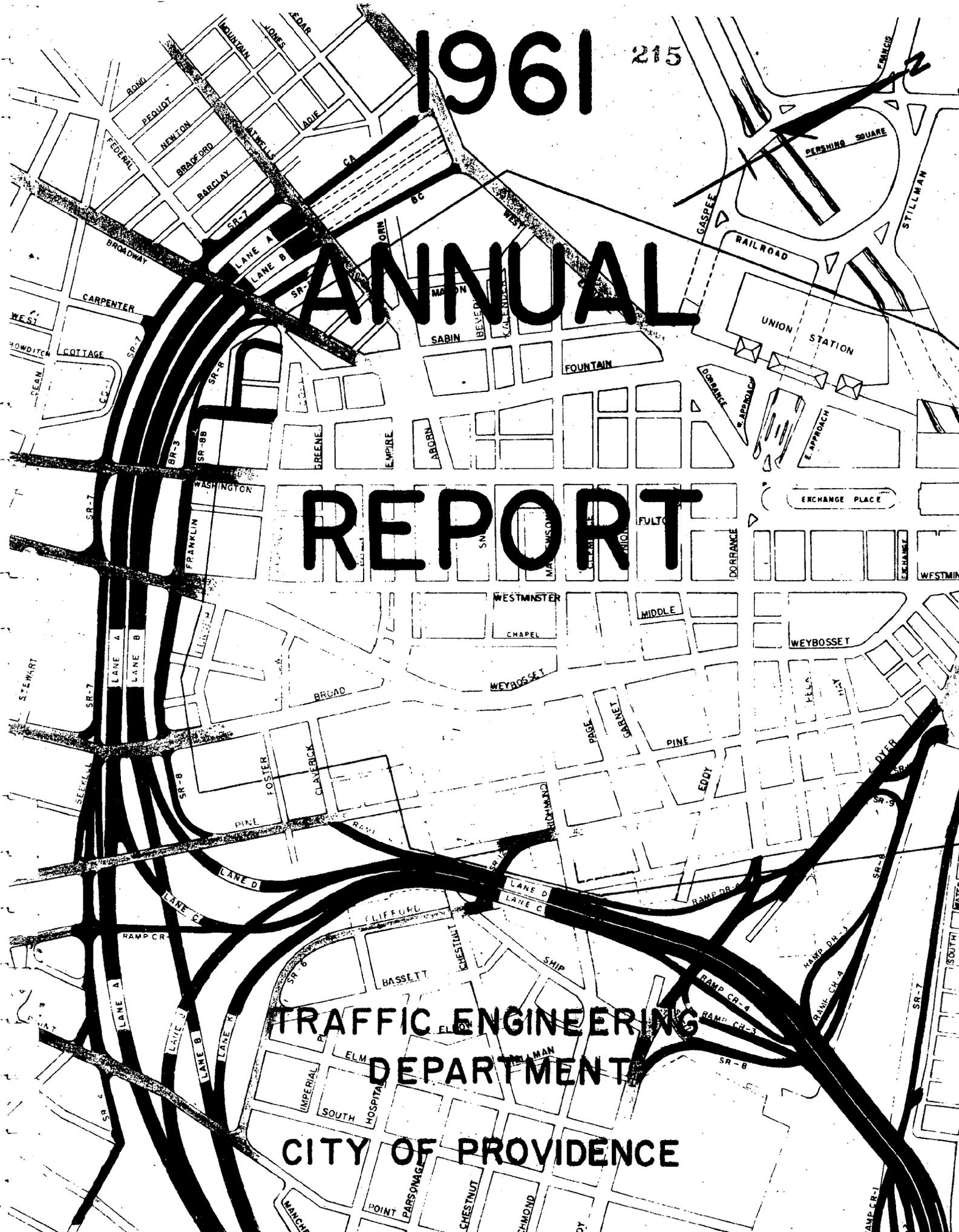


1961

215

ANNUAL REPORT

TRAFFIC ENGINEERING
DEPARTMENT
CITY OF PROVIDENCE



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City of Providence

TRAFFIC ENGINEERING DEPARTMENT

147 Fountain Street



CITY OF PROVIDENCE - RHODE ISLAND - Walter H. Reynolds, Mayor

TRAFFIC ENGINEERING DEPARTMENT

ROGER T. CHANDLER
Traffic Engineer
JOHN I. LOGAN
Assistant Traffic Engineer

147 Fountain Street
Providence 3, R. I.

February 28, 1962

The Honorable Walter H. Reynolds
Mayor of Providence
The Honorable City Council
Providence, Rhode Island

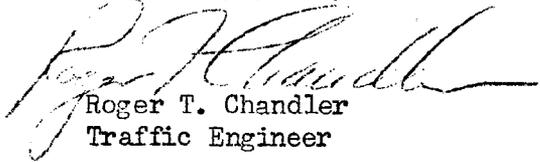
Gentlemen:

Submitted herewith is the Annual Report of your Traffic Engineering Department for 1961.

The report reviews the activities of this department with respect to physical changes that have been made in the street system, changes in regulations, a review of department organization, and a summary of expenditures of the annual budget.

With your continued support, this department will continue in its efforts to make the best possible use of our existing streets, and to minimize as much as possible the traffic disruptions necessary as a result of the new major construction now taking place.

Very truly yours,


Roger T. Chandler
Traffic Engineer

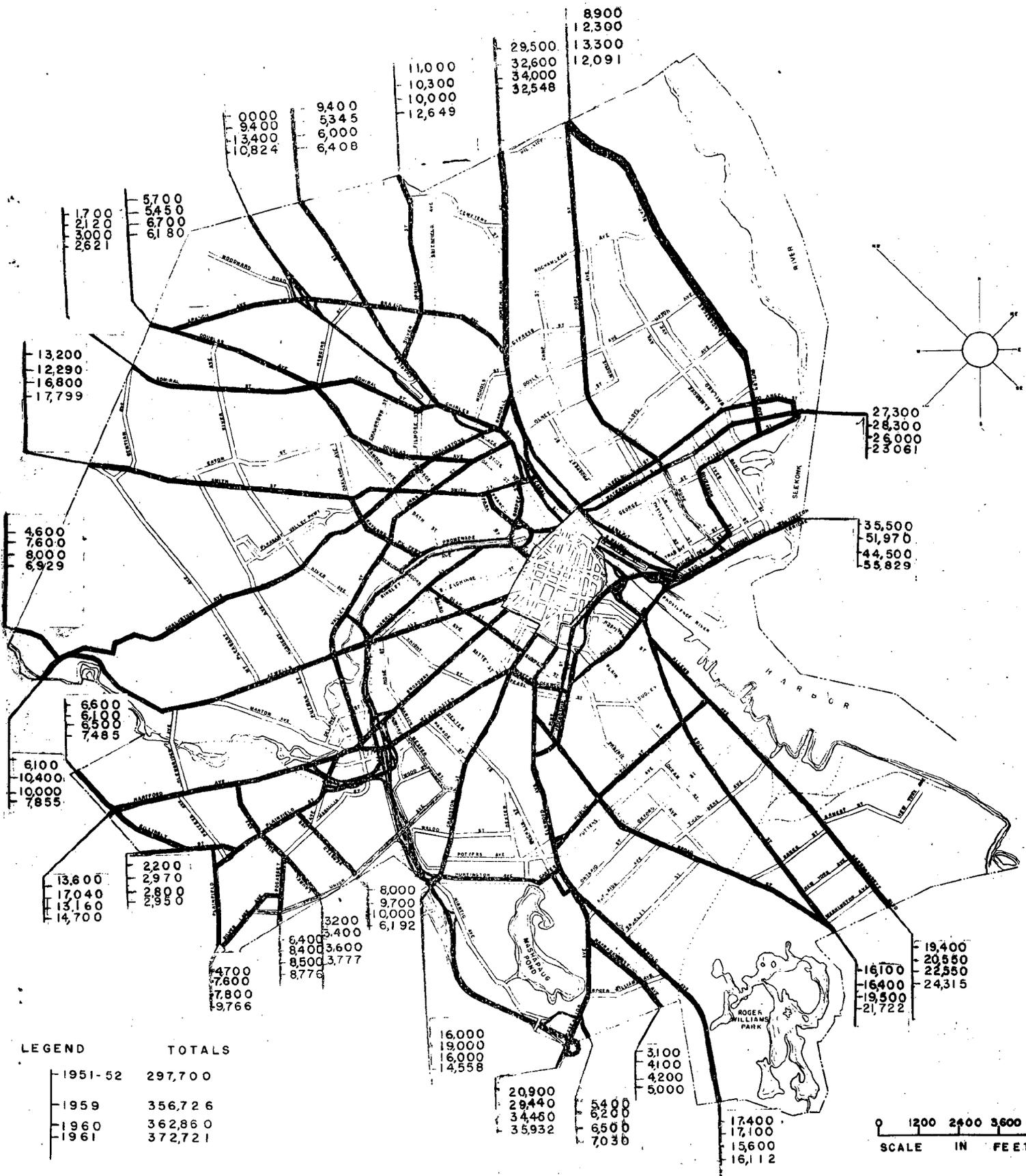
RTC:EM

IN CITY COUNCIL

MAR 15 1962

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


D. Everett Whelan
CLERK

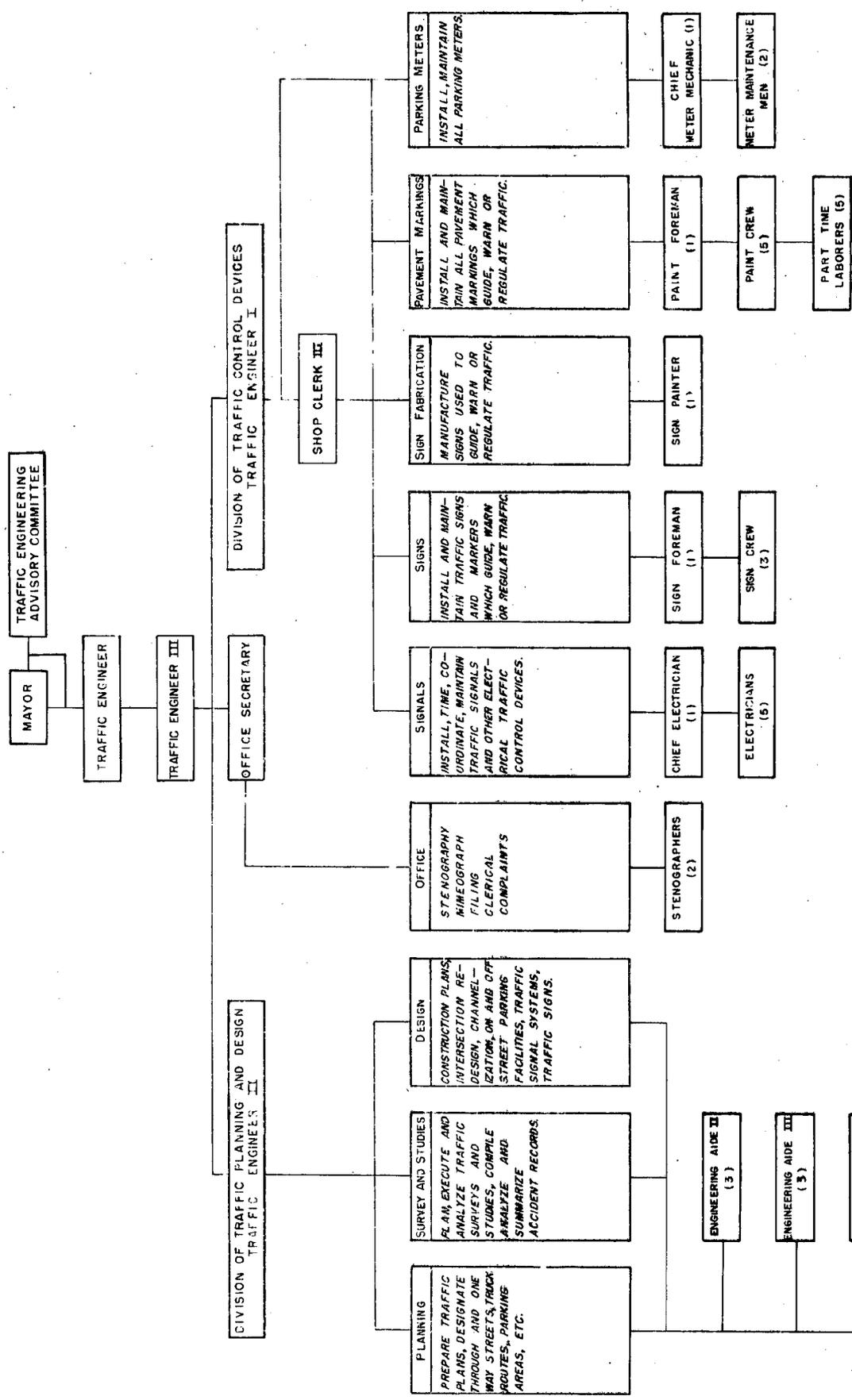


LEGEND	TOTALS
1951-52	297,700
1959	356,726
1960	362,860
1961	372,721

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

0 1200 2400 3600 4800
SCALE IN FEET

CITY OF PROVIDENCE TRAFFIC ENGINEERING DEPARTMENT



REVISED 12-31-61
DATE

[Signature]
TRAFFIC ENGINEER

PART I

Introduction

The projects with highest priority in 1961 were freeway design, freeway construction, and off-street parking. Substantial progress was made on the design of several sections of the Interstate highway now being constructed through Providence. However, the progress made on the ground is of greater interest to the motoring public.

Several of the bridges on the Stage II section (Hayward Park to Public Street) were completed, and portions of the main line pavement were laid between Blackstone Street and Point Street. While a considerable amount of work is still to be done on this section of the freeway, there is no doubt that substantial portions of this section will be opened to traffic during 1962. Construction contracts were let and actual construction started on two other sections of the freeway--Stage III, the section from Hayward Park to West Exchange Street; and Stage IV, the section from Blackstone Street south to Eddy Street. As these projects progress, a continued effort will be made by the Traffic Engineering Department to maintain the existing street system in a safe and efficient operating condition from a traffic flow point of view; and to provide the necessary service to the State Department of Public Works and their contractors so that the required detours can be established and effectively maintained through or around the construction areas.

Definite progress was made toward the ultimate goal of creating modern off-street parking structures in the downtown area by the condemnation of the block bounded by Aborn, Fountain, Beverly and Washington Streets. A lease document to cover the leasing of this land to a private developer was prepared together with other factual material regarding the site, including the results of borings. Public bids have been solicited for the construction

and operation of the proposed facility. These bids will be opened on April 10, 1962. The invitation to bid provides that preliminary plans and specifications shall be submitted with the bid. When the successful bidder has been determined and notified, he will have 120 days in which to submit final plans and specifications for review and approval. Garage construction is to start within 60 days following the signing of the lease.

DOWNTOWN PROVIDENCE GORDON 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			Total
			Auto	Bus	Walking	
1945	139,800	112,500				
Aug. 1955	176,200	146,900	232,800	66,300	23,200	322,300
Dec. 1955	178,700	148,600	223,400 (71%)	70,500 (22%)	20,400 (7%)	314,800
Aug. 1957	181,700	152,600	245,900 (73%)	62,800 (19%)	27,200 (8%)	335,900
Dec. 1957	195,400	162,700	247,600 (71%)	72,800 (21%)	30,300 (8%)	350,700
Oct. 1958	184,100	158,300	234,300 (71%)	62,200 (19%)	31,000 (10%)	327,500
Oct. 1959	188,914	159,200	235,177 (73.5%)	57,443 (18.5%)	27,176 (8%)	319,796
Oct. 1960	186,124	157,248	224,540 (74%)	54,703 (18%)	24,802 (8%)	303,415
Oct. 1961	179,216	151,458	223,905 (74.3%)	52,094 (17.3%)	25,048 (8.4%)	301,107

DOWNTOWN PARKING SPACE INVENTORY

	Oct. 1945	Jan. 1949	Jan. 1955	Jan. 1959	Jan. 1961	Jan. 1962
Off Street Lots:						
Public	5,091	5,571	8,232	7,219	7,233	7,676
Private	706	755	1,078	1,247	1,231	1,151
Garages	825	862	812	777	777	797
TOTAL OFF STREET	6,622	7,188	10,122	9,243	9,241	9,624
TOTAL ON STREET	2,070	1,409	1,409	1,196	1,174	1,153
GRAND TOTAL	8,692	8,597	11,531	10,439	10,415	10,777

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	104,390			113,545
1930	687,497	252,981	138,573		86,606,700	155,000
1941	713,346	253,504	202,829		155,053,000	246,937
1943	---	---	177,396		89,197,000	206,093
1945	---	---	183,419		101,450,000	323,621
1950	791,896	248,674	254,400	64,000	172,155,000	325,586
1955	---	---	315,390	72,382	232,454,300	343,662
1956	---	---	323,947	74,817	236,500,000	402,228
1957	---	---	330,816	73,636	244,534,000	367,774
1958	---	---	336,000	72,469	247,779,700	391,737
1959	---	---	345,000	70,769	251,815,700	389,426
1960	859,488	207,498	354,921	71,274	256,438,195	392,304
1961	---	---	363,245	70,184	258,451,658*	399,707

* December estimated

Metropolitan Providence Population:

1950 783,210

1960 816,148

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
- Walter E. Stone, Chief of Police
- Charles F. McElroy, 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 1961 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
- Philip C. Lenz, 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 1960 - 1961

<u>Item</u>	<u>Original Appropriation</u>	<u>Transfer</u>	<u>Spent</u>	<u>Returned General Fund</u>
0	\$159,732.83		\$154,094.62	\$1,138.21
I	32,935.00	\$4,000.00	36,298.26	636.74
II	39,525.00	500.00	39,949.30	75.70
V	6,950.00		6,663.20	286.80
	<u>\$239,142.83</u>	<u>\$4,500.00</u>	<u>\$237,005.38</u>	<u>\$2,137.45</u>

BREAKDOWN OF OPERATING BUDGET

Item 0 - <u>Salaries</u>	<u>\$154,094.62</u>
Item I - <u>Services Other Than Personal</u>	
Narragansett Electric Company	\$22,435.12
Other	<u>13,863.14</u>
	<u>\$36,298.26</u>
Item II - <u>Materials and Supplies</u>	
Stationery Supplies for Office and Shop	\$ 751.00
Maintenance Materials for Office and Shop	352.00
Repair Parts for Traffic Control Equipment	4,890.00
Materials for Sign Construction and Erection	11,942.00
Street Painting Materials	16,030.00
Repair Parts for Parking Meters	890.00
Other	<u>5,094.30</u>
	<u>\$39,949.30</u>
Item V - <u>Plant Equipment</u>	
Pickup Truck	\$6,075.00
Traffic Counter	490.00
Half-Wave Battery Charger	56.20
2 Stop Watches	<u>42.00</u>
	<u>\$6,663.20</u>

Traffic Signal Installation Loan Account

Original Amount of Loan Account	\$400,000.00
Rebate on Interest	3,227.47
	Total <u>\$403,227.47</u>
Total Spent in 1961	\$693.55
Total Amount Spent to December 31, 1961	<u>\$396,917.89</u>
Balance	<u>\$6,309.58</u>

PART III

1961 ACTIVITIES

1. Construction Program

Major construction projects that required the continued services of the Traffic Engineering Department in establishing detours, rerouting traffic, and providing special signing were Stage II of Interstate 95, between Hayward Park and Public Street, and associated work on the Hurricane Barrier requiring crossings of Allens Avenue.

An accelerated resurfacing program by the Public Works Department required considerable off-peak hours, Saturday and Sunday work rerouting traffic at the following locations:

STREETS:

Atwells Avenue--Valley to Academy
 Cedar Street--West Exchange--Bradford
 Chestnut Street--Bassett to Clifford
 DePasquale Avenue--Cedar to Broadway
 Ives Street--Angell to India
 Richmond Street--Ship to Weybosset
 Spruce Street--Bond to Lilly
 Promenade Street--Memorial Square to Pershing Square
 Ellenfield Street--Allens to Eddy

INTERSECTIONS:

Memorial Square
 Atwells-Eagle-Harris
 George M. Cohan Boulevard-East Street
 Benefit-Waterman
 East River-Waterman
 Chalkstone-Raymond
 Oakland-Smith

2. Signals, Signs, and Pavement Markings

The installation and maintenance of traffic controls continue to be the major operational function of this department.

a) Traffic Signals

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

<u>Intersection Controlled By</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
1) Vehicle actuated equipment (Vehicle control only)	44	43	41
2) Vehicle actuated equipment (Vehicle and Pedestrian control)	12	12	13
3) Fixed time equipment (Vehicle control only)	82	83	86
4) Fixed time equipment (Vehicle and pedestrian control)	24	23	21
5) Pedestrian actuated	<u>5</u>	<u>4</u>	<u>4</u>
Totals	167	165	165

The amount of work necessary to keep the traffic signal system in normal working order is continually increasing due to the addition of more signalized intersections, and the increasing age of the equipment. In order to maintain proper operation of this equipment, a preventive maintenance program is continuously in effect. This program includes cleaning lenses and reflectors, painting exposed equipment, scheduling replacement of bulbs, periodic testing of vehicle detectors, and adjusting and oiling controllers on the street. In addition, the controllers are periodically brought into the shop for a complete cleaning, lubricating and repair.

The signal maintenance crews are also responsible for a limited amount of new construction which includes such operations as setting poles, installing detectors, and installing signal heads and controllers together with the necessary wiring.

Since the signal system is in continuous operation, one member of the signal maintenance crew is on a standby basis, and receives "trouble calls" during all nonworking hours. The number of trouble calls for both working and nonworking hours is shown in the following summary.

<u>Trouble Calls During Working Hours</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
1) Mechanical or electrical	179	168	231
2) Lamps burned out	72	156	55
3) Damage to equipment	55	109	115
4) No trouble found	<u>55</u>	<u>69</u>	<u>97</u>
	361	502	498

<u>Trouble Calls During Nonworking Hours</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
1) Mechanical or electrical	219	127	175
2) Lamps burned out	47	70	31
3) Damage to equipment	27	41	30
4) No trouble found	39	46	57
5) Miscellaneous (Bent posts, standards, signs, etc.)	<u>68</u>	<u>75</u>	<u>75</u>
	400	359	368

b) Traffic Signs

The sign maintenance crews are responsible for the installation of new signs and the maintenance of the existing ones. The maintenance of signs includes the replacing of faded signs, straightening of bent sign posts, the painting of these posts, and the cleaning of dirty signs. In addition, these crews are responsible for the installation and maintenance of meter posts and pedestrian posts. The crews also assist in the removal of snow from the Municipal Parking Lot.

The following is a summary of the sign crew activities:

<u>Sign Installation and Maintenance</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>
New installations (Includes 1530 snow route signs)	2486	757	862
Signs replaced	2827	3229	3980
Signs repaired	<u>257</u>	<u>306</u>	<u>401</u>
	5570	4292	5243
Steel posts installed	1052	665	888
Moveable standards placed	911	735	541
Parking meter posts	123	104	112
Pedestrian posts	<u>39</u>	<u>21</u>	<u>20</u>
	2125	1525	1561
<u>Signs Manufactured</u>			
Reflectorized - Wood blanks	1068	1195	1377
Painted wood blanks	4853	3419	3921
Other (Steel, plastic, etc.)	<u>--</u>	<u>12</u>	<u>6</u>
	5921	4626	5304

c) Painting

The paint crews are responsible for marking the pavement throughout the City. The painting program is carried out for the most part in June and July at night. This is due to the heavy volume of traffic on the streets during the daytime hours, and the characteristics of the paint and paint machines.

The following is a three-year summary of our painting program:

	<u>1961</u>	<u>1960</u>	<u>1959</u>
Gallons of reflectorized paint used	3832	4249	4335
Miles of streets marked	108	108	107
Number of streets marked	141	141	140
Number of intersections marked with crosswalks (including 32 marked with Perma-Line Thermoplastic material)	738	730	711

During the nonpainting season, the members of the various paint crews prepare traffic sign blanks for processing, and assist the sign and electrical crews whenever possible. They are also responsible for the removal of snow from the Municipal Parking Lot.

3. 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>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>
Parking problem	133	132	118	186
Loading zones	25	25	23	24
Intersections studied for control by:				
Signs	46	54	56	77
Traffic signals	8	8	11	4
One-way streets	12	3	2	7
Miscellaneous	37	40	53	60
	<u>261</u>	<u>262</u>	<u>293</u>	<u>358</u>

The disposition of these investigations is indicated in the following

tabulation:

	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>
Requests granted	49%	49%	47%	56%
Requests granted in part or alternate actions	1%	1%	1%	2%
Request denied	36%	26%	31%	29%
Requests pending	8%	7%	10%	7%
Closed by complainant	6%	17%	11%	6%
	100%	100%	100%	100%

4. Changes in Traffic Regulations

For 1961 a total of 355 traffic regulation changes were made 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.

CHANGES IN TRAFFIC REGULATIONS

	<u>Established</u>	<u>Rescinded</u>
Parking Prohibited in Designated Places	45	19
No Parking 7AM to 6PM	3	--
No Parking 8AM to 6PM	--	1
No Parking 8AM to 4PM	14	5
No Parking 8AM to 10AM	5	4
30 Minute Parking 8AM to 6PM	2	--
One Hour Parking 8AM to 6PM or similar time limits	4	13
Two Hour Parking 8AM to 6PM or similar time	10	10
No Parking to Corner	50	6
No Stopping, Standing to Corner	2	--
No Parking Between Signs	25	3
No Parking - Bus Stop	1	1
No Parking - Cab Stand	--	3
No Parking 7AM to 4PM	--	1
No Parking 7AM to 7PM	1	--
No Parking 7AM to 9AM, 4PM to 6PM	1	--
No Parking 6PM to 9PM or 6PM to 10PM	6	6
No Standing 7AM to 9AM	1	1
No Standing 4PM to 6PM	2	2
Loading Zone	16	8
Yield Control	6	6
Stop Control	27	10
Traffic Signal Control	2	4
One Way Street	4	11
Right Turn Only	3	--
No Right Turn	--	4
No Left Turn	--	4
No Left Turn 4PM to 6PM	--	1
Truck Prohibition	2	--
	<u>232</u>	<u>123</u>

5. Parking Meters

Parking meter maintenance consists of meter winding, trouble calls, post straightening, and preventive maintenance. 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 preventive maintenance program is designed to reduce these trouble calls to a minimum by periodic cleaning and overhaul of each meter mechanism.

The following is a summary of yearly parking meter revenue:

<u>Year</u>	<u>Pershing 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	\$187,724.62	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

The City also derived income from the Park 'n Lock Lot and the Francis Street Parking Deck in the amounts indicated.

<u>Park 'n Lock</u>	<u>Francis St. Parking Deck</u>
1955 - \$12,829.66	
1956 - \$20,743.60	
1957 - \$24,069.57	
1958 - \$23,002.55	1958 - \$1,725.69 (Sept. 26, 1958 - Dec. 31, 1958)
1959 - \$17,704.48 (Dec. 1, 1958 - Oct. 31, 1959)	1959 - \$4,315.13 (Jan. 1, 1959 - July 30, 1959)
1960 - \$24,531.99	1960 - \$11,718.89 (Aug. 1959 - July 1960)
1961 - \$21,761.41 (Nov. 1960 - Oct. 1961)	1961 - \$11,581.40 (Aug. 1960 - July 1961)

6. 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, we obtain reports 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 1960 and 1961 totals of accidents reported in writing shows a total of 14 fatalities during 1961 as compared with 6 fatalities for the previous twelve-month period, an increase of 472 in the number of reported personal-injury accidents, and a decrease of 1529 reported property-damage accidents. Some portion of this decrease in reported property-damage accidents may be accounted for by a change in Police Department reporting policy from one of accepting any report to one conforming to the Rhode Island Motor Vehicle Code, which requires written reports on property-damage accidents only if the apparent damage is in excess of \$100. There has also been a notable increase in the number of accidents which are reported to the Police as property damage, but appear on the reports to the Registry of Motor Vehicles as personal injury. For the purposes of this tabulation such accidents are carried as personal injury.

<u>TYPE OF ACCIDENT</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>
Fatal	14	6	16	14
Personal Injury	2430	1958	1446	1339
Property Damage	<u>5374</u>	<u>6903</u>	<u>6637</u>	<u>6943</u>
TOTAL	7818	8861	8099	8296

FATALITIES

Pedestrians	8	4(a)	14(b)	8(b)
Riders	<u>6</u>	<u>2</u>	<u>2</u>	<u>7</u>
TOTAL	14	6	16	15

PERSONS INJURED

Pedestrians	463	530	461	411
Riders	<u>2949</u>	<u>2155</u>	<u>1387</u>	<u>1366</u>
TOTAL	3412	2685	1848	1787

<u>COST(c)</u>	\$4,976,010	\$4,428,190	\$4,321,110	\$4,558,870
----------------	-------------	-------------	-------------	-------------

(a) One child under 10

(b) Two children under 10

(c) National Safety Council Estimated Costs -- \$29,200 per fatal; \$1500 per personal injury; \$270 per property damage