



No. 6355.53

1951-58









ANNUAL REPORT  
OF THE  
*Bos*  
**PUBLIC WORKS DEPARTMENT**  
FOR THE  
YEAR ENDING DECEMBER 31, 1951.

BOSTON, January 2, 1952.

HON. JOHN B. HYNES,  
*Mayor of Boston.*

DEAR MR. MAYOR:

In compliance with the provisions of section 24 of chapter 3 of the Revised Ordinances of 1947, I respectfully submit the annual report of the Public Works Department for the year ending December 31, 1951.

FISCAL.

The total expenditures of the department for the year were \$19,335,803.17, of which \$1,651,045.23 represents water assessments levied by the Metropolitan District Commission, and \$450,741.69 represents Metropolitan District Commission sewer assessments.

The receipts of the Water Division totaled \$4,736,398.36, and the revenue derived from the operation of the Sumner Tunnel reached a new high of \$1,913,356.12.

The surplus resulting from the sale of water amounted to \$453,823.29, and the operation of the Sumner Tunnel resulted in a record-breaking surplus of \$658,192.59.

The East Boston Ferry, as has been the case over the past years, operated at an annual deficit, which for this year amounted to \$305,700.52.



### LOAN ORDERS.

Under date of May 22, 1951, a City Council order was approved by your Honor which provided, under the provisions of section 7 of chapter 44 of the General Laws, that the sum of \$2,000,000 be appropriated for the construction of public ways, and on June 5, 1951, that the sum of \$1,000,000 be appropriated for the construction of sewerage works.

### STREET CONSTRUCTION WORK.

#### *State-Aid Program.*

Last year we again completed a large amount of street reconstruction, under the Chapter 90 State-Aid Highway Reconstruction Program. The following important main highways were constructed during the year under this program:

Blue Hill avenue, from Goodale road to Johnston road.

Centre street, from May street to South street.

River street, from Washington street to Blue Hill avenue.

Massachusetts avenue, from East Cottage street to Albany street.

Saratoga street, from the bridge over the MTA tracks to the bridge over the Belle Isle Inlet.

The total cost of the Chapter 90 Construction Program in Boston for the year 1951 was \$409,692.29, of which the State Department of Public Works, under the provisions of section 34 of chapter 90 of the General Laws, paid one half, thereby presenting a substantial saving to the taxpayers of this city. It is planned to conduct an even far more extensive program of construction under this chapter in 1952.

#### *Non-State-Aid Program.*

We also completed a major street reconstruction program, comprising extensive construction and reconstruction, in every section of the city. In addition to work done on downtown streets, the department resurfaced several important traffic arteries, listed as follows:

Boylston street, from Brookline avenue to Ipswich street, and from Massachusetts avenue to Exeter street.

Brookline avenue, from Boylston street to Pilgrim road.

Dover street, from Tremont street to Fort Point Channel.

Freeport street, from Dorchester avenue to Old Colony Parkway.

Humboldt avenue, from Walnut avenue to Seaver street.

South street, from Walter street to Fletcher street.

Tremont street, from Massachusetts avenue to Texas street.

Walnut avenue, from Warren street to Humboldt avenue.

Washington street, Brighton, from Monastery road to Commonwealth avenue.

In continuation of our policy of replacing brick sidewalks with cement concrete in the older sections of the city, contracts during the year, totaling approximately \$116,000, were awarded for this work.

The following is a summarized financial statement of the expenditures made in 1951 for highway improvements:

<b>Budgetary Item.</b>		
Public Ways, Construction of (Loan Account) . . . . .		\$2,637,016 68
Public Ways, Construction of (Revenue Account) . . . . .		159,201 29
Reconstruction of Streets (including sidewalks) . . . . .		103,236 26
Sidewalks, Construction and Reconstruction of . . . . .		116,672 77
Total . . . . .		<u>\$3,016,127 00</u>

The following is a summarized record of the highway improvement work done by the department in 1951:

*Number of Streets Constructed or Reconstructed, 158.*

Includes 46 new streets ordered laid out and constructed by the Board of Street Commissioners under the provisions of chapter 393 of the Acts of 1906.

*Miles of Streets Improved, 25.05.*

Includes 5.22 miles of so-called Chapter 90 state-aid highway improvements.

*Miles of Sidewalks Improved, 12.66.*

In addition to sidewalk improvements included in above-noted street improvements.

We also completed, during the year, the removal of 1,067 gas lamps, which were replaced with an equal number of 1,000-lumen electric lamps. It is our intention to continue with this program during 1952.

#### SNOW REMOVAL.

We were fortunate during the past year in that no snowstorms of major proportions occurred, and we experienced no difficulty in keeping the streets properly plowed and sanded throughout the winter months.

At the present time there are over 720 miles of public streets that have to be plowed and maintained during the winter months. The department owns fourteen (14) Walter snow fighters which are used to plow, sand, and salt the streets of the downtown area. Most of the plowing work in the rest of the city was done by 273 trucks rented on an hourly basis from contractors.

The cost of snow removal work for 1951 totaled \$527,602.25.

#### MERIDIAN STREET BRIDGE.

Under the authority of chapter 785 of the Acts of 1951, a contract for constructing the substructure for the new bridge was awarded to the Merritt-Chapman & Scott Corporation by the Department of Public Works of the Commonwealth on November 20, 1951. The contract sum was \$1,746,491.00.

Bids for the construction of the superstructure of the bridge were opened on June 5, 1951. The only bidder was the American Bridge Company, and the amount bid was \$3,144,550.00. The contract for the construction of the superstructure was not awarded, as the state officials were of the opinion that a lower figure might be obtained by readvertising at a future date. It is expected that this contract will be readvertised in the early part of 1952.

#### REFUSE DISPOSAL AND INCINERATION.

A comprehensive study and report on refuse disposal in the City of Boston was submitted by the consulting engineering firm of Thomas Worcester, Inc., on June 1, 1951. On the basis of this report, a contract was awarded on December 6, 1951, to the engineering firm of Metcalf & Eddy to design, prepare the plans for, and supervise the construction of a 750-ton per 24-hour day incinerator in the vicinity of Southampton street. The preliminary work under this contract was still in progress at the close of the year.

#### SEWAGE TREATMENT.

Legislation enacted as chapter 645, and approved on August 29, 1951, provided for the incorporation of the Boston Main Drainage System into the South Metropolitan Sewerage System, and further provided for the sewage disposal needs of the North and South Metro-



politan Sewerage Districts. The projects provided for by this legislation comprise, in the main, the construction of a relief sewer on the south side of the Charles River, from the Waltham line to the Ward Street Pumping Station; a tunnel between the Ward Street Pumping Station and Columbia Circle, and a tunnel from Columbia Circle to Deer Island, with all the necessary shafts and appurtenant works; the construction of a tunnel from Chelsea to Deer Island; and the construction of a sewage treatment plant at Deer Island. When this work is completed, all the sewage now disposed of through the Boston Main Drainage Works will be treated and discharged at Deer Island, thereby providing for the complete elimination of the Calf Pasture Pumping Station and the sewerage works at Moon Island, and the abandonment of the tunnel under Dorchester Bay, between Calf Pasture and Moon Island.

#### PURCHASE OF EQUIPMENT.

New equipment purchased during the year included one (1) Walter snow fighter, six (6) Trojan bucket loaders, two (2) Standard and two (2) Heil street flushers, one (1) Elgin and one (1) Wayne street sweeper, one (1) Le Roi and one (1) Chicago pneumatic compressor trailer, eleven (11) Ford trucks, three (3) Chevrolet carryalls, one (1) transport trailer, one (1) Ford truck compressor, fifteen (15) Ford sedans, one (1) Scotchman salt spreader and sixteen (16) Bowman sand spreaders.

#### PERSONNEL.

There were 2,372 employees in the department as of December 31, as compared with 2,435 employees on January 1, 1951.

Appended hereto are reports submitted by the Division Engineers relative to the activities of their divisions in 1951.

Respectfully submitted,

GEORGE G. HYLAND,  
*Commissioner of Public Works.*

The records of the department show that there are now 2,372 persons eligible for employment in the several divisions, and of that number 2,341 were upon the January, 1952, payrolls.

### Grade and Number of Employees.

TITLE.	SERVICES.										Total.	
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Automotive.		
Commissioner.....	1											1
Division engineers.....		1	1	1					1	1		5
Assistant division engineers.....		1				1						2
Assistant engineers (civil).....	1	18	29			9			4			61
Draftsman.....									1			1
Transitmen.....		7	7			1			1			16
Rodmen.....		14	7			2			3			26
Blueprinters.....			2									2
Superintendents.....								1	1	2		4
Chief supervisor.....				1								1
Assistant supervisor.....		1										1
Supervisors.....		2		1		1				2		6
General foremen.....		1	1						1			3
Foremen.....		12	7	17	12	1			7			56
Chief inspectors.....		1	2									3
Inspectors-subforemen.....		62	15	40	35	4		1	16			173
Executive secretaries and secretary.....	1	1							1			3
Chief clerks.....		1	1	2					2	1		7
Executive clerks.....		1	1			1			1			4
Clerks-stenographers.....	8	22	10	9	1	4	1	7	58	9		129
Telephone operator.....				1								1
Cashiers and assistants.....								1	1	1		3
Storekeepers.....				1				1		1		3
Captains.....								3				3
Quartermaster-pilots.....								3				3
Deckhands.....								7				7
Investigators.....		1	1						2			4
Matrons.....								3				3
Engineers (steam).....		6	6					4	17	1		34
<i>Carried forward.....</i>	11	152	90	73	48	24	23	27	100	17		565

## Grade and Number of Employees. — Concluded.

TITLE.	SERVICES.											Total.
	Central Office.	Paving and Lighting.	Sewer.	Sanitary.	Street Cleaning.	Bridge.	Ferry.	Tunnel.	Water.	Automotive.		
<i>Brought forward</i> .....	11	152	90	73	48	24	23	27	100	17		565
Oilers.....			3				4					7
Firemen.....			9				8					17
Gate-men-tollmen-guards.....							15	38				53
Sergeant-tollmen-guards.....								4				4
Gate-men-filth hoisters.....			10									10
Chief and meter readers.....									42			42
Drawtenders and assistants.....						142						142
Chief and electricians.....			2			1						3
Motor equipment maintenance man.....											1	1
Master mechanics.....			1	4			1		5	4		15
Auto mechanic-repairers.....		2	3	2				2		31		40
Blacksmiths-horseshoers.....		4	1	12								17
Carpenters-joiners.....		3	3	3		13	3					25
Harnessmaker and assistant.....				2								2
Machinists.....			2			3	3	2	19			29
Painters.....		5		8		4				2		19
Asphalt rakers.....		13										13
Pavers.....		15										15
Plumbers-pipefitters.....									148			148
Boilermakers.....			1				1					2
Sewer cleaners-flushers.....			25									25
Catch-basin cleaning machine operators.....			7									7
Tide gate repairers.....			4									4
Stonecutters-brick masons.....		4	3	1					1			9
Wheelwrights and assistants.....				1								1
Head chauffeurs.....										5		5
Machine operators.....		5		5	32					1		43
Chauffeurs, etc.....		41	31	20	112	5		13	40	29		291
Working foremen, laborers, etc.....		5	2		2	3		2	1	1		16
Laborers, teamsters, etc.....		177	29	37	393	7	6	9	85	11		754
Yardmen and yardmasters.....		3	4	2	1	1			4			15
Constables.....					24				9			33
<b>Totals.....</b>	<b>11</b>	<b>429</b>	<b>230</b>	<b>170</b>	<b>612</b>	<b>203</b>	<b>64</b>	<b>97</b>	<b>454</b>	<b>102</b>		<b>2,372</b>

**Number of Employees Actually Employed January 1, 1951, and  
January 1, 1952.**

	Tunnel.	Central Office.	Bridge.	Ferry.	Water.	Paving and Lighting.	Sanitary.	Street Cleaning.	Sewer	Automotive.	Total.
January 1, 1951...	100	16	210	65	465	453	170	625	230	98	2,405
January 1, 1952...	95	11	201	64	450	425	165	600	229	101	2,341

*Total Eligible Force.*

January 1, 1951...	103	16	211	69	461	438	174	632	233	98	2,435
January 1, 1952...	97	11	203	64	454	429	170	612	230	102	2,372

**Appointments, Transfers, Resignations, Retirements, Deaths,  
etc., of Employees.**

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 1, 1951.	SERVICES. 1951-1952.	January 1, 1952.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
.....	.....	7	.....	.....	.....	16	Central Office..	11	1	1	.....	.....
2	9	.....	2	.....	2	211	Bridge.....	203	5	.....	.....	2
.....	7	.....	2	.....	1	69	Ferry.....	64	2	.....	.....	3
5	14	2	15	2	4	438	Paving.....	429	8	6	1	18
4	6	1	7	.....	2	174	Sanitary.....	170	12	1	2	1
11	17	2	12	2	8	632	Street Cleaning	612	13	2	.....	17
5	9	4	4	1	.....	233	Sewer.....	230	3	1	.....	16
4	8	4	3	4	10	461	Water.....	454	.....	5	1	20
.....	4	.....	5	.....	1	103	Tunnel.....	97	3	1	.....	.....
.....	4	2	4	1	1	98	Automotive....	102	7	1	.....	8
31	78	22	54	10	29	2,435	Totals.....	2,372	54	18	4	85

## MAINTENANCE APPROPRIATIONS AND EXPENDITURES.

DIVISION OR SERVICE.	Total Appropriations, Including Transfers.	Expenditures.	Unexpended Balance.
Central Office . . . . .	\$54,412 19	\$53,820 93	\$591 26
Automotive Division . . . . .	584,491 62	558,403 18	26,088 44
Bridge Service . . . . .	763,062 10	721,482 77	41,579 33
Ferry Service . . . . .	378,739 65	329,713 28	49,026 37
Tunnel Service . . . . .	526,093 55	479,198 19	46,895 36
Lighting Service . . . . .	1,151,283 26	1,148,925 60	2,357 66
Paving Service . . . . .	1,362,396 00	1,357,071 91	5,324 09
Sanitary Division . . . . .	5,094,207 77	5,026,284 04	67,923 73
Sewer Division . . . . .	797,043 04	748,173 13	48,869 91
Workmen's Compensation Service * . . . . .	8,951 73	7,781 41	1,170 32
Water Division . . . . .	2,761,867 39	2,399,224 63	362,642 76
<b>Totals . . . . .</b>	<b>\$13,482,548 30</b>	<b>\$12,830,079 07</b>	<b>\$652,469 23</b>

\* On May 1 the Law Department assumed jurisdiction of this Service.

### Expenditures from Special Appropriations, etc.

Bridges, Construction of (non-revenue) . . . . .	\$79,242 48
Bridges, Repairs, etc. (revenue) . . . . .	240,431 89
Reconstruction of Streets (revenue) . . . . .	103,236 26
Sidewalks, Construction and Reconstruction of (revenue) . . . . .	116,672 77
Street Signs (revenue) . . . . .	12,873 72
Public Ways, Construction of (revenue) . . . . .	159,201 29
Public Ways, Construction of (non-revenue) . . . . .	2,637,016 68
Snow Removal . . . . .	527,602 25
Sewerage Works (revenue) . . . . .	131,517 23
Sewerage Works (non-revenue) . . . . .	391,049 46
Construction of Buildings and Original Equipment and Furnishings Thereof (non-revenue) . . . . .	5,093 15
<b>Total . . . . .</b>	<b><u>\$4,403,937 18</u></b>

## REVENUE.

*On Account of Public Works Department.*

Central Office:			
Charges for plans and specifications . . . . .	\$1,210 00		
Refund on telephone . . . . .	4 78		
	<hr/>		\$1,214 78
Automotive Division:			
Sale of junk . . . . .	\$609 22		
	<hr/>		609 22
Bridge Service:			
Rents . . . . .	\$3,130 00		
Damage to property . . . . .	2,966 17		
Sale of junk . . . . .	38 40		
Refund on telephone . . . . .	4 78		
	<hr/>		6,139 35
Ferry Service:			
Tolls . . . . .	\$23,753 12		
Rents . . . . .	85 00		
Cleaning telephone booths . . . . .	24 00		
Commission on telephones . . . . .	27 15		
Refunds . . . . .	23 09		
Sale of junk . . . . .	100 40		
	<hr/>		24,012 76
Summer Tunnel:			
Tolls . . . . .	\$1,912,580 00		
Rents . . . . .	750 00		
Sale of junk . . . . .	7 00		
Refund on telephones . . . . .	19 12		
	<hr/>		1,913,356 12
Lighting Service:			
Sale of junk . . . . .	\$1,377 23		
	<hr/>		1,377 23
Paving Service:			
From assessments (added to taxes) on abutters for cost of laying side- walks in front of their premises . . . . .	\$2,254 12		
Permits . . . . .	25,350 42		
Rents . . . . .	825 00		
Sale of materials . . . . .	361 25		
Refund on telephones . . . . .	90 79		
Contributions from Commonwealth of Massachusetts under chapter 90 of General Laws for construction of public ways . . . . .	252,551 95		
	<hr/>		281,433 53
Sanitary Division:			
Sale of junk . . . . .	\$402 85		
Damage to property . . . . .	53 65		
Refund on telephones . . . . .	52 88		
Sale of garbage . . . . .	30,000 00		
Sale of Ward Street station . . . . .	1,155 00		
Dumping . . . . .	1,200 00		
Rental of advertising space . . . . .	560 00		
	<hr/>		33,424 38
<i>Carried forward</i> . . . . .			<hr/>
			\$2,261,567 37

<i>Brought forward</i> . . . . .		\$2,261,567 37
Sewer Division:		
Disposal of sewage . . . . .	\$19,233 00	
Entrance fees . . . . .	3,350 54	
Sale of junk . . . . .	718 82	
Rents . . . . .	158 00	
Refunds . . . . .	130 00	
Sale of materials . . . . .	5,125 00	
Refund on telephones . . . . .	38 24	
Cleaning drains . . . . .	90 00	
	<hr/>	28,843 60
Water Division:		
Water rates . . . . .	\$4,353,808 81	
Water rates added to taxes . . . . .	261,690 68	
Service pipes for new takers, ex- tending, repairing, etc. . . . .	2,431 10	
Fees on overdue rates . . . . .	18 00	
Sale of junk . . . . .	4,659 73	
Damage to property . . . . .	2,984 29	
Labor and materials . . . . .	8,014 80	
Deposit account . . . . .	72,473 18	
Elevator and fire pipe connections . . . . .	2,769 59	
Miscellaneous income . . . . .	760 19	
	<hr/>	4,709,610 37
Grand total . . . . .		<u>\$7,000,021 34</u>





PART II.  
APPENDICES.

APPENDIX A.

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REPORT OF THE DIVISION ENGINEER OF  
THE AUTOMOTIVE DIVISION.

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Boston, January 2, 1952.

*To the Commissioner of Public Works.*

DEAR SIR:

The following is the annual report of the Automotive Division, Public Works Department, for the year ending December 31, 1951:

During the year 1951 the Automotive Division was the subject of an extensive survey conducted by the Boston Municipal Research Bureau. The bureau devoted most of the year to a study of the automotive problems of the City of Boston and made many recommendations. One result of the survey was the reformation of the Mayor's Automotive Advisory Committee with the Division Engineer of the Automotive Division acting as Chairman. This committee is now engaged in considering the recommendations of the Boston Municipal Research Bureau and will report their findings to the Commissioner of Public Works, Fire Commissioner, Park Commissioner, City Auditor, and others concerned with the automotive equipment of the City of Boston.

The policy of doing most of the repair work on Public Works Department equipment in our own shop was continued, and approximately 6,000 repair jobs, both major and minor, were done in 1951. This work consisted of general overhaul on snow fighters, sweepers, tractors, trucks, passenger cars, etc. In addition to this repair work our mechanics repaired tires, lubricated vehicles, operated portable lighting plants, and performed various other duties. Special equipment was purchased for our welding shop, and all minor body and fender repairs are now done by our own employees. A motor trouble analyzer has been purchased and should speed up the time spent in locating parts in need of repair.

An effort has been made to keep an adequate stock of parts on hand to avoid loss of time in waiting for parts. Two annual inventories have been taken since the creation of the Automotive Division; as of December, 1950, auto parts, tires, batteries, chains, etc., in stock amounted to \$43,705; the December, 1951, inventory amounted to \$44,876. Plans are being made to increase the floor space in the present cramped quarters occupied by the stockroom.

The division operates two wreckers and one service truck. The wreckers are used for disabled equipment and to haul heavy material such as tractors, edgestone, etc. A large transport trailer was purchased in 1951 to assist in the hauling of heavy equipment. The service truck has been equipped with a compressor, grease gun, 50-ton jack, and impact wrench, and has proven very useful on road jobs, especially during snowstorms.

Expenditures for the year 1951 amounted to \$558,403.18. Of this amount, payroll charges for 102 employees amounted to \$281,519.11, contractual services, \$40,006.15, supplies and materials, \$142,403.05, current charges, \$8,647.20, and new equipment, \$85,827.67.

Under the direction of the Division Engineer, the 101 employees were engaged in the following duties: repair work, 38 employees; maintenance, gasoline and oil dispensing, cleaning, and watchman duties, etc., 44 employees; stock-room work, 7 employees; wrecker operators, 3 employees; office work, 9 employees.

Contractual service charges of \$40,006.15 consisted of \$26,196.97 for automotive repairs by outside repair shops. Some specialized work can be done better at outside shops and some work must be sent out when our shop is overloaded. This work included repairs to motors, transmissions, springs, glass, radiators, starters, generators, carburetors, etc. Charges for electricity amounted to \$3,717.04 and for gas fuel to \$546.49. Maintenance and repair of buildings cost \$6,270.94, largely for roof repairs, overhead doors, and transfer of gas tank and pump at Brighton. Telephone service amounted to \$2,549.08, and \$725.63 was spent for miscellaneous services such as cleaning of cover-alls, express charges, inspection of elevator and oil burners, etc. Expenditures of \$142,403.05 for supplies and materials consisted of \$123,086.27 spent for automotive repair parts, gasoline and oil, antifreeze, chains, and

accessories. Building supplies amounted to \$1,438.65, fuel oil for four garages amounted to \$9,634.12, cleaning supplies, \$2,103.09, first aid supplies, \$28.98, office supplies, \$2,715.52, fire-fighting supplies, \$28.70, and \$3,367.72 was spent for general operating supplies such as wiping rags, waste, tools, clothing, etc.

Expenditures for current charges consisted of \$5 for subscription to *City Record*, \$298.94 for insurance premiums on oil burners and compressors, \$1,039.50 for registration of motor vehicles, and \$7,302.76 for storage charges on vehicles stored in privately-owned garages during the winter months.

The Automotive Division expended \$85,827.67 for new equipment. Some equipment is purchased from Snow Removal funds, and the Water Division and Summer Traffic Tunnel Service pay for their new equipment from their own funds. New equipment added to the fleet in 1951 included one snow fighter, six bucket loaders, four street flushers, two street sweepers, two compressor trailers, eleven trucks, three carry-alls, one trailer, one truck-compressor, fifteen sedans, one salt spreader, and sixteen sand spreaders. The sand spreaders are mounted for winter season on Dodge trucks. During other months these trucks carry two-ton dump bodies.

The Public Works Department fleet represents an investment of \$1,500,000 and consists of the following equipment, 466 units, 412 registered:

139 Dump Trucks, 1½-to 2-ton	3 Dempster-Dumpsters, 5-ton trucks
2 Dump Truck, 5-ton	3 Sanders, 5-ton trucks
2 Lumber Trucks	11 Truck-mounted Compressors
5 Wreckers	2 Compressor Trailers
1 Large Transport Trailer	2 Semi-Trailers
1 Tractor Truck	4 Derrick Trucks
80 Pickup Trucks	3 Platform Trucks
1 Aerial Truck	1 Service Truck
2 Emergency Gate Closing Trucks	15 Emergency Trucks
5 Catch-Basin Cleaners	6 Tool-Box Trailers
1 Chlorinator Trailer	2 Electric Welder Trailers
14 Snow Fighters	6 Street Flushers
15 Bucket Loaders	2 Diesel Crawler Tractors
21 Large Street Sweepers	5 Small Street Sweepers
4 Jeeps	10 Carryalls
41 Sedans	1 Crane
3 Snow Loaders	1 Sand Loader

1 Salt Spreader	16 Sand Spreaders—Baugh-
1 Grader	man mounted on Dodge
2 Flexible Power Bucket	12 Gasoline Road Rollers
Machines	1 Ackers Core Drill
1 Concrete Mixer	3 Portable Generators
3 Portable Lighting Plants	4 Power Lawn Mowers
1 Paint Sprayer	2 Portable Heaters
3 Asphalt Heating Trailers	2 Steam Cleaners

The Automotive Division now operates four garages and dispenses gasoline at four other stations. The four garages are at 280 Highland street, Roxbury, 8,200 square feet; 624 Albany street, South End, 22,000 square feet; 196 Hancock street, Dorchester, 8,800 square feet; and 11 Dana avenue, Hyde Park, 7,000 square feet. The other gasoline dispensing stations are at East Boston Paving Yard, Charlestown Sanitary Yard, Brighton Paving Yard, and the Sumner Traffic Tunnel at East Boston.

#### *Mobile Patrol.*

The mobile patrol service for the protection of Public Works Department property and equipment was inaugurated on a temporary basis on November 8, 1950, and placed under the direction of the Division Engineer of the Automotive Division. Pickup trucks used during the day by the various foremen were assigned to the patrol, but this arrangement proved rather unsatisfactory and in January, 1951, five Ford sedans were assigned to the patrol for its exclusive use.

These vehicles are used as patrol cars 16 hours daily, 12 midnight to 8 A.M., and 4 P.M. to 12 midnight, and on Saturdays, Sundays, and holidays they are used around the clock. Mileage reports for these five vehicles amounted to 137,563 miles for the year 1951. While the primary function of the Mobile Patrol is to provide plant protection and security, it is sometimes called upon to render motor pool service during the regular business hours. This has made it necessary to utilize the services of a mobile guard assigned to care for and properly maintain the vehicles during the day. Although this service sometimes interferes with the proper maintenance of the vehicles, cooperation in this respect is always given.

The original tentative program set up by the Commissioner of Public Works called for the following temporary personnel: 1 supervisor, 1 clerk, 4 chiefs, 30 mobile guards.

However, it was the Commissioner's intention to provide a two-man patrol for each vehicle and route while the service was being rendered. It was subsequently deemed advisable to operate a one-man patrol due to the fact that considerable difficulty was encountered in recruiting competent and qualified men. In numerous instances the inability of men recruited for the Mobile Patrol to adapt themselves to night work has resulted in a large turnover in the force. At present it is operating with a force of 21 men. Examinations were held during 1951 for the various positions, and it is hoped to set up the personnel on a permanent basis very shortly.

This service is a radical departure from the old method of operating in this department and, while the performance during 1951 has left much to be desired, successful operation of the service should result in considerable saving to the city. The cost of the service during 1951 including motor vehicle cost was approximately \$100,000, against approximately \$300,000 for the previous system of protection.

Respectfully submitted,

J. LEO McGRATH,  
*Division Engineer.*

## REPORT OF COST RECORDS FOR 1951.

## AUTOMOTIVE EQUIPMENT.

This report shows the actual cost of the vehicles in the Public Works Department, Automotive Division, for the year ended December 31, 1951. The cost items involved are labor, overhead, material, tires and tubes, batteries, outside repairs, gasoline, oil, storage, depreciation, and registration fees.

Labor.— This item represents the cost of the actual repair time expended on a vehicle by our own mechanics. For the year 1951, the rate was \$1.41 per hour from January through May, and \$1.53 per hour from June through December.

Overhead.— This item is made up of an accumulation of the cost of the Highland Street Garage and contains such charges as indirect labor, fuel oil used, building repairs, depreciation on building, electricity used, gas used, tool expense, telephone expense, and miscellaneous expenses. From each month's overhead are deducted the inside storage for the month and the distribution charge for gasoline and oil. The remaining amount is divided by the number of actual direct labor-hours, and the result gives the amount of overhead per hour. An attempt is made, however, to establish a rate suitable for the year rather than to have a different rate each month.

Material.— This item represents the cost of all parts used on repair jobs here at the garage, as well as accessories, exclusive of tires, tubes, and batteries.

Tires and Tubes.— This item shows the cost of tires and tubes used by each vehicle.

Batteries.— This item shows the cost of batteries used by each vehicle.

Outside Repairs.— This item represents the cost of repairs done by private concerns outside our own garage.

Gasoline.— This item represents the cost of the gasoline used plus a distribution cost of four cents a gallon, which is a deduction from overhead.

Oil.— This item represents the cost of the oil used plus a distribution cost of two cents a quart, which is a deduction from overhead.

Storage.— This item is divided into outside storage and inside storage. Outside storage is the amount charged for the vehicles stored at outside garages during

the winter months. Inside storage is the amount charged for vehicles stored in our own garages. It is a deduction from overhead.

Depreciation.— Depreciation is figured on a straight line basis, that is, cost divided by estimated life in months equals estimated depreciation per month. Due to the uncertain economic conditions no consideration is given to a residual value at the time the rate is established. Because of this a longer estimated life is used in the calculations. It has been determined from experience that this procedure leads to a fairly accurate depreciation cost over the life of a vehicle.

Registration Fees.— This item represents the amount charged by the Registry of Motor Vehicles for plates and certificate.

The following is a classification of the vehicles in the Public Works Department, Automotive Division, according to capacity, showing the AVERAGE YEARLY COST, the AVERAGE YEARLY MILEAGE, and the AVERAGE COST PER MILE.

TYPE.	Number of Vehicles.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost per Mile.
7- to 10-ton.....	14	\$4,520 32	1,537	\$2 941
8-ton.....	1	2,179 95	1,378	1 582
6-ton.....	1	3,755 71	—	—
5-ton.....	8	2,719 87	5,045	0 537
3- to 5-ton.....	1	2,261 59	835	2 708
3-ton.....	1	820 64	5,121	0 160
2-ton.....	67	1,444 83	5,899	0 245
1½-ton.....	105	1,345 53	4,397	0 306
1-ton.....	9	961 32	6,490	0 148
½-ton.....	80	1,051 72	8,829	0 119
Sweepers.....	25	2,412 23	1,737	1 389
Loaders.....	14	1,564 47	—	—
Crawler Tractors..	2	1,731 70	—	—
Road Grader.....	1	1,063 42	—	—
Caterpillar Crane..	1	641 77	—	—
Rollers.....	12	122 51	—	—
Passenger Cars....	50	1,079 63	12,074	0 089



## COMPARATIVE STATEMENT FOR 1950 and 1951.

TYPE.	AVERAGE YEARLY COST.		AVERAGE YEARLY MILEAGE.		AVERAGE COST PER MILE.	
	1950.	1951.	1950.	1951.	1950.	1951.
7- to 10-ton.....	\$3,735 05	\$4,520 32	1,450	1,537	\$2 576	\$2 941
8-ton.....	2,341 51	2,179 95	2,255	1,378	1 058	1 582
6-ton.....	2,566 28	3,755 71	—	—	—	—
5-ton.....	3,071 80	2,719 87	5,587	5,045	0 550	0 537
3- to 5-ton.....	2,065 77	2,261 59	245	835	8 432	2 708
3-ton.....	908 82	820 64	4,211	5,121	0 216	0 160
2-ton.....	1,348 54	1,444 83	5,945	5,899	0 227	0 245
1½-ton.....	1,327 52	1,345 53	4,934	4,397	0 269	0 306
1-ton.....	894 27	961 32	7,472	6,490	0 120	0 148
½-ton.....	1,050 01	1,051 72	9,770	8,829	0 108	0 119
Sweepers.....	2,660 28	2,412 23	—	1,737	—	1 389
Loaders.....	1,445 36	1,564 47	—	—	—	—
Crawler Tractors....	1,848 22	1,731 70	—	—	—	—
Road Grader.....	1,407 66	1,063 42	—	—	—	—
Caterpillar Crane....	429 83	641 77	—	—	—	—
Rollers.....	136 37	122 51	—	—	—	—
Passenger Cars.....	1,201 92	1,079 63	11,017	12,074	0 109	0 089

## 7- to 10-Ton Snowfighter Sandspreaders (14 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
P-285	1943 Walter.....	\$5,284 60	947	\$5 581
P-290	1945 Walter.....	4,256 37	1,040	4 093
P-373	1949 Walter.....	5,649 84	1,468	3 849
P-363	1948 Walter.....	4,140 44	1,119	3 700
P-354	1947 Walter.....	4,788 76	1,501	3 190
P-361	1948 Walter.....	5,213 36	1,670	3 121
P-289	1944 Walter.....	3,613 01	1,196	3 021
P-362	1948 Walter.....	4,631 39	1,559	2 971
P-284	1943 Walter.....	3,799 53	1,338	2 840
P-374	1949 Walter.....	4,499 11	1,591	2 828
P-283	1942 Walter.....	3,905 34	1,437	2 738
P-355	1947 Walter.....	4,156 68	1,658	2 507
P-272	1942 Walter.....	6,597 95	3,493	1 889
P-404	1951 Walter.....	2,748 20	1,511	1 819
	Group Average.....	\$4,520 32	1,537	\$2 941

## 8-Ton Truck (1 Vehicle).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
TS-21	1949 G.M.C.Wrecker.....	\$2,179 95	1,378	\$1 582

## 2-Ton Trucks (67 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
Se-148	1948 Ford Netco CBC.....	\$2,416 34	3,046	\$0 793
Se-149	1948 Ford Netco CBC.....	2,254 66	3,172	0 711
Se-165	1948 Ford Dump COE.....	1,473 29	2,286	0 644
Se-147	1948 Ford Netco CBC.....	2,309 16	3,974	0 581
S-525	1948 Ford Dump COE.....	1,647 03	3,166	0 520
Se-150	1948 Ford Netco CBC.....	2,106 49	4,438	0 475
W-303	1949 Ford Derrick.....	1,635 85	3,597	0 455
Se-155	1948 Ford Dump.....	1,423 81	3,292	0 433
S-486	1948 Ford Dump.....	1,695 61	4,100	0 414
Se-151	1948 Ford Netco CBC.....	2,115 92	5,340	0 396
S-502	1948 Ford Dump.....	1,264 57	3,247	0 389
S-489	1948 Ford Dump.....	1,281 98	3,426	0 374
S-556	1949 Ford Dump.....	1,416 85	3,946	0 359
P-372	1948 Ford Dump.....	2,017 99	5,645	0 357
S-512	1948 Ford Dump COE.....	1,250 53	3,527	0 355
S-500	1948 Ford Dump.....	1,544 68	4,723	0 327
W-261	1948 Ford Derrick.....	1,480 01	4,642	0 319
W-319	1950 Ford Davies Comp....	1,680 93	5,292	0 318
S-151	1948 Ford Dump.....	1,542 34	4,891	0 315
S-152	1948 Ford Dump.....	1,219 66	4,037	0 302
S-509	1948 Ford Dump.....	1,321 17	4,419	0 299
S-552	1949 Ford Dump.....	1,609 58	5,381	0 299
S-526	1948 Ford Dump.....	2,042 84	6,992	0 292
W-306	1949 Ford Davies Comp....	2,173 10	8,567	0 289
S-501	1948 Ford Dump.....	1,173 83	4,142	0 283
S-557	1949 Ford Dump.....	1,130 73	5,089	0 281
S-558	1949 Ford Dump.....	1,654 64	5,899	0 280
S-503	1948 Ford Dump.....	1,395 35	5,005	0 279
B-26	1948 Ford IR Compressor...	1,161 85	4,237	0 274
S-513	1948 Ford Dump COE.....	1,164 26	4,281	0 272
P-368	1948 Ford Dump COE.....	1,587 34	5,981	0 265
P-378	1949 Ford Dump.....	1,387 70	5,496	0 252
S-488	1948 Ford Dump.....	1,231 65	4,886	0 252
P-367	1948 Ford Dump.....	1,355 13	5,401	0 251
P-376	1949 Ford Dump.....	1,035 46	4,181	0 248
S-555	1949 Ford Dump.....	1,104 27	4,671	0 236
S-510	1948 Ford Dump.....	1,416 27	6,108	0 232
S-496	1948 Ford Dump.....	1,290 06	5,574	0 231
P-370	1948 Ford Dump.....	1,326 33	5,971	0 222
S-554	1949 Ford Dump.....	1,240 25	5,729	0 217
S-553	1949 Ford Dump.....	1,446 41	6,718	0 215
S-508	1948 Ford Dump.....	1,323 17	6,180	0 214
S-504	1948 Ford Dump.....	1,098 64	5,271	0 208
S-559	1949 Ford Dump.....	1,648 54	7,950	0 207
S-550	1949 Ford Dump.....	1,081 94	5,385	0 201
B-27	1948 Ford IR Compressor...	993 94	5,004	0 199
W-305	1949 Ford Davies Comp....	2,144 51	10,820	0 198
S-487	1948 Ford Dump.....	1,261 41	6,221	0 196
P-379	1949 Ford Dump.....	1,100 93	5,778	0 191
P-377	1949 Ford Dump.....	1,099 65	5,899	0 186
P-369	1948 Ford Dump.....	1,366 91	7,508	0 182
P-366	1948 Ford Dump.....	1,070 55	5,876	0 182
S-551	1949 Ford Dump.....	1,885 62	10,366	0 181
W-287	1948 Ford Derrick.....	824 86	4,592	0 180
W-279	1948 Ford Gate Closing....	2,091 14	12,899	0 162
W-330	1951 Ford Dump.....	862 74	5,095	0 158

## 2-Ton Trucks.— Concluded.

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
S-507	1948 Ford Dump.....	\$1,214 96	7,970	\$0 152
W-292	1948 Ford Derrick.....	1,147 57	7,591	0 152
B-28	1948 Ford Lumber.....	695 63	4,616	0 151
W-286	1948 Ford Hydrant Carrier.	1,310 37	8,979	0 146
W-329	1951 Ford Dump.....	1,210 33	8,298	0 146
W-284	1948 Ford Gate Closing.....	2,011 81	13,972	0 144
W-331	1951 Ford Dump.....	1,071 99	7,518	0 143
Se-153	1948 Ford Dump.....	990 41	7,036	0 141
W-328	1951 Ford Dump.....	1,210 90	8,927	0 136
P-380	1949 Ford Dump.....	1,212 51	9,184	0 132
S-506	1948 Ford Dump COE.....	1,307 04	11,803	0 111
	Group Average.....	\$1,444 83	5,899	\$0 245

## 2-Ton Trucks Classified According to Type.

MAKE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
5 Netco CBC.....	\$2,240 51	3,994	\$0 561
5 Dump COE.....	1,368 43	5,013	0 273
5 Compressors.....	1,690 87	6,784	0 249
4 Derricks.....	1,272 07	5,106	0 249
44 Dumps.....	1,343 34	5,805	0 231
2 Gate Closing.....	2,051 48	13,436	0 153
1 Lumber.....	695 63	4,616	0 151
1 Hydrant Carrier.....	1,310 37	8,979	0 146
67 Group Average.....	\$1,444 83	5,899	\$0 245

## 1½-Ton Trucks Classified According to Type.

TYPE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
3 Wreckers.....	\$2,074 45	4,442	\$0 467
11 Dumps COE.....	1,102 90	2,522	0 437
5 Compressors.....	1,524 54	4,658	0 327
14 Sanders.....	1,325 45	4,073	0 325
1 Rack.....	502 54	1,571	0 320
63 Dumps.....	1,409 77	4,812	0 293
3 Emergencys.....	1,244 95	5,628	0 221
2 Stakes.....	1,100 69	5,130	0 215
1 Tractor.....	382 31	2,064	0 185
1 Express.....	679 27	3,730	0 182
1 Flusher.....	430 33	2,636	0 163
105 Group Average.....	\$1,345 53	4,397	\$0 306

## 1½-Ton Trucks (105 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
S-472	1947 Ford Dump COE.....	\$403 05	186	\$2 167
S-423	1947 Ford Dump COE.....	1,133 18	678	1 671
S-461	1947 Ford Dump COE.....	605 46	373	1 623
S-468	1947 Dodge Dump.....	1,506 21	1,768	0 852
B-31	1946 Ford Dump.....	1,015 24	1,376	0 738
S-518	1948 Dodge Sander.....	1,502 62	2,301	0 653
S-437	1947 Ford Dump.....	2,178 40	3,465	0 629
S-429	1947 Ford Dump COE.....	946 80	1,596	0 593
S-474	1947 Ford Dump.....	1,878 50	3,192	0 589
P-324	1947 Ford Dump.....	1,737 68	3,044	0 571
W-256	1947 Ford Jaeger Comp.....	2,034 25	3,618	0 562
S-460	1947 Ford Dump COE.....	1,432 99	2,554	0 561
S-424	1947 Dodge Dump.....	1,771 15	3,242	0 546
S-477	1947 Dodge Dump.....	1,419 27	2,796	0 508
S-410	1947 Ford Wrecker.....	1,690 79	3,369	0 502
S-523	1948 Dodge Sander.....	1,523 16	3,133	0 486
S-481	1947 Ford Dump.....	1,515 65	3,171	0 478
S-485	1947 Ford Dump.....	1,755 20	3,736	0 470
TS-15	1947 Ford Wrecker.....	1,653 02	3,581	0 462
S-455	1947 Ford Dump.....	1,744 16	3,781	0 461
G-57	1947 Ford Wrecker.....	2,879 55	6,377	0 452
Se-160	1947 Ford Dump COE.....	1,996 71	4,465	0 447
S-431	1947 Ford Dump COE.....	1,098 30	2,509	0 438
P-342	1947 Ford Dump.....	2,320 68	5,320	0 436
S-430	1947 Dodge Dump.....	1,093 97	2,524	0 433
S-492	1948 Ford Dump.....	1,378 89	3,288	0 419
S-476	1947 Dodge Dump.....	1,670 97	4,062	0 411
P-305	1946 Ford Dump.....	1,528 65	3,857	0 396
Se-133	1947 Ford IR Comp.....	1,456 20	3,709	0 393
S-493	1948 Dodge Sander.....	1,262 89	3,274	0 386
S-521	1948 Dodge Sander.....	1,267 15	3,342	0 379
S-480	1947 Ford Dump.....	1,451 44	3,839	0 378
S-442	1947 Ford Dump.....	1,952 99	5,187	0 377
S-469	1947 Dodge Sander.....	1,242 77	3,303	0 376
P-341	1947 Ford Dump.....	1,631 85	4,459	0 366
S-470	1947 Dodge Dump.....	1,476 38	4,092	0 361
P-304	1946 Ford Dump.....	1,337 52	3,708	0 361
S-427	1947 Dodge Dump.....	1,204 71	3,463	0 348
S-491	1948 Dodge Sander.....	1,164 80	3,365	0 346
S-448	1947 Ford Dump.....	1,904 06	5,526	0 345
S-517	1948 Dodge Sander.....	1,463 29	4,279	0 342
S-456	1947 Ford Dump.....	1,600 01	4,715	0 339
W-254	1947 Ford IR Comp.....	1,700 72	5,171	0 329
S-439	1947 Dodge Dump.....	1,397 09	4,248	0 329
S-447	1947 Ford Dump COE.....	932 26	2,875	0 324
S-422	1947 Ford Dump COE.....	1,210 36	3,756	0 322
P-335	1947 Ford Dump.....	1,434 92	4,466	0 321
TS-19	1947 Ford Rack.....	502 54	1,571	0 320
S-482	1947 Dodge Dump.....	2,016 34	6,369	0 317
S-453	1947 Ford Dump.....	1,746 43	5,569	0 314
P-349	1947 Ford Dump.....	1,283 42	4,165	0 308
S-428	1947 Ford Dump COE.....	1,169 67	3,789	0 308
S-454	1947 Ford Dump.....	1,414 07	4,627	0 306
S-519	1948 Dodge Sander.....	1,269 40	4,213	0 301
S-443	1947 Dodge Dump.....	1,369 33	4,590	0 298

## 1½-Ton Trucks.—Concluded.

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
S-524	1948 Dodge Sander.....	\$1,325 22	4,559	\$0 291
P-356	1947 Ford Dump.....	1,620 68	5,589	0 290
S-494	1948 Dodge Sander.....	1,342 17	4,648	0 289
S-440	1947 Dodge Dump.....	1,113 27	3,846	0 289
P-325	1947 Ford Dump.....	1,323 37	4,722	0 280
W-255	1947 Ford Jaeger Comp.....	1,302 56	4,648	0 280
P-333	1947 Ford Dump.....	1,547 87	5,663	0 273
P-317	1947 Ford Dump.....	1,818 17	6,735	0 270
S-475	1947 Ford Dump.....	1,682 41	6,293	0 267
S-515	1948 Dodge Sander.....	1,172 50	4,452	0 263
P-318	1947 Ford Dump.....	1,250 48	4,778	0 262
S-522	1948 Dodge Sander.....	1,348 37	5,208	0 259
P-331	1947 Ford Dump.....	1,429 51	5,545	0 258
P-309	1946 Ford Dump.....	1,261 00	4,996	0 252
S-516	1948 Dodge Sander.....	1,378 77	5,493	0 251
S-409	1946 Ford Stake.....	1,208 86	4,843	0 250
Se-127	1947 Ford Emergency.....	1,177 32	4,719	0 249
S-444	1947 Ford Dump.....	1,350 41	5,444	0 248
P-326	1947 Ford Dump.....	1,016 61	4,098	0 248
P-329	1947 Ford Dump.....	1,404 38	5,790	0 243
S-434	1947 Ford Dump COE.....	1,203 09	4,957	0 243
S-441	1947 Dodge Dump.....	1,233 96	5,103	0 242
S-520	1948 Dodge Sander.....	1,293 25	5,457	0 237
P-332	1947 Ford Dump.....	1,303 37	5,578	0 234
Se-135	1947 Ford Dump.....	1,051 06	4,502	0 233
P-337	1947 Ford Dump.....	1,130 25	4,973	0 227
P-334	1947 Ford Dump.....	1,007 22	4,501	0 224
P-338	1947 Ford Dump.....	1,370 65	6,177	0 222
P-307	1946 Ford Dump.....	1,221 96	5,512	0 222
S-438	1947 Ford Dump.....	1,182 27	5,510	0 215
Se-129	1947 Ford Emergency.....	1,173 23	5,483	0 214
Se-134	1947 Ford Dump.....	1,259 41	5,938	0 212
P-323	1947 Ford Dump.....	1,133 92	5,408	0 210
S-478	1947 Dodge Dump.....	1,161 11	5,556	0 209
Se-122	1946 Ford Emergency.....	1,384 29	6,681	0 207
P-322	1947 Ford Dump.....	1,449 31	7,405	0 196
Se-137	1947 Ford Dump.....	780 68	4,200	0 186
S-436	1940 Ford Tractor.....	382 31	2,064	0 185
W-224	1945 Ford IR Comp.....	1,128 98	6,145	0 184
Se-124	1947 Ford Stake Winch.....	992 52	5,416	0 183
P-314	1947 Ford Express.....	679 27	3,730	0 182
P-328	1947 Ford Dump.....	1,247 41	6,907	0 181
P-339	1947 Ford Dump.....	1,143 44	6,332	0 181
S-433	1947 Dodge Dump.....	937 97	5,188	0 181
P-303	1946 Ford Dump.....	1,370 26	7,671	0 178
S-473	1947 Dodge Dump.....	1,135 25	6,398	0 177
Se-136	1947 Ford Dump.....	900 93	5,122	0 176
P-336	1947 Ford Dump.....	1,426 64	8,724	0 164
TS-11	1936 Ford Flusher.....	430 33	2,636	0 163
P-308	1946 Ford Dump.....	815 17	5,303	0 154
	Group Average.....	\$1,345 53	4,397	\$0 306

## 1½-Ton Pickups (80 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
P-320	1947 Ford.....	\$2,087 36	7,455	\$0 280
S-498	1948 Ford.....	1,805 91	7,125	0 253
S-414	1947 Ford.....	1,464 46	5,789	0 253
S-479	1947 Ford.....	1,086 95	4,719	0 230
W-296	1949 Ford.....	1,463 74	6,442	0 227
P-321	1947 Ford.....	1,000 60	4,475	0 224
P-302	1946 Ford.....	1,441 14	6,875	0 210
S-411	1947 Ford.....	1,492 04	7,606	0 196
S-272	1948 Ford.....	932 64	4,813	0 193
P-347	1947 Ford.....	965 34	5,136	0 188
S-413	1947 Ford.....	1,100 14	6,023	0 183
Se-141	1947 Ford.....	1,246 57	7,131	0 175
Se-128	1947 Ford.....	889 58	5,218	0 170
S-450	1947 Ford.....	2,055 53	12,522	0 164
S-535	1949 Ford.....	1,475 79	9,065	0 163
W-266	1948 Ford.....	785 91	4,865	0 162
S-417	1947 Ford.....	1,673 58	10,594	0 158
S-495	1948 Ford.....	1,222 45	8,486	0 144
W-297	1949 Ford.....	761 91	5,286	0 144
P-346	1947 Ford.....	1,587 89	11,070	0 143
S-459	1947 Ford.....	959 68	6,749	0 142
S-416	1947 Ford.....	1,327 13	9,447	0 140
P-344	1947 Ford.....	1,389 10	10,099	0 138
S-538	1949 Ford.....	1,226 99	8,880	0 138
Se-138	1947 Ford.....	1,149 31	8,386	0 137
Se-131	1947 Ford.....	812 52	5,932	0 137
Se-116	1946 G.M.C.....	672 73	4,982	0 135
W-314	1950 Ford.....	1,229 30	9,108	0 135
W-311	1950 Ford.....	1,052 28	7,779	0 135
P-340	1947 Ford.....	1,021 92	7,607	0 134
S-419	1947 Ford.....	1,459 07	11,094	0 132
Se-139	1947 Ford.....	971 59	7,373	0 132
S-435	1947 Ford.....	896 54	6,891	0 130
S-451	1947 Ford.....	1,384 77	10,910	0 127
S-458	1947 Ford.....	1,201 55	9,489	0 127
P-330	1947 Ford.....	1,018 65	8,409	0 121
W-313	1950 Ford.....	1,150 86	9,599	0 120
Se-116	1947 Ford.....	1,026 68	8,620	0 119
Se-140	1947 Ford.....	1,329 11	11,274	0 118
S-499	1948 Ford.....	950 27	8,260	0 115
P-343	1947 Ford.....	680 10	5,912	0 115
S-536	1949 Ford.....	1,000 30	8,794	0 114
P-348	1947 Ford.....	955 86	8,494	0 113
W-295	1949 Ford.....	633 03	5,874	0 108
Se-118	1946 G.M.C.....	753 61	7,070	0 107
W-298	1949 Ford.....	979 29	9,196	0 106
W-308	1950 Ford.....	823 33	7,740	0 106
TS-16	1947 Ford.....	1,022 80	9,770	0 105
S-514	1948 Ford.....	940 47	8,965	0 105
P-319	1947 Ford.....	748 90	7,152	0 104
W-315	1950 Ford.....	1,554 98	15,355	0 101
S-471	1947 Ford.....	926 87	9,293	0 100
P-412	1948 Ford.....	965 15	9,739	0 099
G-59	1950 Ford.....	961 39	9,749	0 098
W-262	1948 Ford.....	940 95	9,608	0 098
W-317	1950 Ford.....	825 87	8,463	0 098

**$\frac{1}{2}$ -Ton Pickups.—Concluded.**

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
W-299	1949 Ford.....	\$1,086 28	11,180	\$0 097
W-316	1950 Ford.....	608 35	6,253	0 097
S-425	1947 Ford.....	1,095 86	11,370	0 096
S-562	1949 Ford.....	909 16	9,500	0 096
W-300	1949 Ford.....	845 41	8,849	0 096
S-542	1949 Ford.....	1,099 60	11,591	0 095
P-345	1947 Ford.....	550 77	5,764	0 095
P-315	1947 Ford.....	1,080 89	11,477	0 094
S-543	1949 Ford.....	1,087 23	11,820	0 092
W-310	1950 Ford.....	775 18	8,651	0 090
W-312	1950 Ford.....	841 06	9,424	0 089
S-426	1947 Ford.....	1,161 16	13,517	0 086
S-452	1947 Ford.....	567 98	6,614	0 086
S-541	1949 Ford.....	1,202 49	14,410	0 083
G-58	1950 Ford.....	822 47	10,131	0 081
S-432	1947 Ford.....	1,073 05	13,796	0 078
W-268	1948 Ford.....	831 33	10,867	0 077
W-294	1949 Ford.....	541 81	7,002	0 077
Se-132	1947 Ford.....	656 34	9,411	0 070
S-457	1947 Ford.....	633 05	9,078	0 070
S-412	1947 Ford.....	1,040 37	15,960	0 065
W-309	1950 Ford.....	815 62	13,043	0 063
S-418	1947 Ford.....	638 33	11,315	0 056
W-271	1947 Ford.....	691 49	12,524	0 055
	Group Average .....	\$1,051 72	8,829	\$0 119

**1-Ton Trucks (9 Vehicles).**

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
G-60	1950 Ford Express.....	\$883 47	3,204	\$0 276
W-269	1948 Ford Express.....	1,026 10	5,394	0 190
W-276	1948 Ford Express.....	1,052 09	5,831	0 180
W-275	1948 Ford Express.....	1,028 65	6,170	0 167
W-301	1948 Ford Express.....	897 52	6,143	0 146
W-273	1948 Ford Express.....	952 13	6,764	0 141
W-274	1948 Ford Express.....	1,126 58	9,501	0 119
W-291	1948 Ford Express.....	689 58	5,991	0 115
W-270	1948 Ford Express.....	995 73	9,411	0 106
	Group Average.....	\$961 32	6,490	\$0 148

**6-Ton Truck (1 Vehicle).**

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
G-56	1947 Diamond T Wrecker..	\$3,755 71	—	—

## 3- to 5-Ton Truck (1 Vehicle).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
P-385	1946 Mack Sander.....	\$2,261 59	835	\$2 708

## 3-Ton Truck (1 Vehicle).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
B-29	1948 Ford Lumber.....	\$820 64	5,121	\$0 160

## 5-Ton Trucks (8 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
S-381	1942 White Flusher.....	\$4,991 46	3,826	\$1 305
P-410	1945 White Sander.....	1,824 72	1,443	1 265
P-409	1945 White Sander.....	1,526 22	1,211	1 260
S-466	1947 White Dump.....	2,472 12	3,839	0 644
S-398	1945 White Dump.....	1,781 27	2,776	0 642
S-463	1947 White Dempster Dump	2,906 03	6,414	0 453
S-465	1947 White Dempster Dump	2,884 89	6,954	0 415
S-464	1947 White Dump.....	3,372 27	13,897	0 243
	Group Average.....	\$2,719 87	5,045	\$0 537

## 5-Ton Trucks Classified According to Type.

TYPE.	Average Yearly Cost.	Average Yearly Mileage	Average Cost Per Mile.
1 Flusher.....	\$4,991 46	3,826	\$1 305
2 Sanders.....	1,675 47	1,327	1 263
2 Dempster Dumpsters.....	2,895 46	6,684	0 433
3 Dumps.....	2,541 89	6,837	0 372
8 Group Average.....	\$2,719 87	5,045	\$0 537



## 1½-Ton Trucks Classified According to Make.

MAKE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
30 Dodges.....	\$1,360 62	4,134	\$0 329
75 Fords.....	1,339 49	4,502	0 298
105 Group Average.....	\$1,345 53	4,397	\$0 306

## ½-Ton Pickups Classified According to Make.

MAKE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
78 Fords.....	\$1,060 40	8,901	\$0 119
2 G.M.C.'s.....	713 17	6,026	0 118
80 Group Average.....	\$1,051 72	8,829	\$0 119

## Sweepers (25 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
S-385	1944 Elgin.....	\$1,534 87	319	\$4 812
S-546	1949 Elgin.....	5,378 05	1,805	2 980
S-532	1949 Elgin.....	4,699 55	2,174	2 162
S-382	1942 Elgin.....	1,966 39	993	1 980
S-530	1949 Austin Western.....	2,984 24	1,533	1 947
S-531	1949 Austin Western.....	1,966 65	1,099	1 789
S-547	1949 Elgin.....	4,193 77	2,492	1 683
S-549	1949 Elgin.....	4,506 37	2,723	1 655
S-534	1942 Elgin.....	1,309 35	865	1 514
S-528	1948 Austin Western.....	2,331 27	1,758	1 326
S-572	1949 Elgin.....	3,456 08	2,716	1 272
S-544	1949 Elgin.....	3,467 58	2,744	1 264
S-545	1949 Elgin.....	4,670 39	3,751	1 245
S-527	1948 Austin Western.....	2,359 00	2,132	1 106
S-565	1950 Elgin.....	1,706 61	1,894	0 901
S-548	1949 Elgin.....	4,023 34	5,088	0 781
S-567	1950 Wayne.....	1,704 65	2,823	0 604
S-566	1950 Elgin.....	1,488 08	2,591	0 574
S-564	1950 Elgin.....	2,236 23	3,919	0 571
S-368	1941 Elgin.....	853 59	not used	
S-383	1942 Elgin.....	717 06	not used	
S-387	1945 Elgin.....	728 17	not used	
S-388	1945 Elgin.....	721 26	not used	
S-533	1942 Elgin.....	716 00	not used	
S-571	1947 Austin Western.....	587 22	not used	
	Group Average.....	\$2,412 23	1,737	\$1 389

## Buffalo Springfield Rollers (12 Vehicles).

Dept. No.	Year.	WEIGHT AND TYPE.	Yearly Cost.
R-29	1930	6-ton Road Roller . . . . .	\$190 98
R-30	1931	6-ton Road Roller . . . . .	281 13
R-32	1939	2-ton Sidewalk Roller . . . . .	32 64
R-33	1939	2-ton Sidewalk Roller . . . . .	229 54
R-34	1939	2-ton Sidewalk Roller . . . . .	167 67
R-35	1940	2-ton Sidewalk Roller . . . . .	1 00
R-36	1940	2-ton Sidewalk Roller . . . . .	121 73
R-37	1941	2-ton Sidewalk Roller . . . . .	177 15
R-38	1941	2-ton Sidewalk Roller . . . . .	29 28
R-39	1949	2-ton Tandem with towing attachment . . . . .	65 75
R-40	1949	2-ton Tandem with towing attachment . . . . .	154 26
R-41	1949	2-ton Tandem with towing attachment . . . . .	18 98
Group Average . . . . .			\$122 51

## Sweepers Classified According to Make.

MAKE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
4 Austin Westerns . . . . .	\$2,410 29	1,631	\$1 478
14 Elgins . . . . .	3,188 33	2,434	1 310
1 Wayne . . . . .	1,704 65	2,823	0 604
5 Elgins . . . . .	747 22	not used	
1 Austin Western . . . . .	587 22	not used	
25 Group Average . . . . .	\$2,412 23	2,285	\$1 389

## Loaders (14 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.
P-357	1948 Barber Greene . . . . .	\$2,248 00
S-568	1950 Wagnermobile . . . . .	2,230 34
S-569	1950 Wagnermobile . . . . .	2,072 32
P-358	1947 Barber Greene . . . . .	2,032 94
P-402	1950 Barber Greene . . . . .	1,815 76
P-359	1948 Barber Greene . . . . .	1,785 88
P-398	1951 Trojan . . . . .	1,400 97
P-399	1951 Trojan . . . . .	1,379 12
P-397	1950 Trojan . . . . .	1,244 95
P-396	1950 Trojan . . . . .	1,222 63
P-400	1951 Trojan . . . . .	1,210 70
P-394	1950 Trojan . . . . .	1,209 06
P-401	1951 Trojan . . . . .	1,027 76
P-395	1950 Trojan . . . . .	1,022 08
Group Average . . . . .		\$1,564 47

## Loaders Classified According to Make.

MAKE.	Average Yearly Cost.
2 Wagnermobiles.....	\$2,151 33
4 Barber Greenes.....	1,970 65
8 Trojans.....	1,214 66
14 Group Average.....	\$1,564 47

## Tractors (2 Vehicles).

Department No.	YEAR AND MAKE.	Yearly Cost.
P-364	1948 Allis Chalmers Crawler Tractor.....	\$2,030 26
P-365	1948 Allis Chalmers Crawler Tractor.....	1,433 14
	Group Average.....	\$1,731 70

## Grader (1 Vehicle).

Department No.	YEAR AND MAKE.	Yearly Cost.
P-350	1947 Huber Road Grader.....	\$1,063 42

## Crane (1 Vehicle).

Department No.	YEAR AND MAKE.	Yearly Cost.
W-191	1939-22-ton Portable Crane on Caterpillar.....	\$641 77

## Passenger Cars Classified According to Type.

TYPE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
6 Jeeps.....	\$871 84	6,232	\$0 140
37 Sedans.....	1,487 91	13,722	0 087
7 Carryalls.....	685 42	8,366	0 082
50 Group Average.....	\$1,079 63	12,074	\$0 089

## Passenger Cars (50 Vehicles).

Department No.	YEAR, MAKE AND TYPE.	Yearly Cost.	Yearly Mileage.	Cost Per Mile.
Se-143...	1947 Willys Jeep.....	\$1,158 91	6,168	\$0 188
P-353...	1947 Willys Jeep.....	1,001 01	5,880	0 180
S-539...	1949 Ford Sedan.....	687 20	3,875	0 177
B-33...	1950 Chevrolet Carryall....	536 40	3,149	0 170
TS-20...	1948 Willys Jeep.....	855 25	5,881	0 145
P-352...	1947 Willys Jeep.....	943 17	6,764	0 139
P-388...	1950 Chevrolet Carryall....	859 96	6,377	0 135
MP-2...	1949 Ford Sedan.....	2,316 65	18,170	0 127
TS-24...	1949 Ford Sedan.....	796 84	6,318	0 126
C-11...	1949 Buick Sedan.....	1,497 08	12,100	0 124
P-382...	1949 Ford Sedan.....	1,665 43	13,548	0 123
P-381...	1949 Ford Sedan.....	1,368 35	11,204	0 122
Se-158...	1950 Buick Sedan.....	1,368 92	11,341	0 121
P-411...	1947 Buick Sedan.....	1,310 23	11,030	0 119
W-321...	1951 Ford Sedan.....	1,290 57	11,251	0 115
W-230...	1946 Buick Sedan.....	1,673 23	15,624	0 107
W-293...	1949 Buick Sedan.....	1,202 76	11,328	0 106
W-304...	1949 Ford Sedan.....	866 77	8,197	0 106
W-325...	1951 Ford Sedan.....	1,159 15	11,303	0 103
S-561...	1949 Buick Sedan.....	1,378 42	13,478	0 102
W-323...	1951 Ford Sedan.....	983 92	9,607	0 102
P-351...	1947 Willys Jeep.....	841 04	8,307	0 101
TS-27...	1951 Willys Jeep.....	431 63	4,393	0 098
TS-22...	1949 Buick Sedan.....	1,693 55	18,182	0 093
Se-163...	1950 Ford Sedan.....	1,038 51	11,592	0 090
W-322...	1951 Ford Sedan.....	638 02	7,211	0 088
W-318...	1950 Ford Sedan.....	986 14	11,330	0 087
G-61...	1951 Ford Sedan.....	978 42	11,378	0 086
W-326...	1951 Ford Sedan.....	718 49	8,381	0 086
L-6...	1951 Ford Sedan.....	823 38	9,857	0 084
P-389...	1950 Chevrolet Carryall....	657 57	8,264	0 080
P-392...	1950 Chevrolet Carryall....	819 94	10,535	0 078
W-324...	1951 Ford Sedan.....	684 83	8,819	0 078
P-393...	1950 Chevrolet Carryall....	641 99	8,700	0 074
MP-3...	1950 Ford Sedan.....	2,238 08	30,484	0 073
MP-1...	1951 Ford Sedan.....	2,176 67	30,014	0 073
MP-5...	1950 Ford Sedan.....	2,487 57	35,575	0 070
P-383...	1950 Ford Sedan.....	881 65	12,600	0 070
Se-162...	1950 Ford Sedan.....	819 71	11,678	0 070
MP-4...	1950 Ford Sedan.....	2,045 24	29,785	0 069
W-335...	1951 Ford Sedan.....	862 72	12,807	0 067
S-563...	1949 Ford Sedan.....	1,044 41	15,945	0 066
B-32...	1950 Ford Sedan.....	714 63	11,499	0 062
P-390...	1950 Chevrolet Carryall....	690 15	11,237	0 061
Se-161...	1950 Ford Sedan.....	717 80	12,167	0 059
W-307...	1950 DeSoto Sedan.....	854 28	14,664	0 058
Se-164...	1950 Ford Sedan.....	623 15	10,879	0 057
P-391...	1950 Chevrolet Carryall....	591 96	10,302	0 057
B-36...	1951 Ford Sedan.....	873 39	15,462	0 056
TS-23...	1949 Ford Sedan.....	486 51	9,039	0 054
	Group Average.....	\$1,079 63	12,074	\$0 089

## Passenger Cars Classified According to Make.

MAKE.	Average Yearly Cost.	Average Yearly Mileage.	Average Cost Per Mile.
6 Willys Jeeps .....	\$871 84	6,232	\$0 140
7 Buick Sedans .....	1,446 31	13,298	0 109
29 Ford Sedans .....	1,137 04	13,792	0 082
7 Chevrolet Carryalls .....	685 42	8,366	0 082
1 DeSoto Sedan .....	854 28	14,664	0 058
50 Group Average .....	\$1,079 63	12,074	\$0 089

## Unclassified Vehicles.

Department No.	YEAR, MAKE AND TYPE.	Yearly Cost.
S-244	1933 Highway Semi-Trailer .....	\$38 86
S-245	1933 Highway Semi-Trailer .....	41 13
S-529	1948 Snow Shanty Trailer .....	0 00
S-560	1948 Hobart Arc Welder Trailer .....	57 89
S-490	1948 Stewart Warner Portable Heater .....	0 72
P-360	1948 Stewart Warner Portable Heater .....	0 00
P-243	1939 Hauck Asphalt Pot Heater Trailer .....	0 00
P-286	1943 Hauck Asphalt Pot Heater Trailer .....	0 00
P-287	1943 Hauck Asphalt Pot Heater Trailer .....	0 00
S-483	1947 Huski Unisickle Lawn Mower .....	0 11
S-484	1947 Huski Unisickle Lawn Mower .....	0 60
P-298	1946 Whirlwind Power Mower .....	19 91
P-301	1946 Whirlwind Power Mower .....	202 68
P-242	1939 Smith Concrete Mixer .....	28 51
P-288	1944 Syntron Gasoline Paving Breaker .....	0 00
P-299	1946 American Brake Shoe Paint Spray Machine .....	0 00
P-247	1940 Homelite Generator .....	0 00
P-255	1940 Homelite Generator .....	0 00
P-256	1940 Homelite Generator .....	0 00
P-310	1946 Griffin Highlight Trailer .....	11 82
P-311	1946 Griffin Highlight Trailer .....	43 21
P-312	1946 Griffin Highlight Trailer .....	14 73
P-244	1939 Homemade 2-ton Trailer .....	57 01
P-371	1948 Acker Core Drill .....	2 35
W-184	1947 Littleford Handee Box Toolhouse Trailer ..	2 00
W-259	1947 $\frac{1}{2}$ -Ton Willys Toolbox Trailer .....	19 46
W-260	1947 $\frac{1}{2}$ -Ton Willys Toolbox Trailer .....	2 00
W-277	1947 1-Ton Nash Kelvinator Toolbox Trailer ...	2 00
W-278	1947 1-Ton Nash Kelvinator Toolbox Trailer ...	2 00
W-285	1948 1-Ton Homemade 2-Wheel Toolbox Trailer ..	2 00
W-220	1943 Wesson Tiernan Chlorinator Trailer .....	0 00
Se-156	1947 Flexible Power Bucket Mach. 2-Whl. Trailer ..	19 77
Se-157	1947 Flexible Power Bucket Mach. 2-Whl. Trailer ..	6 96
P-403	1950 Chicago Pneumatic Compressor Trailer ...	372 20
P-405	1950 Leroi Compressor Trailer .....	171 42
B-17	1935 Auxiliary Air Compressor .....	101 57
P-406	1951 Scotchman Salt Spreader .....	31 63
Se-159	1950 Sterling Trailer Pump .....	47 93

## APPENDIX B.

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 REPORT OF THE DIVISION ENGINEER OF  
 THE BRIDGE AND HIGHWAY DIVISION.
 

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Boston, January 2, 1952.

*To the Commissioner of Public Works.*

DEAR SIR:

I submit the following report of the income, expenditures, and operation of the Bridge and Highway Division for the year ending December 31, 1951, in two sections. The Bridge Section report covers the Bridge, Ferry, and Tunnel Services, and the Highway Section report covers the Paving and Street Lighting Services.

Respectfully submitted,

JOHN DEMEULENAER,  
*Division Engineer.*

## I — BRIDGE SECTION

## SUMMARY OF BUDGET APPROPRIATIONS.

*Bridge Service, Regular.*

Regular appropriations, 1951 . . . . .	\$763,062 10
Expenditures, 1951 . . . . .	721,577 97

Unexpended balance, December 31, 1951 . . . . .	<u>\$41,484 13</u>
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*Bridges, Repairs, etc.*

Balance from 1950 . . . . .	\$207,281 75
Appropriation, 1951 . . . . .	275,000 00

Transfers from . . . . .	\$482,281 75
	50,000 00

Expenditures, 1951 . . . . .	\$432,281 75
	240,431 89

Unexpended balance, December 31, 1951 . . . . .	<u>\$191,849 86</u>
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*Bridges, Construction of—Revenue.*

Balance from 1950 . . . . .	\$4,236 59
Appropriation, 1951 . . . . .	157,000 00
	<hr/>
	\$161,236 59
Expenditures, 1951 . . . . .	0 00
	<hr/>
Unexpended balance, December 31, 1951 . .	<u>\$161,236 59</u>

*Bridges, Construction of—Non-Rvenue.*

Balance from 1950 . . . . .	\$2,311,189 41
Expenditures, 1951 . . . . .	79,242 48
	<hr/>
Unexpended balance, December 31, 1951 . .	<u>\$2,231,946 93</u>

*Ferry Service.*

Regular appropriation, 1951 . . . . .	\$370,788 00
Balance from previous year . . . . .	7,951 65
	<hr/>
Total credits . . . . .	\$378,739 65
Expenditures 1951 . . . . .	\$329,713 28
Balance to next year . . . . .	32,953 12
	<hr/>
Total debits . . . . .	\$362,666 40
	<hr/>
Unexpended balance, December 31, 1951 . .	<u>\$16,073 25</u>

*Tunnel Service.*

Regular appropriation, 1951 . . . . .	\$524,546 44
Balance from previous year . . . . .	1,547 11
	<hr/>
Total credits . . . . .	\$526,093 55
Expenditures, 1951 . . . . .	\$479,198 19
Balance to next year . . . . .	13,135 89
	<hr/>
Total debits . . . . .	\$492,334 08
	<hr/>
Unexpended balance, December 31, 1951 . .	<u>\$33,759 47</u>

The foregoing does not include certain expenditures for construction work for other divisions, which work was supervised by the engineers of this division.

In an order from the Department of Public Utilities, Commonwealth of Massachusetts, schedules of tolls and charges for the use of the Sumner Tunnel, between Boston Proper and East Boston, were approved, covering the year 1951.

The city operates one ferry, the so-called "South Ferry," with the Boston terminus at Eastern avenue and the East Boston terminus at Lewis street.

The more important works undertaken during the past year in the Bridge Section were:

Completing the rebuilding of the Blakemore Street Bridge; completing the redecking of the Boylston Street Bridge; cleaning, painting, and repairing the drawspan, and making emergency repairs to the steelwork of the South Boston approach spans of the Broadway Bridge over Fort Point Channel; redecking sections of Spans 1 and 2, and strengthening Piers 4, 5, and 6 of the Charlestown Bridge; making emergency repairs and other repairs to the operating machinery of the Chelsea Street Bridge; completing the removal of the drawspan, approach sections, etc., of the Meridian Street Bridge; repairing the public boat landing at Northern Avenue Bridge; repairing fender piers and making emergency repairs to the operating machinery of the Summer Street Bridge over Fort Point Channel; repairing the drawspan and making emergency repairs to the approaches of the Summer Street Bridge over Reserved Channel; repairing two spare main trucks for the Summer Street Drawbridge, repairing the pile bracing of the Charlestown approach of Warren Bridge; removing ashes, cinders, etc., from the ferryboats; cleaning and painting the hull and making general repairs to the ferryboat "Daniel A. MacCormack;" repairing two bridges, Boston side, and the approach platform, East Boston side, of the South Ferry; and, at the Summer Tunnel, repairing, painting, etc., at the ventilation buildings; repairing various bulkhead doors of the ventilation system; repairing the roadway pavement; cleaning the exhaust duct, exhaust fan rooms, and fresh-air ducts; and cleaning the surface drainage system.

Other work included making emergency repairs to the Albany Street Garage for the Sanitary Division; and snow removal operations in conjunction with other divisions.



## BRIDGE SERVICE.

*Rebuilding Blakemore Street Bridge, over the New York,  
New Haven & Hartford Railroad.*

In 1950 a contract was entered into with A. Orlando, Inc., for replacing the old steel and wood bridge with a modern steel and concrete bridge. Work commenced November 30, 1950, and was completed June 4, 1951, at a cost of \$54,116.57.

*Redecking the Boylston Street Bridge, over the Boston &  
Albany Railroad.*

Under a contract entered into with John F. Shea Company, Inc., in 1950, for painting the steelwork and redecking the bridge, work commenced September 11, 1950, but due to delay on lumber deliveries was suspended on November 10, 1950. Work was resumed on March 19, 1951, and was completed May 12, 1951, at a cost of \$34,830.87.

*Cleaning, Painting, and Making Miscellaneous Repairs  
of the Drawspan of Broadway Bridge, over Fort  
Point Channel.*

Due to the very poor condition of the plank sidewalks and certain steel members, a contract was entered into with Marinucci Brothers & Co., Inc., for necessary repairs and painting the entire drawspan. Work was commenced May 21, 1951, and was completed August 18, 1951, at a cost of \$25,449.56.

*Emergency Repairs to Certain Steelwork of the South  
Boston Approach Spans, Broadway Bridge, over Fort  
Point Channel.*

After a joint inspection of the South Boston approach steelwork, with representatives of the New York, New Haven & Hartford Railroad, it was found necessary to make immediate repairs to floor beams and stringers. An emergency contract was entered into with the Industrial Welding Company for the necessary repairs by use of welding. Work commenced November 21, 1951, and was completed December 14, 1951, at a cost of \$2,998.85.

*Redecking Sections of Spans 1 and 2, Charlestown Bridge,  
over the Charles River.*

A contract was entered into with D. A. Rossano Company, Inc., for redecking and paving, in 1950. Work commenced December 8, 1950, and was completed January 4, 1951, at a cost of \$10,632.99.

*Strengthening Piers 4, 5, and 6 of the Charlestown Bridge,  
over the Charles River.*

To continue the work of strengthening the defective piers by enclosing the bases with steel sheet cofferdams filled with concrete, a contract was entered into with the Crandall Engineering Company for so repairing a section of Pier 4 (which had been partially repaired under a previous contract) and to encase Pier 5 entirely, plus repairing the upstream end of Pier 6. Work commenced July 9, 1951, and is expected to be completed about June of 1952. Payments to date total \$70,095.16. The estimated cost of completion is \$218,900.

*Repairs to Operating Machinery of the Chelsea Street  
Bridge, over the Chelsea River.*

Due to a failure of a section of the operating strut in 1950, it was decided that new spare sections of the operating struts were a necessity and that other repairs and overhauling of the shafts and gears were required. A contract was entered into with the General Ship and Engine Works, Inc., for the necessary parts and repairs. Work commenced January 22, 1951, and was completed September 9, 1951, at a cost of \$11,560.

*Making Emergency Repairs to Operating Machinery of  
the Chelsea Street Bridge, over the Chelsea River.*

Due to a break occurring in the end section of the downstream operating strut, an emergency contract was entered into with the General Ship and Engine Works, Inc., for immediate repairs. Work commenced February 9, 1951, and due to delay in obtaining steel castings was not completed until July 6, 1951, at a cost of \$4,441.02.

*Removing the Drawspan, Approach Sections, etc., of the Meridian Street Bridge.*

Under a contract entered into with the M. & R. Construction Company for removing the entire drawspan and Chelsea approach, plus approximately 142 linear feet of the East Boston approach, work was commenced on June 12, 1950, and was completed April 2, 1951, at a total cost of \$52,855.76.

*Repairs to the Northern Avenue Bridge Boat Landing.*

A contract was entered into with John Forward, Inc., for drydocking the float, making necessary repairs, and caulking the seams. Work commenced February 15, 1951, and was completed March 30, 1951, at a cost of \$3,022.77.

*Repairing Fender Piers at the Summer Street Bridge, over Fort Point Channel.*

A contract was entered into with the James B. Rendle Company for repairs to the upstream end of the main fender pier, the downstream end of the fender guard, and minor repairs to the waling at the Congress Street Bridge fenders. Work commenced January 15, 1951, and was completed March 15, 1951, at a cost of \$21,979.73.

*Making Emergency Repairs to Operating Machinery of the Summer Street Bridge, over Fort Point Channel.*

Due to a breakdown of the machinery for the upstream leaf, requiring immediate repairs, an emergency contract was entered into with the General Ship and Engine Works, Inc., for making necessary repairs. Work commenced August 2, 1951, and was completed October 10, 1951, at a cost of \$2,509.04.

*Repairs to Drawspan of the Summer Street Bridge, over the Reserved Channel.*

Due to the very poor condition of the untreated Y. P. stringers and the necessity of making steel repairs to various members of the bridge, a contract was entered into with the Eastern Roads Company, Inc., for removing and replacing the steel decking, using a 6-inch

by 1/4-inch plate under the old 3-inch by 3/8-inch bar to fasten the steel deck to the wooden stringers. The old stringers were replaced by pressure treated creosoted stringers, the steelwork was repaired, and the bridge painted. Work commenced August 1, 1951, and is expected to be completed early in 1952. Payments to date amount to \$17,525.86 on a total estimated cost of \$42,016.

*Emergency Repairs to Approaches of Summer Street Bridge, over Reserved Channel.*

After an inspection of the pile bents of the approaches, it was found necessary to make immediate repairs to maintain roadway traffic. A contract was entered into with the Eastern Roads Company, Inc., who were on the site making repairs to the drawspan. Work commenced October 24, 1951, and will be completed early in 1952, at an estimated cost of \$7,499.50.

*Repairing Two (2) Spare Main Trucks for the Summer Street Drawbridges.*

A contract was entered into with the General Ship and Engine Works, Inc., for repairing two spare main trucks which had been dismantled for inspection and were found to be badly in need of repairs. One truck was delivered to Summer Street Bridge, over Fort Point Channel, and one truck to Summer Street Bridge, over the Reserved Channel. Work commenced January 22, 1951, and was completed April 27, 1951, at a cost of \$2,392.

*Repairing the Pile Bracing of the Charlestown Approach of Warren Bridge, over the Charles River.*

After a joint inspection with representatives of the Department of Public Utilities, it was found necessary to furnish and install new cross bracing and rebolt old braces throughout the Charlestown approach. A contract was entered into with the Eastern Roads Company, Inc., for this bracing. Work commenced September 24, 1951, and will be completed early in 1952, at an estimated cost of \$20,600. Payments have been made to date in the amount of \$4,192.34.

*Procurement of Gear Patterns.*

Due to the fact that the Holyoke Machine Company was going out of business, and because that company had for years furnished this division with various replacement gears as needed for the movable bridges, it was decided to procure the patterns for these gears in the interest of future maintenance requirements. Accordingly, this division purchased fifteen (15) patterns from the Holyoke Machine Company for the sum of \$1,500.

*Yard Forces.*

The yard forces made repairs on 44 bridges, the work varying in extent from minor repairs to such operations as renewing or rebuilding areas of wooden roadway decks, entire sidewalks, aprons, etc.

Typical work included patch planking on roadways, sidewalks, pier platforms, stairways, etc., repairing, cleaning and painting drawhouses, controller houses, machinery housings, fences, roadway gates, etc., regulating bascule bridge counterweights as required, repairing floats, sand boxes and coal bins.

The maintenance force also cleaned sidewalks and stairways of the intown area during the year, removing snow, refuse, etc.

Ordinary electrical and machinery maintenance work was done by the electrician and machinists.

## FERRY SERVICE.

The following ferryboats are in commission:

NAME.	When Built.	Length.	Gross Tons.
Charles C. Donoghue . . . . .	1926	174 feet, 4 inches	756.77
Daniel A. MacCormack . . . . .	1926	174 feet, 4 inches	756.77

These are steel boats of the propeller type.

The work of this service for the year consisted of the following:

*Removing Ashes, Cinders, Clinkers, and Refuse from the Ferryboats.*

A contract was entered into with Edward F. Butler for removal of ashes from the ferryboats. Work commenced January 1, 1951, and was completed December 31, 1951, at a cost of \$1,899.54.

*Cleaning and Painting Hull of Ferryboat  
"Daniel A. MacCormack."*

A contract was entered into with the Bethlehem Steel Company (Boston Yard) for the annual cleaning and painting of the hull. Work commenced July 14, 1951, and was completed July 27, 1951, at a cost of \$9,132.

*General Repairs to Ferryboat "Daniel A. MacCormack."*

A contract was entered into with the General Ship and Engine Works for making annual repairs to this vessel. Work was commenced July 26, 1951, and was completed November 2, 1951, at a cost of \$38,214.95.

*Repairing Two (2) Bridges on the Boston Side and the Approach Platform on the East Boston Side of the South Ferry.*

A contract was entered into with A. Orlando, Inc., for rebuilding the approach platform deck and renewing stringers and sills, as necessary, as well as making necessary repairs to steel work and roadway of the two bridges on the Boston side, including painting. Work commenced December 19, 1951, and will be completed early in 1952. No payments have been made to date.

*Department Force.*

During the year machinists, carpenters, painters, riggers, and other mechanics, who are included in the personnel of the Ferry Service, made such repairs to the plant as the extent of materials and equipment at their disposal would permit. This work consisted mainly of minor repairs to the machinery on the boats, repairs to ferry bridge machinery, ferry bridge roadways, and headhouse repairs in general.

## SUMNER TUNNEL SERVICE.

*Repairs, Painting, etc., at the Sumner Tunnel  
Ventilation Buildings.*

A contract was entered into with Joseph G. Gazzola for routine glass renewals and painting at the Boston and East Boston Ventilation Buildings. Work commenced July 7, 1951, and was completed October 2, 1951, at a cost of \$7,416.85.

*Repairs and Alterations to Various Bulkhead Doors of  
the Sumner Tunnel Ventilating System.*

A contract was entered into with the Boylston Company for alterations and repairs to various bulkhead doors and for furnishing and placing two new bulkhead doors between the fresh air and exhaust air sections of the ventilating systems. Work was commenced September 26, 1951, and was completed December 6, 1951, at a cost of \$2,586.

*Repairing the Pavement of the Sumner Tunnel.*

A contract was entered into with the Rufo Construction Company for making necessary repairs to the granite block and "Ultimate" type block pavement. Work commenced November 13, 1951, and will be completed early in 1952, at an estimated cost of \$12,397.50. Payments to date amount to \$5,809.75.

*Cleaning Exhaust Duct, Exhaust Fan Rooms, and Fresh  
Air Ducts at the Sumner Tunnel.*

A contract was entered into with James A. Freaney, Inc., for a periodic maintenance cleaning of the exhaust and fresh air ducts. Work was commenced December 5, 1951, and will be completed early in 1952, at an estimated cost of \$2,860. No payments have been made to date.

*Cleaning the Surface Drainage System of the Sumner  
Tunnel.*

A contract was entered into with the James A. Freaney Company for a periodic cleaning of the tunnel drainage system. Work commenced December 5, 1951, and was completed December 21, 1951, at a cost of \$2,088.

## SUMMARY OF OPERATIONS DURING 1951.

1. *Vehicular Traffic.*

	1947	1948	1949	1950	1951
Total.....	8,748,162	8,754,545	9,162,266	9,283,700	9,466,660
Monthly Average.....	729,014	729,545	763,522	773,641	788,883
Weekly Average.....	168,234	168,356	176,197	178,045	182,051
Daily Average.....	23,968	23,920	25,171	25,435	25,936

2. *Power.*

	1947	1948	1949	1950	1951
Total Kilowatts.....	5,133,526	5,173,596	4,403,936	4,331,103	4,196,904
Number of Vehicles...	8,748,162	8,754,545	9,162,266	9,283,700	9,466,660

3. *Garage Service.*

	1947	1948	1949	1950	1951
Tow Jobs.....	321	358	242	285	464

4. *Booth Red Signal.*

	1947	1948	1949	1950	1951
Booth Red On.....	4	21	16	11	11
Total Duration (Minutes).....	51	146	83	150	108

5. *Fires.*

During the year 1951 there was one fire in the tunnel, causing minor damages to a truck.

6. *Motors, Fans, Dampers, and Controllers.*

The 28 fan motors and damper motors are all in good operating condition and are under daily inspection.

All fan controllers are operating properly. Adjustments and repairs have been made as required.

Grease and oil in fans and motors have been changed at regular intervals as per schedule.

7. *Transformers, Circuit Breakers, and Relays.*

All circuit breakers, relays, and transformers have been tested and reset for correct working voltage. New oil has been added to the transformers as required.

8. *Carbon Monoxide Equipment.*

The four carbon monoxide analyzers and Micro-Max Recorders are operating and are under daily inspection. New chemicals have been added as required and adjustments made in order to insure efficient operation. It is planned to have these analyzers and recorders replaced with modern equipment during the coming year.



### 9. *Toll Equipment.*

All toll equipment, toll registers, key boxes, and treadles are in good working condition. Various adjustments were made to relays, counters, and contacts, and all defective parts were replaced.

Regular insulation and pressure tests were made on treadles, and defective treadles were removed and repaired or replaced with new treadles.

### 10. *Pumps.*

All motors, pumps, foot valves, floats, etc., on the pumping system have been adjusted, cleaned, and tested, and are in good working order.

### 11. *Storage Batteries.*

The storage batteries are under constant supervision and in a full-charge condition. Water has been added to electrolyte as required. Volt meter tests and hydrometer readings have been taken and indicate that all batteries are in first-class condition.

### 12. *Telephone System.*

All defective hand sets, cords, jacks, relays, etc., have been replaced and repaired as required. Megger tests of telephone cables indicate the entire telephone system is working properly.

### 13. *Motor Generators.*

All four motor generators, including switchboards and controls, are under a constant routine maintenance schedule. Repairs have been made to controls, switches, brushes, and commutators as required to insure efficient operation.

### 14. *Traffic Signals.*

All defective push buttons, contacts, relays, etc., have been repaired or replaced at each traffic signal relay panel as needed. New glass and lenses have been installed as required.

### 15. *Tunnel, General.*

On January 1, 1951, the towing charge for removal of stalled or disabled vehicles was discontinued.

A new Willys Jeep, T. S. 27, was delivered to the Tunnel on January 26, 1951. This vehicle was a replacement for T. S. 17.

Four new treadles were purchased and installed during the year.

## WORK FOR OTHER DIVISIONS.

## SANITARY DIVISION.

*Making Emergency Repairs to the Albany Street Garage.*

Because large pieces of the concrete ceiling over the ground floor were falling off, an emergency contract was awarded to the National Gunito Company, Inc., for making the necessary repairs. Work commenced November 20, 1951, and was completed November 30, 1951, at a cost of \$2,304.

*Construction of a New Building for the Sanitary Division at 17½ West Second Street, South Boston.*

Plans and specifications were prepared by this division for a new Administration Building to be built at an estimated cost of \$40,000. Work was commenced in November, 1951, and is expected to be completed in June of 1952.

## MISCELLANEOUS.

*Snow Removal.*

This division was placed in charge of Snow Areas No. 6, South End; No. 12, Roslindale and West Roxbury; and No. 13, Brighton. Snow was removed by the C. & R. Construction Company for Area 12, at a cost of \$1,042, and by the Atlantic Roads Company for Area 13, at a cost of \$1,160.94. No payments were made to the Ward Contracting Company for Area No. 6.

## BRIDGE SERVICE.

## FINANCIAL STATEMENT FOR 1951.

*Total Expenditures.*

From Maintenance Appropriation . . . . .	\$721,482 77	
From Special Appropriations . . . . .	319,674 37	
		<u>\$1,041,157 14</u>

*Expenditures on Boston Bridges.**Administration.*

Division engineer . . . . .	\$3,829 33	
Engineers, inspectors, clerks . . . . .	77,051 70	
Supervisor, deputy supervisor . . . . .	7,906 34	
		<u>\$88,787 37</u>

*Office.*

Printing, postage, stationery . . . . .	\$953 39	
Traveling expense . . . . .	30 80	
Engineers' instruments, new and repaired . . . . .	94 44	
Servicing office machines . . . . .	61 50	
Binding . . . . .	19 20	
Supplies and miscellaneous . . . . .	926 57	
Supplies for blueprint room . . . . .	217 38	
		<u>2,303 28</u>
		<u>\$91,090 65</u>

*Yard and Stockroom.**Yard.*

Clerks and yardmen . . . . .	\$14,065 93	
Holidays, vacations, and sick leave . . . . .	7,752 57	
Traveling expense . . . . .	243 00	
Tools, new and repaired . . . . .	1,308 31	
Telephone . . . . .	394 31	
Patterns purchased . . . . .	1,500 00	
Supplies . . . . .	1,479 00	
Repairs in yard . . . . .	731 48	
Auto service . . . . .	8,869 66	
		<u>\$36,344 26</u>

*Stockroom.*

Stock purchased . . . . .	\$25,511 26	
Stock used . . . . .	28,534 56	
		<u>3,023 30</u>
		<u>\$33,320 96</u>

## Tidewater Bridges, 1951.

BRIDGES.	Drawtenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Total.
Broadway.....	\$34,281 36	\$5,723 42	\$2,281 48	\$2,300 37	\$507 28	\$45,093 91
Charlestown.....	56,874 30	7,016 21	3,220 93	2,309 07	823 89	70,244 40
Chelsea South.....	31,714 24	2,305 32	600 91	378 48	689 48	35,688 43
Chelsea Street.....	44,379 84	3,049 48	842 36	1,463 93	561 13	50,296 54
Congress Street.....	42,662 42	1,915 80	568 51	1,083 37	543 87	46,773 97
Dover Street.....	35,821 13	4,607 93	1,137 95	1,429 55	433 09	43,429 65
L Street*.....	40,178 66	2,901 85	632 85	1,195 67	556 28	45,465 31
Malden.....	43,618 09	2,244 64	315 87	871 93	851 16	47,901 69
Northern Avenue.....	42,406 08	6,016 25	3,251 03	2,346 68	2,756 52	56,776 56
Summer Street.....	37,471 78	5,744 09	1,791 75	2,009 83	431 97	47,449 42
Warren.....	41,949 94	14,852 65	6,027 99	3,568 48	564 77	66,964 03
Totals.....	\$451,357 84	\$56,377 64	\$20,671 63	\$18,957 36	\$8,719 44	\$556,083 91

\* Now Summer Street, over Reserved Channel.

## Repairs on Inland Bridges, 1951.

BRIDGES.	Labor and Material.
Babson Street.....	\$300 36
Baker Street.....	43 56
Bennington Street, over Boston, Revere Beach & Lynn Railroad.....	378 58
Boston Street.....	464 21
Boylston Street.....	251 08
Broadway Extension.....	3,534 25
Camden Street — Gainsborough Street (foot).....	26 12
Central Avenue.....	136 45
Dana Avenue.....	921 40
Dartmouth Street (rent).....	300 00
Durham Street — West Rutland Square.....	223 56
Dorchester Avenue, over New York, New Haven & Hartford Railroad....	574 19
Everett Street, Allston.....	728 30
Everett Street, East Boston.....	257 94
Fairmount Avenue.....	138 84
Follen Street — Braddock Park (foot).....	47 86
<i>Carried forward</i> .....	\$8,326 70

## Repairs on Inland Bridges, 1951.—Concluded.

BRIDGES.	Labor and Material.
<i>Brought forward</i> .....	\$8,326 70
Glenwood Avenue.....	41 05
Harrison Avenue.....	15 86
Irvington Street — Yarmouth Street (foot).....	266 11
Jones Avenue.....	405 78
Massachusetts Avenue, over New York, New Haven & Hartford Railroad...	121 95
Meridian Street.....	68 41
Milton Lower Mills.....	5,455 35
Neptune Road.....	754 69
Norfolk Street.....	421 64
Perkins Street (foot).....	96 92
Redfield Street.....	547 85
Reservation Road.....	514 42
Reservoir Road.....	503 13
River Street.....	393 42
Saratoga Street.....	85 26
Southampton Street.....	1,167 47
Sprague Street.....	1,098 00
Summer Street, over A Street.....	300 36
Summer Street, over B Street.....	144 77
Summer Street, over C Street.....	25 70
Traverse Street underpass.....	25 70
Toll Gate Way.....	142 23
West Fourth Street.....	5,455 35
Winthrop.....	638 18
Snow and sanding.....	5,317 71
Cleaning bridges.....	5,622 40
Other services.....	3,126 04
<b>Total</b> .....	<b>\$41,082 45</b>

## SUMMARY.

Administration . . . . .	\$91,090 65
Yard and stockroom . . . . .	33,320 96
Tidewater bridges . . . . .	556,083 91
Inland bridges . . . . .	41,082 45
<b>Total</b> . . . . .	<b><u>\$721,577 97</u></b>

## SPECIAL APPROPRIATIONS.

## BRIDGES, REPAIRS, ETC.

Belgrade Avenue Bridge:		
Martin J. Kelly Company, Inc.	. . . . .	\$1,556 23
Boylston Street Bridge:		
John F. Shea Company, Inc.	. . . . .	27,666 69
Broadway Bridge:		
Marinucci Brothers Company, Inc.	. . . . .	\$25,449 56
Advertising	. . . . .	28 00
		<hr/> 25,477 56
Charlestown Bridge:		
The Crandall Engineering Company	. . . . .	\$85,537 06
D. A. Rossano Construction Company	. . . . .	10,632 99
Advertising	. . . . .	27 50
		<hr/> 96,197 55
Chelsea Street Bridge:		
General Ship and Engine Works, Inc.	. . . . .	16,001 02
Fairmount Avenue Bridge:		
John F. Shea Company, Inc.	. . . . .	17 04
Harvard Street Bridge:		
New York, New Haven & Hartford Railroad Company	. . . . .	3,134 64
Northern Avenue Bridge, Boat Landing:		
John Forward, Inc.	. . . . .	\$3,022 77
Advertising	. . . . .	23 00
		<hr/> 3,045 77
Summer Street Bridge, over Fort Point Channel:		
James B. Rendle, Inc.	. . . . .	\$21,979 73
General Ship and Engine Works, Inc.	. . . . .	4,901 04
Advertising	. . . . .	27 50
		<hr/> 26,908 27
Summer Street Bridge, over Reserved Channel:		
Eastern Roads Company, Inc.	. . . . .	23,430 21
Warren Bridge:		
A. Orlando, Inc.	. . . . .	\$1,345 94
Warren Brothers Roads Company, Inc.	. . . . .	11,431 13
Eastern Roads Company, Inc.	. . . . .	4,192 34
Advertising	. . . . .	27 50
		<hr/> 16,996 91
Total	. . . . .	<hr/> <u>\$240,431 89</u>

## BRIDGES, CONSTRUCTION OF.

## Blakemore Street Bridge:

A. Orlando, Inc. . . . .	\$54,116 57
Inspection of steel and concrete . . . . .	245 07

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 \$54,361 64

## Meridian Street Bridge:

M & R Construction Company . . . . .	20,155 84
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## Warren Bridge:

The Crandall Engineering Company . . . . .	4,725 00
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Total . . . . .	<u>\$79,242 48</u>
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## SUMMARY.

## Expenditures from Special Appropriations, 1951.

	Balances from 1950.	Total Credits, Including Balances Carried Over and Transfers.	Expended During Year 1951.	Unexpended Balances December 31, 1951.
Bridges, repairs, etc.....	\$207,281 75	\$432,281 75	\$240,431 89	\$191,849 86
Bridges, construction of— (Revenue)	4,236 59	161,236 59	0 00	161,236 59
Bridges, construction of— (Non-Revenue)	2,311,189 41	2,311,189 41	79,242 48	2,231,946 93
Totals.....	\$2,522,707 75	\$2,904,707 75	\$319,674 37	\$2,585,033 38

## Draw Openings, 1951.

BRIDGES.	STEAMERS.			SAILING VESSELS.			TUGS.			BARGES.			ALL OTHERS.			TOTAL NUMBER OF VESSELS.			TOTAL NUMBER OF CARGOES.	TOTAL NUMBER OF OPENINGS.
	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.	Day.	Night.	Total.		
Broadway.....	12	2	14	0	0	0	0	0	0	0	0	0	0	0	0	12	2	14	7	144
Charlestown.....	0	0	0	0	100	44	144	220	201	421	142	41	183	462	286	748	194	585		
Chelsea South.....	53	22	75	0	648	362	1,010	35	9	44	317	187	504	1,033	580	1,633	210	1,094		
Chelsea Street.....	674	185	859	0	3,519	499	4,018	902	498	1,400	453	73	526	5,548	1,255	6,803	1,138	3,154		
Congress Street.....	71	45	116	0	1,054	237	1,291	139	25	164	623	101	724	1,887	408	2,295	659	1,147		
Dover Street.....	0	0	0	0	505	0	505	8	0	8	529	6	535	1,042	6	1,048	265	450		
L Street*.....	0	0	0	0	290	100	390	337	138	475	286	174	460	913	412	1,325	479	1,088		
Malden.....	29	1	30	0	546	72	618	628	179	807	344	67	411	1,547	319	1,866	464	1,355		
Northern Avenue.....	55	38	93	0	2,441	399	2,840	233	29	262	1,586	170	1,756	4,315	636	4,951	765	2,506		
Summer Street.....	50	43	93	0	1,078	235	1,313	105	20	125	762	79	841	1,995	377	2,372	432	1,014		
Warren.....	86	115	201	169	77	246	1,892	961	600	1,561	1,694	1,018	2,912	4,030	2,552	6,582	1,196	3,866		
Totals.....	1,030	451	1,481	169	77	246	11,301	2,690	13,991	3,508	1,699	5,267	6,736	1,916	8,652	22,804	6,833	29,637	5,809	16,403

\* Now Summer Street, over Reserved Channel.



## FERRY SERVICE.

FINANCIAL STATEMENT FOR THE YEAR ENDING  
DECEMBER 31, 1951.*Toll Receipts.*

Total cash receipts during the year . . . . .	\$23,664 52
Cash in hands of tollmen at beginning of year . . . . .	60 00
Cash paid to City Collector . . . . .	23,664 52
Cash in hands of tollman at end of the year . . . . .	60 00

*Breakdown of Toll Receipts for the Year 1951.*

From foot passengers . . . . .	\$3,821 82
From vehicles . . . . .	19,842 70
	<hr/>
	\$23,664 52

	From Foot Passengers.	From Vehicles.
Boston side . . . . .	\$1,906 67	\$9,242 05
East Boston side . . . . .	1,915 15	10,600 65
	<hr/>	<hr/>
	\$3,821 82	\$19,842 70

*Additional Income Received by the Ferry — 1952.*

Telephone commissions . . . . .	\$31 93
Cleaning of telephone booth at ferry . . . . .	24 00
Concession-Mills Automatic Merchandising Corporation . . . . .	85 00
Sale of junk . . . . .	100 40
Returned empty oil drums . . . . .	18 31
	<hr/>
	\$259 64

TRAVEL ON THE SOUTH FERRY FROM JANUARY 1,  
1951, TO DECEMBER 31, 1951.

Foot passengers . . . . .	382,182
Handcart . . . . .	3,592
One- and two-horse team with driver . . . . .	3,220
Passenger auto with driver and passengers . . . . .	142,917
Truck, six tons or less . . . . .	16,880
Truck, over six tons . . . . .	13,392

## SUMNER TUNNEL SERVICE.

## Annual Traffic by Classification for the Year 1951.

Class.	Toll.	DESCRIPTION.	No. of Vehicles.
1.	\$0 20	Truck not in excess of 2 tons capacity. Tractor without trailer.	492,200
2.	0 20	Passenger car . . . . .	8,655,683
3.	0 20	Motorcycle . . . . .	2,110
4.	0 25	Truck over 2 tons and up to 5 tons capacity. Tractor with trailer over 2 tons and up to 5 tons capacity . . . . .	47,699
5.	0 20	Passenger car with trailer . . . . .	11,126
6.	0 35	Truck over 5 tons and up to 10 tons capacity. Tractor with trailer over 5 tons and up to 10 tons capacity . . . . .	15,709
7.	0 20	Tractor with trailer not in excess of 2 tons capacity . . . . .	1,022
8.	1 00	Truck over 10 tons capacity. Tractor with trailer over 10 tons capacity . . . . .	646
9.	0 35	Bus with or without passengers . . . . .	132
* City-owned . . . . .			†240,333
Total traffic . . . . .			9,466,660

\* MTA and Eastern Massachusetts Railway included in this classification.

† 675 MTA and 153,964 Eastern Massachusetts Railway buses at 35 cents included in this total.

## Comparative Annual Traffic Count.

1947	1948	1949	1950	1951
8,748,162	8,754,545	9,162,266	9,283,700	9,466,660

## SUMNER TUNNEL.

## Comparison of Receipts, Expenditures, Interest, and Net Results, 1947 to 1951, Inclusive.

	1947	1948	1949	1950	1951
Operating expenditure . . . . .	\$395,060 35	\$428,733 58	\$482,982 71	\$462,975 30	\$479,198 19
Balance to next year . . . . .	11,850 05	4,298 18	—	1,547 11	13,135 89
Interest requirements . . . . .	875,673 75	836,876 25	837,611 25	832,453 75	763,654 61
Refunded tolls . . . . .	2 80	—	—	92 20	721 95
Total expenses . . . . .	\$1,282,586 95	\$1,269,908 01	\$1,320,593 96	\$1,297,068 36	\$1,256,710 64
Receipts . . . . .	\$1,758,149 30	\$1,776,655 00	\$1,853,049 84	\$1,863,035 00	\$1,913,356 12
Balance from previous year . . . . .	14,256 34	11,850 05	4,298 18	—	1,547 11
Total receipts . . . . .	\$1,772,405 64	\$1,788,505 05	\$1,857,348 02	\$1,863,035 00	\$1,914,903 23
Net result . . . . .	\$489,818 69 (Excess)	\$518,597 04 (Excess)	\$536,754 06 (Excess)	\$565,966 64 (Excess)	\$658,192 59 (Excess)

## II — HIGHWAY SECTION.

### PAVING SERVICE.

#### SUMMARY OF BUDGET APPROPRIATIONS.

APPROPRIATION.	Total Credits.	Expenditures.	Balance Unexpended.
Paving Service.....	\$1,362,396 00	\$1,357,071 91	\$5,324 09
Reconstruction of Streets.	156,300 27	103,236 26	53,064 01
Public Ways, Construction of (Revenue).....	159,201 29	159,201 29	None
Public Ways, Construction of (Non-Revenue).	3,993,905 35	2,637,016 68	\$1,356,888 67
Sidewalks, Construction and Reconstruction of..	157,585 26	116,672 77	40,912 49
Street Signs.....	29,700 00	12,873 72	16,826 28
Snow Removal.....	541,538 73	527,602 25	13,936 48

The amount of money taken in through the Permit Office was \$43,068.27; of this amount \$22,577.97 was deposited with the City Collector for fees received, \$17,933.40 was deposited with the City Collector for the Street Openings Account, and \$2,556.90 was billed to the Public Service Corporations. There are now on file 2,164 bonds protecting the City of Boston against claims that may be made on account of the permits issued.

The regular forces of the Paving Service were employed as usual in the maintenance of public streets, resurfacing and patching macadam pavements, patching permanent pavements such as asphalt and granite block, and maintaining gravel, brick, and artificial stone sidewalks.

In the snow removal season, division forces were engaged in spreading rock salt and sand on icy streets, and also supervised plowing work done throughout the city by 273 contractors' hired plows after five snow storms. All snow removal bills for plowing, hauling, force account work, etc., were processed through the Paving Service Office.

The following work was done in placing new street signs and replacing and repairing existing street signs:

129	New street signposts erected with frames and signs
23	New hero signposts erected with signs
807	Street sign name plates installed
56	Bent or broken signposts repaired
91	Hero signs replaced

1,996	Street signposts painted
57	Street sign frames repaired
3,916	Street sign frames painted

Contracts were awarded for the construction and reconstruction of 177 streets during the year, and 139 of these were completed. Work was also completed on 48 streets which were unfinished from 1950.

Some of the more important thoroughfares reconstructed by contract during the year were:

Blue Hill avenue, Dorchester, south of American Legion Highway to Seaver street.

Blue Hill avenue, Dorchester, north of Woolson street to south of Johnston road.

Boylston street, City Proper, Brookline avenue to east of Ipswich street.

Boylston street, City Proper, Massachusetts avenue to Exeter street.

Broadway, City Proper, Stuart street to Park square.

Brookline avenue, City Proper, Boylston street to Pilgrim road.

Centre street, West Roxbury, Weld street to South street (southwesterly).

Centre street, West Roxbury, May street to Weld street.

Charles street, Dorchester, Dorchester avenue to Ditson street.

Columbia road, Dorchester, Edward Everett square to Blue Hill avenue.

Dover street, City Proper, Tremont street to bridge over Fort Point Channel.

Draper street, Dorchester, Bowdoin street to Arcadia street.

East Eagle street, East Boston, Condor street to Glendon street.

Eliot street, City Proper, Columbus avenue to east of Broadway.

Eutaw street, East Boston, White street to Border street.

Ferry street, City Proper, Fulton street to North street.

Freeport street, Dorchester, Dorchester avenue to south of Old Colony Parkway.

Hanover street, City Proper, Friend street to Blackstone street and Cross street to Commercial street.

Humboldt avenue, Roxbury, Walnut avenue to Seaver street.

Lenox street, City Proper, Washington street to Tremont street.

Malden street, City Proper, Washington street to Harrison avenue.

Park square, City Proper, Broadway to Boylston street.  
River street, Dorchester, Mattapan square to Washington street.

South street, West Roxbury, Walter street to across Fletcher street.

Stuart street, City Proper, Columbus avenue to Broadway.

Tremont street, Roxbury, Massachusetts avenue to east of Texas street.

Walnut avenue, Roxbury, Warren street to Humboldt avenue.

Warren street, Roxbury, Dudley street to Blue Hill avenue.

Washington street, Brighton, Monastery road to Commonwealth avenue.

Western avenue, Brighton, Soldiers Field road to northeast of Market street.

Following is a list of streets constructed or reconstructed in the various wards throughout the city during the year 1951.

WARD 1—White street (sidewalks), Horace street, Sumner street, East Eagle street, Eutaw street, Trenton street (sidewalks), Trenton street, Prescott square. Total cost, \$105,964.58.

WARD 3—Castle street, Lancaster street, Lyman street, Prospect street, Canal street (sidewalks), Joy street, Atlantic avenue (sidewalks), South Margin street, Albany street (sidewalks), Dover street, Ferry street, Albany street (sidewalks), Beach street (sidewalks), Hanover street, Hull street, India street, Marshall street, Snow Hill street, Albany street, Hudson street, Kneeland street, Hudson street (sidewalks), Kneeland street (sidewalks), Oxford street (sidewalks), Tyler street (sidewalks). Total cost, \$149,590.38.

WARD 4—Autumn street, Deaconess road, Pilgrim road, Scotia street, Brookline avenue, Boylston street, Harwich street. Total cost, \$49,548.89.

WARD 5—Anderson street, Granby street, Kilmarnock street, Sherborn street, Public Alley No. 433, Public Alley No. 434, Public Alley No. 436, Broadway, Eliot street, Park square, Stuart street, Boylston street, Castle street, Carver street, Dover street. Total cost, \$131,424.43.

WARD 6—East Fifth street (sidewalks), H street (sidewalks), West Third street (sidewalks), Peters street (sidewalks), F street (sidewalks), West Second street, West Third street, East Third street, P street, East Second street, G street, West First street, East First street (sidewalks). Total cost, \$34,810.94.

WARD 7—Atlantic street (sidewalks), National street (sidewalks), Story street (sidewalks), East Seventh street

(sidewalks), G street (sidewalks), Sanger street (sidewalks), Springer street (sidewalks), Winfield street (sidewalks), Woodward street (sidewalks), Middle street (sidewalks), Clapp street, Conrad street, G street, Washburn street, Andrew square, H street, Columbia road. Total cost, \$94,331.31.

WARD 8—Malden street, Woodville street, Woodville street (sidewalks), Dover street, Atkinson street. Total cost, \$45,529.95.

WARD 9—Tremont street, Circuit street, Dale street (sidewalks), Lenox street, Watson street (sidewalks), Hammett street. Total cost, \$85,338.

WARD 10—Perkins street, Castleton street, Eldora street, Roys street, Schiller street, Sunnyside street, Zamora street, Sunset street. Total cost, \$45,101.66.

WARD 11—Forest Hills street (sidewalks), Morton street (sidewalks), Peter Parley road, Woodside avenue, Washington street (sidewalks), Dale street (sidewalks), Brookside avenue, Cobden street, Haverford street, Woodlawn street (sidewalks), St. Rose street (sidewalks). Total cost, \$71,127.88.

WARD 12—Warren street, Humboldt avenue, Walnut avenue, Circuit street, Maple street, Waumbeck street, Dale street (sidewalks), Sherman street (sidewalks), Carlisle street. Total cost, \$205,355.05.

WARD 13—Brookford street (sidewalks), Folsom street (sidewalks), Whitby terrace, Woodledge street, Bird street, Ceylon street, Jerome street, Rand street, Salcombe street, Sargent street, Savin Hill court, Windermere road. Total cost, \$96,026.25.

WARD 14—Columbia road, Barnard street, Creston street, Lorne street, Standish street, Wilder street, West Park street, Greenock street, Blue Hill avenue, Blue Hill avenue (W-J). Total cost, \$393,107.43.

WARD 15—Hendry street, Montello street (sidewalks), Ridgewood street (sidewalks), Charles street, Fox street, Linden street, Marie street, Freeport street, Bentham road, Columbia road. Total cost, \$117,838.42.

WARD 16—Queen street (sidewalks), Ely road, Frederika street, Edna road, Beaufield street, Freeport street, Freeport street (wall), Oakman street, Queen street, Westmoreland street, Claymont terrace. Total cost, \$78,193.45.

WARD 17—Capen place, Gaylord street (sidewalks), Galty avenue, Mercier avenue, Regan road, Epping street, Wentworth street, Whitman street, Tremlett street, Caddy road. Total cost, \$64,128.90.

WARD 18—Vallaro road, Skyline road, Como road, Dana avenue, Easton avenue, River street, Joyce road, Newacre

road, Pinewood street, Roseglen road, Summer street, Chapel road, Elenc street, Wabash street, Delano park (sidewalks), Tileston street (sidewalks), Cleveland street, Fairmount avenue (sidewalks), Highland street (sidewalks) Pinedale road (sidewalks), Pond street (sidewalks), Beaver street (sidewalks), Ruskindale road (sidewalks), River street. Total cost, \$373,112.68.

WARD 19—Claxton street, Lamartine place, Stellman road (sidewalks), Aldworth street, Lawndale terrace, Stellman road, Perkins street, Centre street. Total cost, \$92,441.38.

WARD 20—Lyllall street, Courtney road, Eastwood Circuit, John Alden road, Meshaka street, Anawan avenue, Meredith street, Bellevue street, Sanborn avenue, Centre street, Willowdean avenue, Hollywood road and Willowdean avenue, Centre street (M-W), Church street, Cypress street, Danville street, Maxfield street, Rutledge street, Francesca street (sidewalks), Hackensack road (L-F), Hackensack road, Lasell street, Lyall street, Payson road, Cowing street, Havey street, Northdale road, Lyall street (A-V), Lyall street (K-A), Hackensack road (R-H), Carroll street (sidewalks), Dent street, South street, Walter street, Albano street, Constance road, Rumford road, Walter street. Total cost, \$440,831.85.

WARD 21—Granby street, Kilmarnock street, Corey road (sidewalks), Chiswick road, Corey road, Washington street, Jordan road, Warren street (island), Allston street, Boylston street, Brookline avenue. Total cost, \$88,605.61.

WARD 22—Oak square (island), Ranelegh road (sidewalks), Centola street, Bostonia avenue (sidewalks), Western avenue. Total cost, \$152,077.47.

## LIGHTING SERVICE.

### *Financial Statement*

Total credits for 1951 . . . . .	\$1,151,283 26
Expenditures . . . . .	1,148,925 60
Unexpended . . . . .	<u>\$2,357 66</u>

### *Expenditures:*

#### Electric Lighting:

Boston Edison Company . . . . .	\$921,556 63
Boston Consolidated Gas Company . . . . .	35,462 20

\$957,018 83

## Gas Lighting:

American Service Company	\$71,164 90	
Boston Consolidated Gas Company . . . . .	70,771 00	\$141,935 90
	<hr/>	
Salaries . . . . .		8,997 08
Installing, removing, and relocating lamps . . . . .		13,013 70
Office expense . . . . .		68 14
Miscellaneous:		
Electric posts . . . . .	\$760 82	
Globes, domes, mantles, etc. . . . .	27,131 13	
	<hr/>	27,891 95
		<hr/>
		<u>\$1,148,925 60</u>

The following is a statement of the work done by the Lighting Service during 1951 under the direction of the Division Engineer:

Electric lamps of 2,000 c.p. (twin 1,000 c.p.) were installed on Malden street, City Proper (6).

Electric lamps of 1,000 c.p. were installed on Beacon street, Brighton (4), City square (1), New Alford street (19), New Sever street (5), Sever street (1), in Charlestown: Beacon street (6), Bypass roadway (3), Summer street (1), Union Park street (4), West Canton street (1), Westland avenue (2) City Proper; Blue Hill avenue (19), Dorchester avenue (5), Norfolk street (2), Talbot avenue (1), Dorchester; Saratoga street (1) East Boston; West Milton street (1) Hyde Park; Elm Hill avenue (2), Harrison avenue (7), Heath street (1), Mt. Pleasant avenue (1), Seaver street (2) Roxbury; Emerson street (1), Summer street (3), South Boston; Washington Street (1), West Roxbury.

Electric lamps of 600 c.p. were installed on Western avenue (71), Brighton; Dorrance street (3), Charlestown; Magnolia street (1), Blue Hill avenue (3), Dorchester; Blakemore street (1), West Roxbury.

Electric lamps of 400 c.p. were installed on Guest street (5), Life street (4), Malvern street (1), Brighton; Central street (1), East Lenox street (5), Holyoke street (1), Queensberry street (5), Upton street (1), City Proper; Babson street (13), Fowler street (1), Harvard street (1), Lyndhurst street (1), Norfolk street (9), Victory road (1), Dorchester; Access road (7), East Boston;



Wolcott court (1), Hyde Park; Coventry street (1), Roxbury; East Fourth street (4), Louis street (2), West Third street (4), South Boston; Centre street (2), West Roxbury.

Electric lamps of 250 c.p. were installed on Carlisle street (2), Roxbury. The following lamps were increased from 100 c.p. to 250 c.p. during the year: Denby road (2), Brighton; Carleton street (1), Upton street (1), City Proper; Chaucer street (1), East Boston; Holbrook street (4), Walter street (25), West Roxbury.

During the year 153 lamps of 100 c.p. were installed in various suburban areas and 1,067 gas lamps were removed and replaced by an equal number of electric lamps of 100 c.p.

Electric fire alarm lamps were installed on Washington street (1), Brighton; Arlington avenue (1), Main street (1), Rutherford avenue (4), Charlestown; Beaumont street (1), Dorchester avenue (1), Edward Everett square (1), Dorchester; Paris street (1), East Boston; Bickford street (1), Moreland street (1), Parker Hill avenue (1), Roxbury; Boylston street (3), West Roxbury.

### PAVING SERVICE.

#### STREET WORK DONE IN 1951 BY CONTRACT.

##### SUMMARY

Earth and water box excavation . . . . .	78,027 cubic yards.
Rock and wall excavation . . . . .	1,563 cubic yards.
Bank gravel . . . . .	75,627 tons.
Crushed stone . . . . .	13,283 tons.
Existing concrete base removed . . . . .	10,519 square yards.
Existing pavement removed . . . . .	77,798 square yards.
Granite block removed and hauled to city yard . . . . .	2,257 square yards.
Straight edgestone set . . . . .	46,721 linear feet.
Circular edgestone set . . . . .	6,159 linear feet.
Corners set . . . . .	1,197
Edgestone reset and removed and relocated . . . . .	82,529 linear feet.
Granite block hip gutters . . . . .	300 linear feet.
Bituminous macadam base . . . . .	1,724 tons.
Concrete base . . . . .	5,900 cubic yards.
Bituminous concrete base . . . . .	64,012 tons.
Extra concrete . . . . .	40 cubic yards.
Bituminous concrete pavement . . . . .	23,313 tons.
Sheet asphalt pavement . . . . .	15,343 tons.

Concrete pavement . . . . .	5 square yards.
Precast straight edgestone set . . . . .	674 linear feet.
Artificial stone sidewalks . . . . .	1,127,536 square feet.
Artificial stone driveways . . . . .	74,077 square feet.
Bituminous concrete sidewalks and driveways . . . . .	7,385 tons.
Loam spaces . . . . .	3,338 square yards.
Covers reset . . . . .	3,781
Bradley heads reset . . . . .	26
Courses of brick . . . . .	6,758
Catch basins rebuilt . . . . .	77
Catch basins and drop inlets built . . . . .	63
Signposts and parking meters reset . . . . .	116
Stone bounds furnished and set . . . . .	248
Trees removed . . . . .	271

YEARLY REPORT OF WORK DONE BY DEPARTMENT  
FORCES FOR 1951.

Brick sidewalks laid and relaid . . . . .	6,467 square yards.
Gravel sidewalks relaid . . . . .	1,472 square yards.
Artificial stone sidewalks laid (new) . . . . .	30,535 square feet.
Artificial stone sidewalks relaid (old) . . . . .	126,976 square feet.
Bituminous concrete sidewalks . . . . .	21,665 square yards.
Block gutters laid . . . . .	35 square yards.
Granite block roadway laid . . . . .	15 square yards.
Artificial stone sidewalks patched with black top . . . . .	9,814 square feet.
Edgestone reset (old) . . . . .	3,719 linear feet.
Macadam roadway patched . . . . .	160,944 square yards.
Macadam roadway resurfaced . . . . .	3,573 square yards.
Street cleaning . . . . .	5,503 cubic yards.
Snow removal . . . . .	28,673 cubic yards.

TABLE SHOWING LENGTH AND AREA OF PAVING ON ACCEPTED STREETS, CORRECTED TO JANUARY 1, 1952.

	LENGTH IN MILES.											AREA IN SQUARE YARDS.										
	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank on Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1950 Report ....	*244.53	†223.09	‡47.17	0.47	0.51	0.61	§23.68	¶171.06	10.78	0.81	722.71	*4,867,362	†4,219,018	‡1,263,953	8,907	12,000	13,140	§466,222	¶2,770,285	163,439	28,944	13,813,300
Per Cent.....	33.84	30.87	6.53	0.06	0.07	0.08	3.28	23.67	1.49	0.11	100.00	35.24	30.54	9.15	0.06	0.09	0.09	3.38	20.06	1.18	0.21	100.00
JANUARY 1, 1952.																						
City Proper.....	50.00	25.06	13.98	0.22	0.10	0.32	3.04	3.20	0.36	.....	96.28	1,114,431	544,630	308,584	2,679	3,623	4,862	94,582	51,264	3,177	.....	2,127,832
Charlestown.....	4.91	4.59	6.72	0.08	0.05	.....	0.80	5.46	0.03	0.01	22.65	97,677	75,600	174,684	2,011	1,701	.....	13,488	75,882	407	41	441,491
East Boston.....	5.44	12.93	4.79	0.01	0.05	0.02	0.44	12.40	0.12	0.04	36.24	125,138	263,868	113,352	325	777	393	25,280	268,809	2,244	865	801,051
South Boston.....	12.45	12.49	7.77	0.03	0.06	0.02	0.63	9.89	0.17	0.50	44.01	266,068	238,239	224,709	1,109	1,737	1,386	24,814	163,413	1,916	15,754	939,145
Roxbury.....	41.34	26.45	4.76	0.05	.....	0.14	6.24	14.17	0.11	0.18	93.44	832,902	472,046	95,997	836	.....	4,027	103,918	204,507	1,674	2,803	1,719,310
West Roxbury.....	41.97	55.47	3.00	.....	0.05	.....	4.45	42.64	1.48	0.20	149.26	761,730	996,801	121,581	.....	1,149	.....	62,661	672,459	23,576	8,975	2,648,932
Dorchester.....	59.07	63.10	0.78	0.06	0.04	0.01	5.78	41.06	1.19	0.02	171.11	1,131,116	1,162,599	35,022	1,669	770	145	94,024	639,416	16,528	1,737	3,083,026
Brighton.....	22.35	27.60	0.45	.....	0.08	.....	1.23	12.95	0.42	.....	65.08	501,916	512,651	45,026	.....	1,231	.....	30,443	210,297	6,394	50	1,308,008
Hyde Park.....	9.26	12.32	0.04	0.01	0.05	.....	0.64	19.16	4.67	0.20	46.35	171,070	249,063	7,207	186	702	.....	10,119	320,665	73,681	4,506	837,199
Totals.....	246.79	240.01	42.29	0.46	0.48	0.51	23.25	160.93	8.55	1.15	724.42	5,002,048	4,515,497	1,126,162	8,815	11,690	11,413	459,329	2,606,712	129,597	34,731	13,605,994
Per Cent.....	34.07	33.13	5.84	0.06	0.07	0.07	3.21	22.21	1.18	0.16	100.00	35.37	32.47	8.10	0.06	0.09	0.08	3.30	18.75	0.93	0.25	100.00

TOTAL PUBLIC STREETS 724.42 MILES.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline included in City Proper.

\* Of this amount 0.09 mile or 810 square yards is Bitrock, and 0.00 mile or 310 square yards is Unonite.

† Of this amount 0.02 mile or 202 square yards is cobble, and 25.88 miles or 829,691 square yards is granite block paving on concrete base.

‡ Of this amount 0.06 miles or 465 square yards is Blome granitoid concrete block.

§ Of this amount 137.76 miles or 2,255,804 square yards is bituminous macadam.

¶ Of this amount 154.16 miles or 2,798,178 square yards is asphalt concrete; and 79.96 miles or 1,506,460 square yards is Bitulithic; and 4.02 miles or 66,951 square yards is Topack; and 0.06 miles or 942 square yards is Fibbertine; and 0.11 miles or 2,914 square yards is Simosec; and 0.03 miles or 595 square yards is Carey Elustite Asphalt Plank; and 0.06 miles or 518 square yards is Johns-Manville Asphalt Plank; and 1.61 miles or 48,939 square yards is tar concrete.

6.67 miles or 35,994 square yards public alleys included in this table; 7.57 miles or 335,274 square yards public streets in charge of Park Department included in this table; 7.82 miles or 253,818 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 2.25 miles or 11,106 square yards of accepted footways.



Objects of Expenditures from Maintenance Appropriation, Classified by Districts, from January 1, 1951,  
to December 31, 1951.

Districts.	Street Cleaning.	General Highway Expenditures.	Sidewalks and Curbings.	Snow and Ice Removal.	Street Signs.	Total.
South Boston.....	\$5,810 20	\$46,064 12	\$28,796 24	\$5,052 35	\$218 76	\$85,941 67
East Boston.....	.....	53,860 67	23,008 38	6,421 23	279 93	83,570 21
Charlestown.....	1,067 03	46,587 57	5,906 99	6,029 85	153 17	59,744 61
Brighton.....	4,861 53	74,744 77	26,885 96	11,427 25	115 95	118,035 46
Roslindale.....	1,725 28	59,620 89	37,406 00	11,921 36	.....	110,673 53
Dorchester.....	1,003 86	56,655 50	28,819 73	7,770 38	183 60	94,433 07
Roxbury.....	109 28	58,693 71	41,336 79	8,526 57	329 56	108,995 91
City Proper.....	767 02	124,588 56	19,968 35	8,408 97	13,315 96	167,048 86
Ashmont.....	9,851 04	55,307 34	33,611 08	8,013 54	.....	106,783 00
Hyde Park.....	2,840 47	26,941 29	27,665 20	5,517 73	61 50	63,026 19
West Roxbury.....	2,894 85	35,173 97	21,732 32	5,437 58	.....	65,238 72
General.....	.....	293,580 68	.....	.....	.....	293,580 68
Totals.....	\$30,930 56	\$931,819 07	\$295,137 04	\$84,526 81	\$14,658 43	\$1,357,071 91

Special Appropriations: Public Ways, Construction of (revenue), \$159,201.29; Sidewalks, Construction and Reconstruction of, \$116,672.77; Public Ways, Construction of (non-revenue), \$2,637,016.68; Reconstruction of Streets, \$103,236.26; Snow Removal, \$527,602.25; Street Signs, \$12,873.72; Total, \$3,556,602.97.

## APPENDIX C.

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 REPORT OF THE DIVISION ENGINEER OF  
 THE SANITARY DIVISION.
 

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BOSTON, January 2, 1952.

*To the Commissioner of Public Works.*

DEAR SIR:

Herewith I submit a statement of the expenditures and activities of the Sanitary Division of the Public Works Department for the year ending December 31, 1951:

The total cost of operation of the Sanitary Division for 1951 is as follows:

Budget expenditures . . . . .	\$5,026,284 04
Motor vehicle cost . . . . .	240,466 45
Total cost . . . . .	<u>\$5,266,750 45</u>

In my report for the year 1950 the cost of operation of this division was obtained, for the first time, by adding the cost of motor vehicle operation as submitted by the Automotive Division. This includes depreciation.

The same method has been continued in this report, so that the 1950 and 1951 costs are comparable.

The cost, recapitulated and compared with the previous year (1950), is shown as follows:

ITEM.	1950.	1951.	Decrease.	Increase.
Waste collection and disposal . . .	\$3,115,675 18	\$3,128,131 82	.....	\$12,456 64
Street cleaning.....	2,137,423 14	2,071,508 14	\$65,915 00	.....
Preventive street cleaning.....	73,433 14	62,630 77	10,802 37	.....
1950 costs paid in 1951.....	.....	4,474 76	.....	4,474 76
Dump permit.....	.....	5 00	.....	5 00
Totals.....	\$5,326,531 46	\$5,266,750 49	\$76,717 37	\$16,936 40
Net decrease.....	.....	.....	.....	\$59,780 97

*Waste Collection and Disposal.*— There was a decrease of \$85,063.41 in the collection and disposal contracts, and a decrease of \$40,898.02 in the Coleman Disposal Company contract. However, an increase in payrolls and general overhead resulted in a net increase of \$12,456.64.

*Street Cleaning.*— The decrease in the Street Cleaning Service was due to a decrease in personnel.

*Preventive Street Cleaning.*— A decrease in the number of constables resulted in decreased expenditure of \$10,802.37 in this service.

*Personnel changes in permanent force during the year 1951:*

Total personnel January 1, 1951 . . . . .	*807
Transfers in (from other departments and divisions) . . . . .	14
New appointments . . . . .	18
Reinstatements . . . . .	2
	— 34
	841
Deaths . . . . .	15
Resignations . . . . .	7
Retirements . . . . .	23
Transfers out (to other departments and divisions) . . . . .	10
Discharged or terminated . . . . .	3
	— 58
Total personnel January 1, 1952 . . . . .	†783

\* Includes one military leave.

† Includes four military leave.

Net loss of 24 employees.

### WORK ACCOMPLISHED.

*Construction and Demolition.*— The foundation for the projected new building for the South Boston Sanitary and Street Cleaning Services was completed.

A contract for the building of the new South Boston District Building, at 174 West Second street, was signed by his Honor the Mayor on November 7, and the work started immediately. The specifications called for this building to be of brick construction, one story with basement, heated by gas with continuous hot water, and shower baths.

The Ward Street Salt Depot was torn down to make way for a housing project at that location.

*Equipment.*— Twenty new-type pushcarts with pneumatic tires were placed in service.

Four new flushers and two new motor sweepers were received during the year.

*Sale of Garbage.*— A contract was made with Kennedy Brothers for the sale of garbage delivered to them at the Victory Road Transfer Station, which was constructed last year. The city now receives \$3,000 a month for this garbage, and has discontinued the use of the scows from the adjoining Victory Road Station.

*Experiments.*— Experiments were made regarding the storage of salt by means of a plastic spray.

An experiment was made in the use of a detergent application by flushers.

An experiment was made in the use of a Leaf-Picker-Upper machine to pick up refuse in Blackstone street.

Parking of automobiles on one side of streets in Ward 14 on alternate days was attempted in order to facilitate street cleaning. This was not continued.

An experiment was made in the use of rubbish from the Brighton district to fill in the Chestnut Hill Reservoir at the request of the Boston College authorities.

*New Flushing Districts.*— A new flushing district, known as C-16, was created on June 27, 1951.

*Disposal.*— On October 1 the Boston Housing Authority required the Coleman Disposal Company to cease dumping on property owned by them on Mt. Vernon street, Dorchester, otherwise known as the Mile Road, in the Calf Pasture section. The city thereupon rented nearby land in this section, owned by the Public Works Department, to the Coleman Disposal Company, from October 1 to the end of the year, for a fee of \$300 a month.

Respectfully submitted,

ADOLPH J. POST,  
*Division Engineer.*



TABLE I.

## Total Cost of Collection and Disposal of Refuse by Contract in City of Boston, and Cost Per Cubic Yard.

CONTRACT DISTRICT.	CONTRACTOR.	CHARACTER OF REFUSE.	Cubic Yards.	Cost Per District.	Cost Per Cubic Yard.	Population.	Total Cost Per Capita.
1. South Boston.....	Ward General Contracting Company.....	Mixed refuse.....	118,846				
		Garbage.....	3,550	\$236,131 07	\$1 929	55,665	\$4 242
		Totals.....	122,396				
2. East Boston.....	Edward J. McHugh & Son.....	Mixed refuse.....	87,364				
		Garbage.....	2,711	\$125,218 24	\$1 390	50,086	\$2 500
		Totals.....	90,075				
3. *Charlestown.....	Edward J. McHugh & Son.....	Mixed refuse.....	38,092				
		Garbage.....	—				
		Totals.....	38,092	\$86,510 14	\$2 271	24,244	\$3 568
4. †Brighton.....	Anthony J. Ryan, Inc.....	Mixed refuse.....	151,220				
		Garbage.....	8,613	\$332,007 42	\$2 077	72,475	\$4 580
		Totals.....	159,833				
5A. West Roxbury.....	John J. Moore Company.....	Mixed refuse.....	72,068				
		Garbage.....	10,715	\$138,820 16	\$1 676	49,279	\$2 817
		Totals.....	82,783				

TABLE I.—Concluded.

## Total Cost of Collection and Disposal of Refuse by Contract in City of Boston, and Cost Per Cubic Yard—Concluded.

CONTRACT DISTRICT.	CONTRACTOR.	CHARACTER OF REFUSE.	Cubic Yards.	Cost Per District.	Cost Per Cubic Yard.	Population.	Total Cost Per Capita.
5B. Jamaica Plain.....	John J. Moore Company.....	Mixed refuse.....	78,240				
		Garbage.....	8,877	\$129,172 16	\$1 482	39,243	\$3 291
		Totals.....	87,117				
6A. †Dorchester, North.....	Coleman Brothers Corporation.....	Mixed refuse.....	201,207				
		Garbage.....	26,901	\$314,411 17	\$1 378	90,550	\$3 172
		Totals.....	228,108				
6B. †Dorchester, South.....	Coleman Brothers Corporation.....	Mixed refuse.....	201,206				
		Garbage.....	26,901	\$534,902 19	\$1 555	103,149	\$3 440
		Totals.....	228,107				
7A. †Elm Hill.....	Coleman Brothers Corporation.....	Mixed refuse.....	35,920				
		Garbage.....	3,121	\$62,416 61	\$1 591	22,323	\$2 782
		Totals.....	39,041				
7B. *Dudley.....	Marinucci Brothers & Co., Inc.....	Mixed refuse.....	61,925				
		Garbage.....	2,388	\$154,011 49	\$2 394	39,833	\$3 866
		Totals.....	64,313				
7C. *Mission Hill.....	Marinucci Brothers & Co., Inc.....	Mixed refuse.....	66,248				
		Garbage.....	4,325	\$159,211 36	\$2 255	32,324	\$1 925
		Totals.....	70,573				

7D. *Roxbury.....	Marinucci Brothers & Co., Inc.....	Mixed refuse.....	85,806				
		Garbage.....	6,224				
		Totals.....	92,090	\$232,010	96	\$2,519	43,883
9. *South End.....	Anthony J. Ryan, Inc.....	Mixed refuse.....	72,360				
		Garbage.....	—				
		Totals.....	72,360	\$190,622	11	\$2,634	50,582
9A. *Back Bay.....	Dooley Brothers, Inc.....	Mixed refuse.....	53,852				
		Garbage.....	—				
		Totals.....	53,852	\$119,617	17	\$2,221	30,476
9B. *Stuart.....	Capitol Contracting Company.....	Mixed refuse.....	57,734				
		Garbage.....	—				
		Totals.....	57,734	\$131,044	58	\$2,269	23,818
10. *North and West Ends.....	James A. Freany, Inc.....	Mixed refuse.....	139,371				
		Garbage.....	6,220				
		Totals.....	145,591	\$291,051	12	\$1,999	47,782
11. Hyde Park.....	Mary C. Bryan.....	Mixed refuse.....	37,834				
		Garbage.....	3,880				
		Totals.....	41,714	\$71,270	87	\$1,708	25,732
Total.....		Mixed refuse.....	1,559,353				
		Garbage.....	114,426				
		Totals.....	1,673,779	\$3,128,131	82	\$1,8689	801,444

\* Disposal of garbage and refuse to Coleman Disposal Company.  
† Disposal of rubbish only to Coleman Disposal Company.

† Disposal of garbage only to Kennedy Brothers.

## APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF  
THE SEWER DIVISION.

BOSTON, January 2, 1952.

*To the Commissioner of Public Works.*

DEAR SIR:

I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1951.

*Expenditures During 1951.*—The activities of the Sewer Division during the year consisted of sewer construction at a contract cost of \$344,633.25, as shown on attached schedule of the work done, and the maintenance and operation of the sewer system at a cost of \$748,173.13.

*Contract Work.*—Contract work consisted of the extension of the sewer system to provide drainage for new buildings and street construction and to eliminate cess-pools, the locations and costs of which are attached.

*Maintenance Work.*—Maintenance work consisted of the cleaning of 3,538 catch basins by contract and 3,951 by yard forces, the freeing of stopped sewers and catch basins, and the repair of sewers, manholes, and catch basins by the yard forces and the operation of the pumping station and disposal works, the cost of which is attached.

*Special Work.*—Special work consisted of completion of a low pressure heating boiler and radiation to heat the Calf Pasture Pumping Station; also the completion of the installation of a 30 KW motor generator set and a 15 HP air compressor. This work made possible the award of a publicly advertised contract to demolish the high pressure boilers and the steam-driven electric generators.

Since the use of large steam pump was abandoned and demolished in 1950, high pressure steam has been used to generate DC current to drive the pump discharge gate motors and operate the hoisting engines for the cage screens. This was a costly operation but could

not be changed until the installation of a heating boiler and other mechanical changes referred to above were completed in June of this year. The operation of the new heating boiler from June to December 1, 1951, indicates a saving of about \$18,000 per year in fuel oil plus the salaries of firemen transferred to other departments.

A contract was awarded for two 36-inch motor-operated pump discharge valves, at a cost of \$9,275, to replace two worn-out valves. An order has been placed for new parts for the mechanical screen at the Union Park Street Pumping Station, which has broken down.

*Proposed Construction Work.*— The work of extending the sewer system to provide drainage for new street construction, new building construction, and the elimination of cesspools will continue for many years in the future, and probably at the same rate as in the past. In addition, a long-range sewerage works program provides for the extension of main line surface drain conduits such as Stony Brook, Shepard Brook, Maywood Brook, etc. The long-range program also includes the rebuilding of several miles of very old sewers that have settled or outlived their economic usefulness. Details of the long-range program are contained in a report on file in the Sewer Division.

During 1952, it is proposed, in addition to regulate extension of the sewer systems as required to provide for new building and street construction, to cover in a section of Spring Street Brook, from Gould street to Baker street, consisting of about 1,350 linear feet of 84-inch diameter reinforced concrete pipe, at an estimated cost of \$104,000; to cover in Shepard Brook, from Western avenue to existing culvert, consisting of about 1,100 linear feet of 36-inch diameter reinforced concrete pipe, at an estimated cost of \$30,000; and to cover in and relocate a section of Stony Brook from the end of the existing conduit at the former Hyde Park line to the existing culvert across the New York, New Haven & Hartford Railroad at Providence street, consisting of about 4,200 linear feet of 84-inch and 72-inch diameter reinforced concrete pipe, and also a tunnel across Hyde Park avenue and the railroad, at an estimated cost of \$350,000. The above work is in keeping with our policy of gradually covering in all open brooks to improve surface drainage and eliminate hazards.

*Special Problems.*—At the Calf Pasture Pumping Station the main entrance sluice gates, the cross gallery sluice gates, and the pump discharge valves are in poor mechanical condition from wear. Most of this equipment was installed when the station was built in 1884, and is beyond repair. All the sluice gates leak so badly that they are practically useless. In addition, the pump casings of the motor-driven sewage pumps installed between 1917 and 1937 are worn thin in places from the passage of grit.

The main entrance sluice gates should be renewed as soon as possible, even though the station may be abandoned within the next five years, upon the completion of the M.D.C. tunnel to Deer Island. This is necessary to protect the station from flooding, particularly if there was a loss of electric power of such duration that the leakage around the gates allowed the water to rise in the pump wells high enough to reach and destroy the horizontal pump motors. The same thing could happen if the gates failed, because of wear, to close during a storm.

To install the gates, one at a time, will require a bulkhead on each side of the gate, the safe construction of which presents some difficulties and will be costly. It is intended to advertise a contract for the gates during the latter part of 1952, or early in 1953. At present it is believed that the other worn-out sluice gates, with the possible exception of two of the six pump discharge valves, also the pump casings, can be made to serve until the station is abandoned.

*Excluding Tide Water from Sewer.*—The tidegate repair crew which was recommended in the 1950 report, and which you approved, has been organized and is working. While this crew has repaired or renewed many tide gates there is no evidence to date that the amount of tide water entering the sewer system has been reduced. This opinion is based on a general observation of the depth of flow in the intown sewers that discharge into the east and west interceptor, and to some extent on a comparison of the monthly cost of electric power for pumping for the previous year, which shows no reduction in cost. We believe that the work that this crew is doing is worth while not only because they keep the sump connections free and thus prevent the overflow of sewage into tide water, but also because it is believed that eventually, as the result of their work, it will be deter-

mined if the leakage is due to the tide gates or to the condition of the old overflows or sewers, at which time a decision can be made as to advisability and the cost of the rebuilding required to exclude the tide water.

*Sewer Cleaning.*—Sewer cleaning remains the major maintenance problem of the Sewer Division. As stated in previous reports, sewer cleaning has been neglected for the past 25 years, or more. The small crew of nine men and a foreman specifically assigned to this work are hardly able to do the cleaning which is more or less of an emergency nature. To attack the problem in the manner it deserves requires much additional man power, equipment, and proper supervision.

The Sewer Division labor force has a quota of 31 laborers, 20 assigned to the 7 yards, 7 to Calf Pasture and Moon Island, 1 to Mobile Guard, and 3 vacancies; a quota of 30 sewer cleaners, 23 assigned to the 7 yards, 2 to Calf Pasture and Moon Island, and 5 vacancies; a quota of 33 chauffeur-laborers and teamsters, 19 assigned to the 7 yards (25 vehicles, exclusive of 5 catch basin cleaning machines and 3 pickup trucks), 8 to Calf Pasture, Moon Island and office, 2 to Mobile Guard, and 4 vacancies; a quota of 7 catch-basin machine operators assigned to yards (5 operate catch-basin cleaning machines, 2, power winches); a quota of 5 masons, 3 carpenters, 4 yardmen, 1 machinist assigned to the 6 yards — making a total of 82 men assigned to answering complaints, repairs to manholes and catch basins, repairing broken sewers, cleaning catch basins and sewers, and other related work. The number of men available is reduced by about 9, who because of actual physical conditions are on light duty, and 3 assigned to patrol service. The number of men available is small rather than large, and yet, in general, is satisfactory except as previously noted for sewer cleaning work.

*Length of Sewers Built.*—During the fiscal year 1951 there were built by contractors and day labor 4.25 miles of common sewers and surface drains throughout the city. After deducting 0.08 miles of sewers and surface drains rebuilt or abandoned, the net increase for 1951 is 4.17 miles, which, added to the existing 1,254.98 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,290.08 miles of all sewers belonging to the City of Boston and under the care of the Sewer Division on January 1, 1952.

There were 122 catch basins built or rebuilt and 4 abandoned or removed during the year, making a net gain of 118 catch basins and a grand total of 23,404 catch basins under the care of the Sewer Division on January 1, 1952.

*Permit Office Report.*— Entrance fees to the amount of \$3,350.54 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1945, chapter 27, section 10.

Seven hundred seventy permits have been issued, viz., 292 to district foremen and contractors and 478 to drainlayers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drainlayers' permits.

Two thousand one hundred eight complaints have been investigated, and inspectors are instructed to report in writing in each case.

One thousand five hundred eight catch-basin complaints were received.

Reported in writing on 2,664 municipal liens to the City Collector, in accordance with chapter 60, section 25, of the General Laws. Reported orally on about 2,500 requests for information on municipal liens.

Notices have been mailed to abutters in conformity with the Ordinances of 1925, chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

Respectfully,

ROBERT P. SHEA,  
*Division Engineer.*



Summary of Sewer Construction for Twelve Months Ending  
December 31, 1951.

DISTRICTS.	Built by the City Either by Contract or Day Labor.	Built by Private Parties.	Total Lengths Built.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	406.00	.....	406.00	0.0769
Roxbury.....	25.00	.....	25.00	0.0047
South Boston.....	None.	None.	None.	None.
East Boston.....	3,161.00	.....	3,161.00	0.5987
Charlestown.....	None.	None.	None.	None.
Brighton.....	935.80	.....	935.80	0.1772
West Roxbury.....	12,452.63	.....	12,452.63	2.3584
Dorchester.....	1,692.96	.....	1,692.96	0.3206
Hyde Park.....	3,782.68	.....	3,782.68	0.7164
Totals.....	22,456.07	.....	22,456.07	4.2529

Summary of Sewer Construction for Five Years Previous to  
January 1, 1952.

	1947.	1948.	1949.	1950.	1951.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
Built by city by con- tract or day labor...	24,166.43	29,754.60	39,596.88	31,208.93	22,456.07
Built by private parties or other city depart- ments.....	15,216.70	8,969.68	.....	3,938.00	.....
Totals.....	39,383.13	38,724.28	39,596.88	35,146.93	22,456.07

## Total Length of Sewers.

DISTRICTS.	Total Lengths Built During Twelve Months Ending December 31, 1951.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1951.	Additional Lengths for the Twelve Months Ending December 31, 1951.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	406.00	406.00	.....	.....
Roxbury.....	25.00	25.00	.....	.....
South Boston.....	None.	None.	None.	None.
East Boston.....	3,161.00	.....	3,161.00	0.5987
Charlestown.....	None.	None.	None.	None.
Brighton.....	935.80	.....	935.80	0.1772
West Roxbury.....	12,452.63	.....	12,452.63	2.3584
Dorchester.....	1,692.96	.....	1,692.96	0.3206
Hyde Park.....	3,782.68	.....	3,782.68	0.7164
Totals.....	22,456.07	431.00	22,025.07	4.1713

	Miles.
Common sewers and surface drains built previous to January 1, 1951	1,254.98
Common sewers and surface drains built between January 1 and December 31, 1951	4.17
Total of above ending December 31, 1951	1,259.15
Total length of city intercepting sewers connecting with metropolitan sewers to December 31, 1951	*6.81
Total length of Boston main drainage intercepting sewers to December 31, 1951	*24.12
Grand total of common and intercepting sewers to December 31, 1951	1,290.08
Total mileage of streets containing sewerage works to January 1, 1952	701.18

\* No additional lengths built during 1951.

## Catch Basins in Charge of Sewer Division.

DISTRICTS.	CATCH BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1951.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1951.	Grand Total to January 1, 1952.
City Proper.....	4	4	0	3,637	3,637
Roxbury.....	3	0	3	3,380	3,383
South Boston.....	0	0	0	1,462	1,462
East Boston.....	2	0	2	1,112	1,114
Charlestown.....	0	0	0	843	843
Brighton.....	2	0	2	2,053	2,055
West Roxbury.....	46	0	46	4,112	4,158
Dorchester.....	31	0	31	5,564	5,595
Hyde Park.....	34	0	34	1,123	1,157
<b>Totals.....</b>	<b>122</b>	<b>4</b>	<b>118</b>	<b>23,286</b>	<b>23,404</b>

CALF PASTURE PUMPING STATION.  
*Résumé for Year 1951.*

## Sewage Record.

MONTH.	Total Gallons Pumped.	Average Gallons Pumped Daily.
January.....	3,280,754,000	105,831,000
February.....	3,197,459,000	114,195,000
March.....	3,456,420,000	111,497,000
April.....	3,331,041,000	111,035,000
May.....	3,230,832,000	104,220,000
June.....	3,248,340,000	108,278,000
July.....	3,162,339,000	102,011,000
August.....	3,362,978,000	108,483,000
September.....	3,158,155,000	105,272,000
October.....	3,423,720,000	110,443,000
November.....	3,723,143,000	124,105,000
December.....	3,558,753,000	114,798,000
<b>Totals.....</b>	<b>40,133,934,000</b>	<b>1,320,168,000</b>
<b>Daily Average.....</b>	<b>.....</b>	<b>109,956,000</b>

## Fuel Oil Used.

MONTH.	No. 2.	No. 5.	No. 6.	Cost.
January . . . . .			28,093	\$1,514 32
February . . . . .			23,621	1,273 28
March . . . . .			24,027	1,295 17
April . . . . .			20,084	1,082 60
May . . . . .			24,038	1,295 73
June . . . . .	54.6	5,068	11,981	1,150 94
July . . . . .				
August . . . . .		3,068		249 10
September . . . . .				
October . . . . .	50	4,045		335 84
November . . . . .	150	12,238		1,341 20
December . . . . .	100	8,020		665 15
Totals . . . . .	354.6	32,439	131,844	\$10,203 33

## Electricity Used.

MONTH.	Kilowatt Hours.	Cost.
January . . . . .	525,200	\$6,258 39
February . . . . .	561,180	6,665 05
March . . . . .	523,520	6,339 70
April . . . . .	616,820	7,127 05
May . . . . .	486,780	6,095 96
June . . . . .	639,280	7,304 69
July . . . . .	485,840	6,121 61
August . . . . .	526,000	6,490 87
September . . . . .	606,000	7,216 29
October . . . . .	531,260	6,580 21
November . . . . .	605,580	7,181 73
December . . . . .	600,220	7,163 56
Totals . . . . .	6,707,680	\$80,545 11

	Cost Per Year.
Labor . . . . .	\$130,201 52
Electricity . . . . .	80,545 11
Fuel oil . . . . .	10,203 33
Supplies and miscellaneous . . . . .	4,965 08
Totals . . . . .	\$225,915 04
Cost per million gallons of sewage pumped . . . . .	\$5 63

Sewer Division — Maintenance Expenditures, Details, 1951 — Improved Sewerage.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Insurance and Taxes.	Contractor.	Light, Heat, and Power.	Materials.	Tools and Equipment.	Miscellaneous.
Pumping Station, Calf Pasture.....	\$187,279 83	\$92,651 56	\$922 48				\$90,892 06	\$2,660 37		Towed service..... \$153 36
Pumping Station, Union Park Street.....	16,417 03	13,417 99		\$33 00	\$30 60		2,376 47	536 87		Towed service..... 22 10
Pumping Station, Summer Street.....	3,419 14	1,450 23		9 00			1,950 01	9 90		
Moon Island.....	41,921 40	39,285 85	2 40		539 55		915 81	1,132 19		Towed service..... 45 60
Main and intercepting sewers.....	15,855 00	13,730 62	25 00	601 00			162 98	1,315 60		Towed service..... 19 80
Moon Island, new hot water boiler installation (J. M. McCusker Company, contractor).....	655 85					\$655 85				
Calf Pasture Pumping Station, install new discharge valves (J. F. McClaine, contractor).....	27 00									Advertising..... 27 00
Calf Pasture Pumping Station, new boiler room (Pat Franchi, contractor).....	1,432 10	53 10				1,350 00				Advertising..... 29 00
Removal and disposal of 3—350 HP boilers and appurtenances (Heggie Corporation, contractor).....	63 52	36 52								Advertising..... 27 00
Totals.....	\$267,070 87	\$160,625 87	\$949 88	\$643 00	\$570 15	\$2,005 85	\$96,297 33	\$5,054 93		\$323 86

## Sewer Division — Maintenance Expenditures, Details, 1951 — Outside Improved Sewer.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Taxes.	Contractors.	Light, Heat, and Power.	Materials.	Tools and Equipment.	Miscellaneous.
Automobiles.....	\$1,549 19	\$1,096 58	\$6 11	\$146 50				\$112 50		Advertising..... \$56 50
Cleaning catch basins..	89,061 23	45,341 86		11,167 25		\$32,353 12				
Cleaning sewers.....	82,737 08	74,900 33		7,836 75						
Fuel and oil.....	600 40						\$600 40			
Hardware and tools....	2,688 33		433 05					1,755 28		
House connections....	16,286 64	14,878 60		398 00		998 56		11 48		
Office expense.....	10,970 65	5,504 33	194 16	727 16		35 71		86 83		Printing..... 124 14 Supplies..... 32 00 Supplies..... 3,375 84 Postage..... 290 48
Office salaries.....	58,986 78	58,986 78								
Stock.....	3,026 98			9 00				3,017 98		
Yards.....	66,824 14	65,268 77	6 21	1,041 44			255 27	158 75		Towel service..... 93 70
Repair, clean, and sand streets.....	514 53	374 16	35 00	64 50		37 71		2 86		
Repair department buildings.....	795 72	468 48	88 70	87 00				151 54		
Repair catch basins, South Boston.....	2,256 77	1,472 26		131 00				653 51		
Repair catch basins, East Boston.....	3,416 12	2,307 87		389 00				749 55		
Repair catch basins, Charlestown.....	3,354 47	2,498 75		429 00				126 72		
Repair catch basins, Brighton.....	1,301 06	777 59		104 00				419 47		
Repair catch basins, West Roxbury.....	4,119 57	3,344 82		282 50				522 25		
Repair catch basins, Dorchester.....	8,893 56	4,587 57		1,626 02				2,679 97		
Repair catch basins, Hyde Park.....	708 62	643 83		55 50				9 27		

Repair catch basins, Roxbury.....	\$0,331 14	\$3,965 10		\$428 50			\$1,937 51
Repair catch basins, City Proper.....	7,728 04	4,654 37		738 50			2,335 17
Repair sewers, South Boston.....	880 07	580 95		45 00			254 12
Repair sewers, East Boston.....	523 74	329 32		24 00			170 42
Repair sewers, Charlestown.....	1,286 78	1,081 11		87 00			118 67
Repair sewers, Brighton.....	424 41	187 27		74 00			163 17
Repair sewers, West Roxbury.....	4,324 19	3,204 14		499 50			620 55
Repair sewers, Dorchester.....	5,763 57	4,053 87		909 50			800 20
Repair sewers, Hyde Park.....	1,164 10	290 45		101 00			772 65
Repair sewers, Roxbury.....	3,314 76	2,484 83		177 00			652 93
Repair sewers, City Proper.....	7,087 42	4,745 74		284 50			2,057 18
Rear 338 Talbot avenue, Dorchester, repair sewer chimney (J. J. Struzziery Company, Inc., Contractor).....	4,609 49	169 13			\$4,206 36		Repaying..... \$234 00
Repair Dorchester intercepter sewer 50 feet south of Coffey street to 75 feet southerly, Dorchester (National Gunite Company, Contractor).....	3,690 12	270 62				3,391 50	Advertising..... 28 00
Elm Hill park, Roxbury, repair sewer (John F. Shea Company, Inc., Contractor).....	1,529 50					1,529 50	

## Sewer Division — Maintenance Expenditures, Details, 1951 — Outside Improved Sewer. — Concluded.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Taxes.	Contractors.	Light, Heat, and Power.	Materials.	Tools, and Equipment.	Miscellaneous.
Centre street from 200 feet southwest of St. Theresa avenue, repair 12-foot 15-inch pipe sewer (unadvertised job) (John F. Shea Company, Inc., Contractor).....	\$1,958 43					\$1,958 43				
Cathedral Housing Project (National Granite Corporation, Contractor).....	852 14					852 14				
Miscellaneous.....	10,298 43	\$7,260 50		\$588 00				\$13 27		Carfares..... \$1,580 95 Telephone calls..... 511 15 Postage..... 15 00 Unliquidated re-serve..... 290 28 Supplies..... 9 28
Back Bay Fens.....	326 57						\$326 57			Telephone calls..... 1,857 59
Telephones.....	1,857 59									Coats..... 135 24 Gloves..... 235 00 Boots..... 184 21
Rubber goods.....	554 45									
Holidays, vacations, sick leave, and time allowed.....	103,642 84	103,642 84								
Rutherford avenue, Charlestown, investigate cave-in (Metcalfe and Eddy, Contractors).....	321 43					321 43				
Outside sewerage expenditures.....	\$726,591 38	\$419,373 14	\$1,263 23	\$28,751 12		\$45,684 46	\$1,182 24	\$20,683 83		\$9,653 36
Improved sewerage expenditures.....	267,070 87	160,625 87	949 88	643 00	\$570 15	2,005 85	96,297 33	5,654 93		323 86
<b>Totals.....</b>	<b>\$793,662 25</b>	<b>\$579,999 01</b>	<b>\$2,213 11</b>	<b>\$29,394 12</b>	<b>\$570 15</b>	<b>\$47,690 31</b>	<b>\$97,479 57</b>	<b>\$26,338 76</b>		<b>\$9,977 22</b>



CREDITS.										
Maintenance stock used on maintenance.....	\$3,253 07									
Construction stock used on maintenance.....	13,026 28									
Motor vehicles used on maintenance.....	29,394 02									
Maintenance labor paid by Sewer Works.....	624 59									
Maintenance bills paid by Sewer Works.....	29 00	\$46,336 96	\$624 59	\$29,394 02	\$570 15	\$47,690 31	\$97,479 57	\$16,308 35	\$10,030 41	\$9,977 22
Totals.....		\$747,335 29	\$579,374 42	\$2,213 11	\$0 10	\$570 15	\$47,690 31	\$97,479 57	\$10,069 33	\$9,977 22
DEBITS.										
Sewer Works stock paid for by maintenance....	\$38 92									
Sewer Works labor Paid for by maintenance....	798 92		798 92							
Totals.....		\$748,173 13	\$580,173 34	\$2,213 11	\$0 10	\$570 15	\$47,690 31	\$97,479 57	\$10,069 33	\$9,977 22

**CONSTRUCTION REPORT, 1951.**  
**Sewerage Works, 1951.**

ACCOUNTS.	Totals.	Labor.	Trucks, Compressors, Pumps, etc.	Tools and Materials.	Contractors.	Sundries.
Office and engineers' salaries.....	\$94,054 97	\$94,054 97				
Office and engineers' expenses.....	9,622 37	8,515 01				\$1,107 36
Miscellaneous.....	8,921 55	8,648 94		\$247 17		25 44
Land-takings.....	294 20					294 20
New catch basins, East Boston.....	407 90	265 20	\$24 00	118 70	\$740 00	
New catch basins, Brighton.....	840 10			100 10		
New catch basins, West Roxbury.....	322 55			322 55		
New catch basins, Dorchester.....	632 00	501 51	29 00	121 58		
New catch basins, Roxbury.....	318 68	318 68				
Repair streets.....	3,283 11			3,062 54	220 57	
Stock.....	4,178 10			4,178 10		
Holidays, vacations, sick leave, etc.....	22,791 91	22,791 91				
Unadvertised jobs.....	753 00	616 40	30 00	106 60		
Mechanics Iron Foundry Company (Contract 3837).....	33,479 63	766 39			32,713 24	
Mechanics Iron Foundry Company (Contract 3874).....	10,769 28				10,769 28	
Total, miscellaneous.....	\$190,680 44	\$136,479 01	\$83 00	\$8,257 34	\$44,443 09	\$1,427 00
Total, sewers built.....	352,269 89	46,832 46		15,645 77	286,747 79	3,043 87
Total, gross expenditures.....	\$542,959 33	\$183,311 47	\$83 00	\$23,903 11	\$331,190 88	\$4,470 87

CONSTRUCTION REPORT, 1951. — Concluded.  
Sewerage Works, 1951. — Concluded.

ACCOUNTS.	Totals.	Labor.	Trucks, Compressors, Pumps, etc.	Tools and Materials.	Contractors.	Sundries.
CREDITS.						
Maintenance stock used on construction.....	\$783 20			\$783 20		
Construction stock used on construction.....	19,342 19			19,342 19		
Construction labor paid for by maintenance.....	837 84	\$837 84				
Trucks, cars, etc. ....	83 00		\$83 00			
Total credits.....	21,046 23	837 84	83 00	20,125 39		
DEBITS.						
Maintenance payrolls paid by construction.....	\$521,913 10	\$182,473 63		\$3,777 72	\$331,190 88	\$4,470 87
Maintenance bills paid by construction.....	624 59	624 59				
Total debits.....	653 59	624 59				29 00
Total expenditures, 1951.....	\$522,566 69	\$183,098 22		\$3,777 72	\$331,190 88	\$4,499 87

## Sewerage Works Contracts, from January 1, 1951, to December 31, 1951.

Location.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1951.
<b>SOUTH BOSTON.</b> Dorchester avenue, from West Broadway to West Fourth street, and in Silver street.	June 20, 1949	August 1, 1949	Matz Construction Co.	No const.	Final payment.	\$1,658.79
<b>EAST BOSTON.</b> Devatur street overflow in private land, from Border street to 260 feet northerly.			H. Cibotti and C. Andreassi	No const.	Contract canceled reimbursement for expenses.	358.00
Horace street, from Moore street to Har- mony street.	April 11, 1950	June 16, 1950	N. Bevilacqua & Son.	No const.	Final payment.	340.55
Waldemar avenue, from existing sewer about 1,330 feet from Walley street to McClellan Highway, and in Overlook road, from Waldemar avenue to Faywood avenue.	August 7, 1951	Nov. 2, 1951	Bargarella Construction Co., Inc.	744.00 1,530.60 498.70 388.10	15" vitreous clay pipe, sewer siphon. 12" vitreous clay pipe, sewer. 10" vitreous clay pipe, sewer. 10" pipe, sewer.	32,080.36
<b>BRIGHTON.</b> Faneuil street and Commonwealth avenue, Guest street, from Market street to Life street, and Life street, from Guest to North Beacon street.	June 12, 1950 April 21, 1950	July 15, 1950 May 23, 1950	R. A. Buccella & Sons, Inc. Walter Reed Corporation.	No const. No const.	Final payment. Court order.	263.19 1,300.00
Village Brook conduit in Walter F. Cassidy Playground (unadvertised).	June 4, 1951	Not completed	Wes-Julian Construction Corporation.	158.00 177.50 150.46 187.54	5'-9.5" x 5'-9.5" concrete conduit, 5'-7.5" x 5'-7.5" concrete conduit, 24" pipe, sewer. 20" pipe, sewer, 2 manholes.	41,457.14
<b>WEST ROXBURY.</b> Cowing street, Havey street, and Temple street, West Roxbury, and Centola street, Brighton.	Oct. 3, 1950	April 28, 1951	Domenic Aiello, Jr.	420.23 493.43 199.77	10" pipe, surface drain. 36" pipe, surface drain. 10" pipe, sanitary sewer. 6 manholes. 5 catch basins.	10,120.49

Jamaicaway court, Shrewsbury road, Ruslewood road, and Potomac street extension.	March 2, 1950	June 15, 1950	Bagarella Construction Co., Inc.	No const.	Final payment.	388 81
Lamarine place, Claxton street, Manning street and Constance road, West Roxbury, and minor sewerage works in various streets in West Roxbury and Brighton.	July 10, 1950	Oct. 15, 1950	Domenic Aiello, Jr.	No const.	Final payments.	1,544 89
Latin road and outlet in private land to Churchill and Lassel streets and Loyal street, West Roxbury.	Nov. 17, 1950	April 6, 1951	Horace DiTullio	624.10 877.30 259.35	10" pipe, house drain. 10" pipe, surface drain. 15" pipe, surface drain. 13 manholes. 4 catch basins.	10,757 45
Gloria road and minor sewerage works in West Roxbury and Brighton.	Jan. 10, 1950	April 29, 1950	James D'Amico, Inc.	No const.	Final payment.	196 45
New Haven street, Salman street, Vogel street, Riverview street, Stimson street and outlet private land and Belle avenue.	Sept. 11, 1949	July 10, 1950	Andrew P. Keegan	No const.	Final payment.	3,108 82
Shaw street, Addington road, and Gould street.	July 6, 1950	Aug. 7, 1950	J. J. Struzziery Co., Inc.	No const.	Final payment.	315 99
Spinney street, Scarle road, Sparrow street, and Cottage avenue, West Roxbury.	April 19, 1951	August 11, 1951	D'Allesandro Crognale, Inc.	1,858.46 464.98 277.32 419.74 698.57	10" pipe, house drain. 10" pipe, surface drain. 15" pipe, surface drain. 18" pipe, surface drain. 24" pipe, surface drain. 12 manholes.	30,307 23
Appleton court, West Roxbury.	April 30, 1951	May 5, 1951	Bagarella Construction Co.	203.45 197.55	10" pipe, surface drain. 10" pipe, house drain. 3 manholes.	2,455 38
Hautevalle street and outlet in private land to Beech street, West Roxbury.	May 31, 1950	July 6, 1950	Joseph Capone & Son Company.	No const.	Final payment.	383 60
Keano road and outlet in Veterans of Foreign Wars Parkway, West Roxbury, and waterworks in Keane road.	June 11, 1951	August 8, 1951	C. Russo, Inc.	797.07 416.20 362.68	10" pipe, house drain. 12" pipe, surface drain. 10" pipe, surface drain. 8 manholes.	16,813 52
Stony Brook Housing Project.	May 3, 1951	July 17, 1951	Boston Housing Authority. N. Bevilacqua & Son.	No const. 580.00	Engineering and inspection. 10" pipe, minor drain. 32 catch basins. 1 drop inlet.	1,890 20 16,820 57

## Sewerage Works Contracts, from January 1, 1951, to December 31, 1951. — Continued.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1951.
Ansonia road and Baker street.....	July 18, 1951	August 1, 1951	Bagarella Construction Company.	563.75	10" pipe, house drain. 4 manholes.	\$5,322 50
Spring Street, Brook in Gould street and Prospect street, West Roxbury.	Construction not started.		Roshdale Contracting Company.	592.70 129.20	10" pipe, surface drain. 15" pipe, surface drain.	2,667 45
Surrey street, Brighton, and in Walnut street, Seale road, and Paulman Circle, West Roxbury.	Sept. 11, 1951	Jan. 16, 1952	N. Bevilacqua & Son.....	521.26 522.89	10" pipe, house drain. 10" pipe, surface drain. 5 manholes.	8,323 91
Morton street and Cedrus avenue, and minor sewerage works in other streets, West Roxbury.	Oct. 29, 1951	Not completed.	R. A. Buccella & Sons, Inc.	1,331.59 82.00	10" and 12" pipe, surface drain. 10" pipe, minor drain. 10 manholes. 1 catch basin.	9,243 28
Avelde road and Brookway road, West Roxbury, and extra work order building 196 feet 12-inch pipe sewer between Delord street and Brookway road (Paving contract).	Nov. 19, 1951	Not completed.	J. D'Amico, Inc.....	50.00 136.00	10" pipe, minor drain. 12" pipe, house drain, rebuilt. 4 catch basins.	957 62
Granville street.....	Construction not started.		Job not awarded.....	No const.	Advertising only.....	56 00
DORCHESTER.						
Old Colony Parkway, from Mt. Vernon street to 1,733 feet southerly.	March 15, 1950	June 12, 1950	Baker & Co.....	No const.	Final payments.....	7,510 11
Old Colony Parkway, from 960 feet south of Mt. Vernon street to across the street.	July 10, 1950	August 1, 1950	Frank DiCenso & Co.....	No const.	Final payments.....	434 77
Old Colony Parkway, from 1,070 feet south of Mt. Vernon street to 100 feet southerly.	Dec. 11, 1950	Dec. 27, 1950	Frank DiCenso & Co.....	No const.	Final payments and engineering....	3,165 08
Calf Pasture Pumping Station, new heating system and other mechanical work.	Oct. 9, 1950	August 9, 1951	Beacon Piping Company....		Install new heating system, new compressor, new motor-generator.	25,565 35
Gallivan Boulevard, from 170 feet northeast of Clover street to 168 feet southeasterly and northeasterly.	Sept. 5, 1950	Sept. 28, 1950	Joseph Bortti & Son.....	No const.	Final payments.....	131 85

Caddy road, from Sanford street to Monson street, and Tiverton road 90 feet southeasterly, and minor sewerage works at 999 Morton street, Dorchester.	August 13, 1951	Sept. 17, 1951	J. J. Struzziery Company, Inc.	353.55 241.78 42.00 67.10 68.35	10" pipe, sewer. 12" pipe, concrete surface drain. 10" pipe, minor drain. 10" clay pipe, sewer. 10" pipe, concrete surface drain. 7 manholes. 5 catch basins.	10,953.56
Hallet street, between Gallivan Boulevard and Hill Top street.	Sept. 24, 1951	Oct. 24, 1951	Charles Struzziery	641.15 211.80 341.00	12" pipe, concrete surface drain. 15" pipe, concrete surface drain. 10" pipe, minor drain. 6 manholes. 12 catch basins.	11,195.91
Suncrest road, from Alpine court to River street, Hyde Park, and minor sewerage works in Dorchester and City Proper.	Nov. 6, 1951	Nov. 28, 1951	Bagaralla Construction Company, Inc.	293.66 63.00 28.00 26.00	12" pipe, concrete surface drain. 10" pipe minor drain. 18" pipe, sewer. 12" pipe, sewer. 3 manholes. 4 catch basins. 1 drop inlet.	1,329.18
Barry park, Bismarck street, Lorna road and Edna road, Dorchester, and Reservoir street, Hyde Park.	March 17, 1950	May 13, 1950	R. A. Buccella & Sons, Inc.	32.95 (sq. yds.)	asphalt repaving.	301.73
Maryknoll street, from Morton street to 435 feet, more or less, southwesterly, and Verdale street, from Maryknoll street to 185 feet northwesterly.	March 13, 1952	not yet finished	R. A. Buccella & Sons, Inc.	No const.	Advertising only.	49.60
HYDE PARK. Manila avenue, from Norton street to Vaughan street and out in Norton street, etc.	August 7, 1950	Oct. 28, 1950	J. J. Struzziery Company, Inc.	No const.	Final payments.	4,147.83
Truman Highway and private land, and Washington Street Extension and private land, Hyde Park.	Oct. 11, 1950	Dec. 2, 1950	D'Allesandro & Crognale, Inc.	Construction done in 1950.	Engineering and contractor's payments only.	18,877.97
Prospect street, from Williams avenue to Fairmont avenue, Summit street, from Milton avenue to Reservoir street, and minor sewerage works in Walbash street, Dorchester, Pinewood street, Joyce road, Tacoma street and Chapel road, Hyde Park.	May 10, 1951	June 22, 1951	Bagaralla Construction Company, Inc.	218.70 835.32 435.00	15" pipe, concrete surface drain. 12" pipe, concrete surface drain. 10" pipe, minor drain. 6 manholes. 15 catch basins. 2 drop inlets.	11,910.09

## Sewerage Works Contracts, from January 1, 1951, to December 31, 1951.—Concluded.

LOCATION.	Begun.	Finished.	Built by.	Length in Feet.	Character.	Amount Expended in 1951.
Parrot street and outlet in Stony Brook and Summer street, from Parrott street to 500 feet, more or less, northeasterly.	April 24, 1951	June 28, 1951	Joseph Capone & Son.....	575.80 586.07 217.00 48.00	15" pipe, surface drain..... 12" pipe, surface drain. Minor drain. Wire mesh fence. 5 catch basins. 2 drop inlets.	\$12,465 03
Radger road, from Washington Street Extension 960 feet southerly, and outlet in Washington Street Extension and Truman Highway.	July 19, 1951	August 10, 1951	J. J. Struzziery Company, Inc.	284.06 989.10 98.00	15" pipe, concrete surface drain..... 12" pipe, concrete surface drain. Minor drain. 7 manholes. 9 catch basins.	12,647 81
Child street, Linwood street, Valencia road, Avila Road, Hyde Park, and Wenlock road, Dorchester.	Nov. 28, 1949	Jan. 10, 1950	Susi & Desantis Company, Inc.	No const.	Engineering only.....	53.70
Riverside square, Radford place Hyde Park, and Hebron street, Dorchester.	Nov. 29, 1949	Feb. 10, 1950	Baker & Co., Inc.....	No const.	Repaing trench.....	361 39
Stony Brook.	Not started.		Not awarded.	No const.	Engineering and borings.....	4,539 02
Fens Pond, at gate house.....	July 11, 1950	Oct. 16, 1950	Marinucci Brothers Company, Inc.	No const.	Final payment.....	2,190 70
Pilgrim road, from Francis street to Deaconess road.	Nov 22, 1951	March 5, 1951	G. DeLuca & Company, Inc.	108.00	12" pipe, sewer..... 1 jug handle manhole.	2,220 10
Day street and Jefferson Playground, and for Veterans' hospital and Parker Hill avenue, between Darling street and a point 200 feet easterly.	May 4, 1950	June 30, 1950	James D'Amico, Inc.....	No const.	Final payment.....	552 07
Brookline avenue and Boylston street, from Pilgrim road to 150 feet east of Ipswich street (paving contract.)	May 14, 1951	August 12, 1951	Baker & Co.....	Const. by Paving Service	Inspection and iron frames and covers.....	1,575 76





## APPENDIX E.

---

 REPORT OF THE DIVISION ENGINEER OF  
 THE WATER DIVISION.
 

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BOSTON, January 2, 1952.

*To the Commissioner of Public Works.*

DEAR SIR:

I respectfully submit the following report of the activities of the Water Division, operations and expenditures for the fiscal year ending December 31, 1951.

The shortage of critical materials having been lessened, and new meters made available, the work of laying and relaying water mains and the replacement of obsolete meters, etc., was resumed.

A total of 22,731 linear feet of main pipe were either laid or relaid, varying in sizes from 8-inch to 12-inch, inclusive, as follows:

DISTRICT.	LAI D. Linear Feet.	RELAID. Linear Feet.
Roxbury . . . . .	155	122
East Boston . . . . .	1,206	1,860
City Proper . . . . .	616	102
South Boston . . . . .	0	0
Dorchester . . . . .	426	2,192
Brighton . . . . .	1,800	200
West Roxbury . . . . .	3,204	1,018
Hyde Park . . . . .	2,619	7,211
Charlestown . . . . .	0	0
Total . . . . .	10,026	12,705

The particular streets in which the above work was performed are shown on the accompanying tables.

## ENGINEERING OFFICE.

There is an insufficient number of capable employees on the engineering staff. This shortage of engineering personnel is getting worse instead of getting better, due

in the main to the small amount of pay that has been offered to the engineers on the civil service list in all grades.

An attempt has been made to rectify salary differences, but the increase granted has not kept pace with salaries offered by the State of Massachusetts and outside private agencies.

The office force maintained its usual service to the public with information relative to the Water Division and compiled all the official data and brought the record plans to date. Estimates for new service pipes were given and plans and specifications for contracts for main pipe extension and new mains were prepared.

The engineering force supervised all construction, payment on work performed, and assisted the yard forces in Water Division problems. They also directed and supervised the Pitometer Company in a leakage survey in Districts No. 10, 11, 12, and 13, covering Brighton, West Roxbury, Hyde Park, and Mattapan.

The various agencies (municipal, state, federal, and MTA) were assisted in the design and supervision of construction of water mains on the following projects:

Sullivan Square — Overpass-Underpass

Central Artery — City square, Haymarket square, Nashua street, and North Station

Forest Hills — Overpass

East Boston — Express Highway

MTA — East Boston Rapid Transit Extension to Orient Heights

Tremont Street — Proposed Subway, Scollay Square

Housing Authority — Six housing projects

The National Board of Underwriters was assisted in their survey of the entire city system, including the high pressure fire service. The various civilian defense units have also applied for and received assistance in their numerous defense activities, such as water supply, fire control, and shelters.

#### DISTRIBUTION BRANCH.

Due to the increased volume of work caused by applications for service pipes, etc., the department has engaged the services of contractors during the year.

The regular work of the branch, consisting of installation of new services and fire pipes, repairing of leaks,

earing for complaints, shutting off and letting on water, freeing of stoppages in pipes, etc., was performed in such a manner and at such periods as to cause minimum delay and inconvenience to applicants for water, water takers, and the general public.

Service pipes repaired . . . . .	5,151
New service pipes installed . . . . .	485
Hydrants changed . . . . .	192
Hydrants inspected, painted, lubricated, and gates marked . . . . .	30,599
Main pipe repairs . . . . .	182
Other miscellaneous work . . . . .	15,007

The machine shop and plumbing shop were forced to handle all the drilling and connecting of services in addition to the regular work carried on in these shops, such as the machining and assembling of gates, valves, and hydrants, and the department assisted the other branches of the Public Works Department in performing special jobs.

#### BUSINESS OFFICE.

In order to enforce the payment of outstanding water bills, customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result, the Water Division ended the year 1951 with a surplus of \$453,823.29, this surplus being due mainly to the collection of bills due and payable.

Main pipe petitions received . . . . .	11
Domestic service applications . . . . .	499
Fire pipe applications . . . . .	37
Special meter tests . . . . .	73
Hydrant permits issued . . . . .	15
Repair deposits received . . . . .	82
Miscellaneous deposits . . . . .	49

#### APPROPRIATIONS, EXPENDITURES, AND REVENUE.

Budget appropriation . . . . .	\$2,761,867	39
Amount expended . . . . .	2,399,224	63
Unexpended balance . . . . .	\$362,642	76
Amount of money collected during the year . . . . .	\$4,736,398	36
Amount expended from all sources . . . . .	4,282,575	07
Balance . . . . .	<u>\$453,823</u>	<u>29</u>

The metropolitan assessment for 1951 amounted to \$1,651,045.23, at the rate of \$40 per million gallons, a decrease of \$10,018.05 under the assessment for 1950.

Total amount billed in 1951 . . . . .	\$4,699,946	23
Total amount collected for 1951 bills, as of December 31, 1951 . . . . .	\$3,742,156	12
Total amount abated for 1951 bills, as of December 31, 1951 . . . . .	\$18,666	57
Total amount collected in 1951 on bills rendered prior to 1951 . . . . .	\$168,124	46

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about, which is beneficial to the consumers and the city.

The issuance of statements of outstanding water bills to the consumers before placing of liens on premises has been continued. The appreciation of the customers is shown by the fact that the number of liens placed on premises this year has been reduced.

Respectfully submitted,

DANIEL M. SULLIVAN,  
*Division Engineer.*

Table No. 1. Statement of Work Done During 1951.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested in Shop.	Repaired in Service.	Repaired in Shop.	Resets.	Junked.
			Out.	In.					
Hersey.....	473	731	3,352	5,449	8,801	603	1,121	682	110
Watch Dog.....	50	231	1,937	376	2,313	146	598	34	588
King.....		25	249		249	4			274
Worthington.....		43	240		240				283
American.....		2	17		17				19
Federal.....		3	14		14				17
Nash.....			6		6				6
Aretic.....	2		8	5	13	1			
Trident.....	2	2	2		2	1			1
Lambert.....			3		3				3
Crown.....		1	1		1				2
Badger.....			1		1				1
Keystone.....								1	
Totals.....	527	1,038	5,830	5,830	11,660	755	1,719	717	1,304

Table No. 2. Meters in Service December 31, 1951.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey.....	64,758	3,956	2,354	1,212	806	341	346	122	35	20	10	73,960
Worthington.....	2,454	6	3	7	8	7						2,485
Watch Dog.....	12,242	376	587	687	384	249	80					14,605
American.....	110	14				1						125
King.....	1,533	16	7	19	15							1,590
Federal.....	114		1	1	1	1						118
Crown.....	3	1	2	4	7	1	5	1				24
Nash.....	14	1		5	3	1						24
Lambert.....	8	1	1		1	1	1					13
Aretic.....		1		16	16	21	10	2				66
Trident.....	3		2			33	11		1			50
Keystone.....	3			1		1		1				6
Empire.....	4		1									5
Neptune.....						1	1					2
Sparkling.....								3				3
Totals.....	81,246	4,372	2,958	1,952	1,241	658	454	129	36	20	10	93,076

Table No. 3. Meters in Shop December 31, 1951.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	12	
NEW.											
Hersey Disc.....	1,100	1,119	124	15	13						2,371
Hersey H. C. T. ....						7	4	1			12
Hersey Detector.....								1		1	2
Totals.....	1,100	1,119	124	15	13	7	4	2		1	2,385
OLD.											
Hersey Disc.....	140	16	14	17	22	10	5	2			226
Hersey Detector.....							7	3	1		11
Watch Dog.....	42	28	7	7	4	3	2				93
Totals.....	182	44	21	24	26	13	14	5	1		330

Table No. 4. Meters Repaired in Shop in 1951.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8		
Hersey Disc.....	885	39	23	87	62	7		3			1,106
Hersey Detector.....							6	8	1		15
Watch Dog.....	361	18	32	95	62	21	9				598
Totals.....	1,246	57	55	182	124	28	15	11	1		1,719

Table No. 5. Meters Repaired and Rebuilt at Factory in 1951.

MAKE.	DIAMETER IN INCHES.			Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	
Hersey Disc.....	1,500	69	29	1,598

Table No. 5A. Meters Purchased New in 1951.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	1	1 $\frac{1}{2}$	2	3	4	6	8	12	16x8	
Hersey.....	2,775	137	72	20	14	15	4	1	1	....	3,039
Venturi.....										1	1
Totals.....	2,775	137	72	20	14	15	4	1	1	1	3,040

Table No. 6. Meters Reset in 1951.

MAKE.	DIAMETER IN INCHES.								Occupied.	Connection Pieces.	Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4				
Hersey.....	630	35	12	2	2	....	1	24	658	682	
Watch Dog.....	17	4	5	2	3	2	1	8	26	34	
Keystone.....						1			1	1	
Total.....	647	39	17	4	5	3	2	32	685	717	

Table No. 7A. Meters Changed in 1951. Meters Taken Out.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	
Hersey.....	2,607	379	190	88	57	9	12	9	1	3,352
Watch Dog.....	1,567	101	121	86	46	11	5	....	....	1,937
King.....	223	12	4	8	2	....	....	....	....	249
Worthington.....	238	....	....	1	....	1	....	....	....	240
American.....	14	3	....	....	....	....	....	....	....	17
Federal.....	14	....	....	....	....	....	....	....	....	14
Nash.....	2	....	1	2	1	....	....	....	....	6
Arctic.....	....	....	....	3	2	2	1	....	....	8
Trident.....	1	....	....	....	....	1	....	....	....	2
Lambert.....	....	2	1	....	....	....	....	....	....	3
Crown.....	....	....	1	....	....	....	....	....	....	1
Badger.....	....	....	....	1	....	....	....	....	....	1
Totals.....	4,666	497	318	189	108	24	18	9	1	5,830



Table No. 7B. Meters Changed in 1951. Meters Put In.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	8	
Hersey.....	4,501	475	251	120	76	7	10	8	1	5,449
Watch Dog.....	106	75	73	72	32	14	4	.....	.....	376
Arctic.....	.....	.....	.....	1	1	3	.....	.....	.....	5
Totals.....	4,607	550	324	193	109	24	14	8	1	5,830

Table No. 8. Meters Repaired in Service in 1951.

MAKE.	Defaced and Broken Clocks.	Spindle Leaks.	Coupling Leaks.	New Trains.	Broken Gears.	Examinations.	Repaired Trains.	Total.
Hersey.....	113	328	88	6	1	64	3	603
Watch Dog.....	42	79	13	.....	2	10	.....	146
King.....	.....	3	.....	.....	.....	1	.....	4
Arctic.....	1	.....	.....	.....	.....	.....	.....	1
Trident.....	1	.....	.....	.....	.....	.....	.....	1
Totals.....	157	410	101	6	3	75	3	755

Table No. 9. Meters Applied in 1951.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	10	
Hersey.....	322	10	41	34	36	13	14	2	1	473
Watch Dog.....	9	2	3	16	16	.....	4	.....	.....	50
Arctic.....	.....	.....	.....	.....	.....	1	1	.....	.....	2
Trident.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2
Totals.....	331	12	44	50	52	16	19	2	1	527

Meters applied on old service..... 23  
Meters applied on new service..... 504  
Total..... 527

Table No. 10. Meters Discontinued in 1951.

MAKE.	DIAMETER IN INCHES.									Permanently Discontinued.	Connection Pieces.	Vacancies.	Total.
	$\frac{3}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	10				
Hersey.....	597	66	29	25	5	6	1	2	1	347	320	65	731
Watch Dog.....	175	8	21	10	8	5	3			109	103	18	231
King.....	22	2	1							10	14	1	25
Worthington.....	42				1					11	30	2	43
American.....	2										2		2
Federal.....	3										3		3
Crown.....					1						1		1
Trident.....						2				1		1	2
Totals.....	841	76	51	35	15	13	4	2	1	478	473	87	1,038

Table No. 11. Causes of Meter Changes for the Year 1951.

MAKE.	Department Test.	Do Not Register.	No Force.	Enlarged Meter.	Coupling Leak.	Clock Broken.	Spindle Leak	Set Backwards.	Special Test.	Frost.	Noisy.	Total.
Hersey.....	285	1,954	36	69	480	180	200	25	62	4	57	3,352
Watch Dog.....	65	1,536	9	15	189	44	57	4	5	2	11	1,937
King.....	3	166	2	1	57	2	18					249
Worthington.....	9	165			40	5	17	2	1		1	240
American.....	7	7			2	1						17
Federal.....		6			6		2					14
Nash.....	1	4			1							6
Arctic.....	1	7										8
Trident.....		1							1			2
Lambert.....	1	1				1						3
Crown.....	1											1
Badger.....	1											1
Totals.....	374	3,847	47	85	775	233	294	31	69	6	69	5,830

Table No. 12. Meters Junked in 1951.

MAKE.	DIAMETER IN INCHES.								Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	3	4	6	
Hersey.....	78	7	4	5	6	9	.....	1	110
Watch Dog.....	570	4	10	2	1	.....	1	.....	588
Worthington.....	280	.....	.....	1	1	1	.....	.....	283
King.....	245	14	5	8	2	.....	.....	.....	274
American.....	16	3	.....	.....	.....	.....	.....	.....	19
Federal.....	17	.....	.....	.....	.....	.....	.....	.....	17
Nash.....	2	.....	1	2	.....	1	.....	.....	6
Trident.....	1	.....	.....	.....	.....	.....	.....	.....	1
Lambert.....	.....	2	1	.....	.....	.....	.....	.....	3
Crown.....	.....	.....	1	.....	1	.....	.....	.....	2
Badger.....	.....	.....	.....	1	.....	.....	.....	.....	1
Totals.....	1,209	30	22	19	11	11	1	1	1,304

TABLE I.

Showing Length of Water Pipe and Connections Owned and Operated by Public Works Department, Water Division, Water Services, and Number of Valves in Same, December 31, 1951.

	DIAMETER OF PIPE IN INCHES.												Total.				
	48	42	40	36	30	24	20	16	14	12	10	8		6	4	3	2
Length owned and operated, December 31, 1950.	55,595	16,191	9,599	30,238	75,843	89,285	108,061	366,584	285	1,846,717	448,894	1,258,373	938,992	61,713	12,344	6,509	5,325,223
Gate valves in same.	26	4	5	31	50	75	71	769	14	5,241	1,575	4,654	3,074	548	18	18	16,173
Air valves in same.	60	5	10	35	113	84	53	101	101	64	1	5	1	1	1	13	545
Blowoffs in same.	11	5	6	11	33	37	52	76	76	166	40	203	141	66	9	5	861
Length laid and relaid during 1951.										4,181	1	14,714	1	181			19,076
Gate valves in same.										21	1	67	1				91
Air valves in same.																	
Blowoffs in same.																	
Length abandoned in 1951.										1,082	185	1,901	9,128	1,177	440		13,913
Gate valves in same.										1		5	24	4			34
Air valves in same.																	
Blowoffs in same.																	
Length owned and operated, December 31, 1951, including high pressure fire service.	55,595	16,191	9,599	30,238	75,843	89,285	108,061	366,584	285	1,849,816	448,709	1,271,186	929,864	60,717	11,904	6,509	5,330,386
Gate valves in same.	26	4	5	31	50	75	71	769	14	5,261	1,576	4,716	3,051	545	18	18	16,230
Air valves in same.	60	5	10	35	113	84	53	101	101	64	1	5	1	1	1	13	545
Blowoffs in same.	11	5	6	11	33	37	52	76	76	166	40	203	141	66	9	5	861
High pressure fire service.							20,140	46,953		31,756							98,849

1,009,559 miles in distribution system, including high pressure fire service.  
18,721 miles in high pressure fire service.

Table No. II.

*Total Number of Hydrants in System, December 31, 1951.*

HYDRANTS.	Lowry.	Boston Lowry.	Boston Post.	Ordinary Post.	Batchelder and Finneran Post.	Ludlow Post.	Chapman Post.	Darling Post.	Mathews Post.	Boston Hydrant.	Mueller Post.	Total.
Public, December 31, 1950.....	503	250	2,178	2,432	5,997	4	5	6	.....	93	.....	11,475
Private, December 31, 1950.....	33	5	29	126	17	13	56	.....	4	111	.....	394
Established during 1951.....	2	.....	.....	16	199	.....	.....	.....	.....	.....	.....	217
Abandoned during 1951.....	4	1	12	149	24	.....	5	.....	.....	.....	.....	195
<b>Total Public, December 31, 1951</b>	<b>501</b>	<b>249</b>	<b>2,166</b>	<b>2,299</b>	<b>6,172</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>.....</b>	<b>93</b>	<b>.....</b>	<b>11,497</b>
<b>Total Private, December 31, 1951</b>	<b>33</b>	<b>5</b>	<b>29</b>	<b>126</b>	<b>17</b>	<b>13</b>	<b>56</b>	<b>.....</b>	<b>4</b>	<b>111</b>	<b>.....</b>	<b>394</b>

Total hydrants in service, December 31, 1950 . . . . . 11,869

Total hydrants established during 1951 . . . . . 217

Total hydrants abandoned during 1951 . . . . . 195

Total hydrants added during 1951 . . . . . 22

Total hydrants in service, December 31, 1951 . . . . . 11,891

High pressure fire hydrants in service . . . . . 504

Total hydrants (all kinds) in service, December 31, 1951 . . . . . 12,395

Table No. III.  
*Length of Main Pipe Owned and Operated by the City of Boston Water Service, December 31, 1951.*

	DIAMETER OF PIPE IN INCHES.												2				
	48	42	40	36	30	24	20	16	14	12	10	8		6	4	3	
Length owned and operated, December 31, 1950. ....	55,595	16,191	9,599	30,238	75,843	89,285	87,921	319,631	285	1,814,961	448,894	1,258,373	938,992	61,713	12,344	6,509	5,226,374
Length laid and relaid during 1951. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,181	.....	14,714	.....	181	.....	.....	19,076
Length abandoned during 1951. ....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,082	185	1,301	9,128	1,177	440	.....	13,913
Length owned and operated, December 31, 1951. ....	55,595	16,191	9,599	30,238	75,843	89,285	87,921	319,631	285	1,818,060	448,709	1,271,186	929,864	60,717	11,904	6,509	5,231,537
Length high pressure fire service. ....	.....	.....	.....	.....	.....	.....	20,140	46,953	.....	31,736	.....	.....	.....	.....	.....	.....	98,849

990,838 miles in distribution system of the City of Boston, December 31, 1951.  
 18,721 miles in high pressure system of the City of Boston, December 31, 1951.  
 1,009,559 total miles in service of the City of Boston, December 31, 1951.

## Financial Transactions, Water Service, 1951.

Cash balance from 1950 . . . . .		\$512,431 41
Receipts:		
Water rates and services . . . . .	\$4,709,610 37	
Tax titles — water . . . . .	26,787 99	
	<u>                    </u>	4,736,398 36
		<u>\$5,248,829 77</u>
Expenditures from revenue:		
Pensions and annuities . . . . .	\$48,282 15	
Current expenses and extensions . . . . .	2,399,224 63	
Collecting Department . . . . .	179,821 06	
Auditing Department . . . . .	—	
Refunded water rates . . . . .	1,135 60	
Refunded water collections . . . . .	—	
Refunded water tax titles . . . . .	—	
Metropolitan assessment . . . . .	1,651,045 23	
	<u>                    </u>	\$4,279,508 67
Transfer of 1950 surplus to redemption of city loans . . . . .	320,072 61	
	<u>                    </u>	4,599,581 28
		<u>\$649,248 49</u>
Expenditures from debt account:		
Boston water debt . . . . .	\$36,000 00	
Interest on loans . . . . .	4,631 25	
	<u>                    </u>	40,631 25
Cash balance, December 31, 1951 . . . . .		\$608,617 24
Cash forwarded to 1952 . . . . .		154,793 95
		<u>                    </u>
Surplus on hand, December 31, 1951 . . . . .		<u>\$453,823 29</u>
Loan account:		
Balance outstanding, January 1, 1951 . . . . .	\$156,000 00	
1951 payment on Boston water debt . . . . .	36,000 00	
	<u>                    </u>	
Balance outstanding, December 31, 1951 . . . . .		<u>\$120,000 00</u>
Construction account:		
Extensions of mains (from revenue)		
Cost of construction, December 31, 1951 . . . . .	\$24,610,402 89	
Cost of construction, December 31, 1950 . . . . .	24,603,362 40	
	<u>                    </u>	
Increase in plant cost during 1951 . . . . .		<u>\$7,040 49</u>

Cost of existing works, December 31, 1951:

Pipe yards and buildings *	. . . . .	\$84,332 16	
Engineering expense	. . . . .	57,873 58	
Distribution system †	. . . . .	24,222,478 36	
Hyde Park water works	. . . . .	175,000 00	
		<hr/>	\$24,539,684 10
High pressure fire system ‡	. . . . .		2,293,316 75
			<hr/>
			<u>\$26,833,000 85</u>

\* \$10,500 deducted on account of abolishment of Charlestown yard.

† Includes \$155,023.89 expended on high pressure fire system in 1925, 1926, 1931, 1932, 1933.

‡ \$33,850.96 deducted from cost of high pressure fire system on account of abandonment of pumping, Battery street.

#### Shutting Off and Turning On Water in 1951.

Number of shutoffs for repairs	. . . . .	6,475
Number of premises turned on after repairs	. . . . .	5,838
Number of shutoffs for vacancy	. . . . .	578
Number of premises turned on for occupancy	. . . . .	422
Number of premises shut off for nonpayment of water rates	. . . . .	13
Number of premises turned on again after being shut off for nonpayment	. . . . .	7
Number of premises shut off on account of waste	. . . . .	64
Number of premises turned on again after being shut off for waste	. . . . .	37
Number of new service pipes turned on for the first time	. . . . .	489
		<hr/>
Total number of times water was shut off or turned on	. . . . .	<u>13,923</u>



## WATER STATISTICS, CITY OF BOSTON.

FOR THE FISCAL YEAR ENDING DECEMBER 31, 1951.

*Mains.*

Kind of pipe: cast-iron, wrought-iron, steel.  
Size, 2-inch to 48-inch.  
Extended, miles, 0.995.  
Size, enlarged, miles,  
Total miles now in use, 1,009.559.  
Public hydrants added, 22.  
Public hydrants now in use, 12,395.  
Stop gates added, 57.  
Stop gates now in use, 16,230.  
Stop gates smaller than 4-inch, 36.  
Number of blowoffs, 861.  
Range of pressure on mains, 30 to 90 pounds.

*Service.*

Kind of pipe and size: lead and lead-lined,  $\frac{1}{2}$ -inch; cast iron, 2-inch to 16-inch; wrought-iron and cement-lined,  $\frac{3}{4}$ -inch to 2-inch; brass and copper,  $\frac{5}{8}$ -inch to  $2\frac{1}{2}$ -inch. Service taps added.  
Total service taps now in use as per metered services.

Table No. IV.

## Cost of Replacement of Main Pipe, 1951.

Street.	Location.	District.	Size (Inches).	Feet.	Material.	Labor.	Inspection.	Original Size (Inches).	Feet.	Contract Cost.	Total Cost.	Contractor or Other Agency.
Prescott st.	Bet. Frankfort st. and State Hwy.	E. Boston	12	102	\$175 06	.....	\$81 95	12	102	*	\$537 01	J. Botti & Sons
Putnam st.	Bet. White and Frankfort sts.	E. Boston	8	51	285 49	.....	20 49	8	51	\$385 00	790 98	R. A. Buccella & Sons
Eutaw st.	Bet. White and Brooks sts.	E. Boston	8	286	1,975 31	\$100 40	70 00	6	286	3,076 00	5,221 71	R. A. Buccella & Sons
Rames av.	Bet. Saratoga and MTA right of way.	E. Boston	8	375	2,763 54	459 03	136 60	6	375	*	3,359 17	MTA and Water Dept.
Orient av.	Bet. Montmorenci st. and Faywood av.	E. Boston	12	240	1,609 87	88 25	80 52	3	240	904 49	2,683 13	J. D'Amico, Inc.
Neptune rd.	At Frankfort st.	E. Boston	12	222	1,478 00	.....	204 90	12	222	*	1,682 90	J. Botti & Sons
Bennington st.	Bet. Neptune rd. and Swift st.	E. Boston	8	159	357 65	.....	13 66	8	159	*	371 31	V. Barletta Company
Bennington st.	Bet. Neptune rd. and Orleans st.	E. Boston	.....	.....	12 50	.....	13 66	6	220	.....	26 16	V. Barletta Company
Frankfort st.	At Neptune rd.	E. Boston	8	164	389 30	.....	109 28	8	164	*	498 58	J. Botti & Sons
Frankfort st.	Bet. Neptune rd. and Swift st.	E. Boston	.....	.....	10 90	.....	13 66	8	187	.....	24 56	A. Singarella Company
Orleans st.	Bet. Prescott and Putnam sts.	E. Boston	8	243	.....	.....	.....	.....	.....	*	.....	J. Botti & Sons
Cottage av.	Bet. Brier rd. and Sparrow st.	W. Roxbury	12	431	4,437 92	.....	136 60	6	431	1,903 91	6,478 43	Baker & Co.
Sparrow st.	Bet. Cottage av. and Searle rd.	W. Roxbury	12	144	1,646 14	.....	150 26	6	144	569 07	3,693 31	Baker & Co.
Sparrow st.	Bet. Cottage av. and Searle rd.	W. Roxbury	8	443	1,646 14	.....	150 26	6	443	1,327 84	3,693 31	Baker & Co.
Glenvale ter.	From Brayton rd.	Brighton	8	200	2,574 93	.....	127 18	3	200	750 00	3,452 11	Baker & Co.
Trenton st.	At Putnam st.	E. Boston	12	18	75 03	.....	13 66	12	18	106 00	194 69	Baker & Co.
Readville st.	At Como rd.	Hyde Park	12	69	316 09	.....	27 32	6	69	245 64	589 05	Baker & Co.
Como rd.	Bet. Eliot av. and Readville st.	Hyde Park	8	2,170	8,881 58	300 30	192 53	6	2,170	7,732 96	17,107 37	Baker & Co.

Frazer st.....	Bet. Roddy and Wood avs.....	Hyde Park	8	751	1,634 58	85 75	52 41	6	754	2,435 73	4,208 50	Susi & DeSantis
Oak st.....	Hyde Park av. and Maple st....	Hyde Park	8	212	782 38	62 86	61 52	6	212	853 08	1,759 81	Susi & DeSantis
Roddy av.....	Bet. River st. and dead end....	Hyde Park	8	346	1,997 29	100 40	68 29	6	346	1,426 27	3,592 25	Susi & DeSantis
Westminster st.....	Bet. Hyde Park and Green-wood avs.	Hyde Park	8	796	3,943 16	175 70	163 92	6	796	2,811 69	7,124 47	Susi & DeSantis
Park st.....	Bet. Westminster and Arling-ton sts.	Hyde Park	8	537	1,918 27	50 20	27 32	4	537	1,705 01	3,700 80	Susi & DeSantis
Eln st.....	Bet. Arlington and West sts....	Hyde Park	8	640	5,244 57	75 30	10 98	4	640	2,256 45	7,617 30	Susi & DeSantis
Arlington st.....	Bet. Hyde Park av. and River st.	Hyde Park	8	1,657	6,564 42	326 30	177 58	6	1,657	5,683 38	12,751 68	Susi & DeSantis
Drummond st.....	Bet. McLellan and Glenway sts.	Dorchester	8	281	1,561 55	.....	54 21	6	281	1,538 70	3,154 49	Baker & Co.
McLellan st.....	Bet. Bradshaw st. and Blue Hill av.	Dorchester	12	1,240	7,688 61	.....	242 50	8	1,240	7,075 90	15,007 01	Baker & Co.
Bradshaw st.....	Bet. Charlotte and Gleason sts.	Dorchester	12	165	1,593 50	.....	52 66	6	165	715 69	2,888 97	Baker & Co.
Bradshaw st.....	Bet. Charlotte and Gleason sts.	Dorchester	8	109	1,593 50	.....	52 66	6	109	497 12	2,888 97	Baker & Co.
Bicknell st.....	At Bradshaw st.....	Dorchester	8	30	377 31	.....	13 66	6	30	256 48	647 45	Baker & Co.
Queen st.....	Bet. King st. and Claymont ter.	Dorchester	8	186	427 15	.....	13 66	6	186	800 00	1,240 81	J. Botti & Son
Pinekey st.....	Bet. Brimmer and Charles sts..	City	12	102	578 40	.....	13 66	6	102	690 00	1,282 06	Edward Walsh Const.
Embankment rd.....	Bet. Otter and Mt. Vernon sts.	City	.....	.....	.....	.....	.....	12	700	.....	.....	Appel & O'Toole
Chestnut street.....	At Embankment road.....	City	.....	.....	.....	.....	.....	10	185	.....	.....	Appel & O'Toole
Otter st.....	Bet. Beacon st. and Beaver pl.	City	.....	.....	.....	.....	.....	6	200	.....	.....	Appel & O'Toole
Beaver pl.....	At Otter st.....	City	.....	.....	.....	.....	.....	12	40	.....	.....	Appel & O'Toole
Beaver pl.....	At Otter st.....	City	.....	.....	.....	.....	.....	8	100	.....	.....	Appel & O'Toole
Deaconess rd.....	Bet. Brookline av. and Binney st.	Roxbury	8	122	701 06	.....	95 62	6	122	875 00	1,671 68	J. Capone Company
Robinson pl.....	From Brook av.....	Roxbury	4	181	500 25	.....	52 66	1	181	724 00	1,276 91	Construction Units, Inc.
Totals.....	Totals.....	.....	.....	12,705	\$62,901 81	\$1,824 49	\$2,522 98	.....	14,094	\$47,405 41	\$114,654 69	.....

\* Petitioner's expense.

Table No. V.

## Cost of Extension of Main Pipe, 1951.

STREET	Location.	District.	Size (Inches.)	Feet.	Material.	Labor.	Inspection.	Contract Cost.	Total Cost.	Contractor or Other Agency.
Walley st.	Bet. Leverett st. and Waldemar av.	E. Boston	12	196	\$1,289 98	.....	\$51 22	\$723 53	\$2,064 73	J. D'Amico, Inc.
St. Edward rd.	Bet. Barnes av. and MTA right of way.	E. Boston	8	110	359 50	.....	27 52	*	387 02	MTA
Leverett st.	Bet. Bennington and Walley sts.	E. Boston	12	224	1,576 40	.....	73 12	844 19	2,493 71	J. D'Amico, Inc.
Waupello rd.	Bet. Barnes av. and MTA right of way.	E. Boston	8	110	315 70	.....	68 72	*	384 42	MTA
Waldemar av.	Bet. McClellan Highway and Overlook st.	E. Boston	8	775	2,273 09	\$36 78	204 90	3,195 83	5,710 60	J. D'Amico, Inc.
Appleton ct.	From Willow st.	W. Roxbury	8	200	749 32	27 52	18 51	1,395 00	2,190 35	Frecaney Company
Keane rd.	Bet. Veterans of Foreign Wars Parkway and Sunnyside av.	W. Roxbury	8	357	1,789 82	51 97	411 43	1,929 00	4,182 22	C. Russo Company
Sunnyside av.	Bet. Keane rd. and Corey st.	W. Roxbury	8	117	192 22	.....	13 66	500 00	705 88	C. Russo Company
Ansonia rd.	Bet. Baker st. and Alta Crest.	W. Roxbury	8	538	2,270 52	.....	39 68	1,896 91	4,207 11	Baker & Co.
Spinney st.	From Sparrow st.	W. Roxbury	8	32	195 22	.....	13 66	187 20	396 08	Baker & Co.
Paulman Circle.	From Church st.	W. Roxbury	8	272	1,294 59	.....	40 98	853 61	2,189 18	Baker & Co.
Bobolink st.	Bet. La Grange and Pleasant sts.	W. Roxbury	8	116	207 52	.....	13 66	425 00	646 18	Frecaney Company
American Legion Highway.	From Mt. Hope st.	W. Roxbury	12	336	1,722 19	.....	68 30	990 00	2,780 49	Frecaney Company, executed by

Arehdale rd.....	At end.....	W. Roxbury	8	98	447 10	506 00	42 68	*	995 78	Water Department
Washington st.....	At Mendelssohn st.....	W. Roxbury	8	69	375 40	.....	13 66	1,125 50	1,514 56	Freaney Company
Washington st.....	At Haydn st.....	W. Roxbury	8	72	404 16	.....	13 66	1,174 50	1,592 32	Freaney Company
Brookway rd.....	Bet. Archdale and Melwin rds.....	W. Roxbury	8	938	5,070 00	.....	37 98	3,695 08	8,803 06	Baker & Co.
Cottage av.....	At Sparrow st.....	W. Roxbury	8	29	189 54	.....	13 66	80 00	292 20	Baker & Co.
Bennington st.....	At Leverett st.....	E. Boston	12	76	580 12	.....	27 52	301 50	909 14	J. D'Amico Company
Bennington st.....	At Leverett st.....	E. Boston	8	15	101 02	.....	13 66	60 30	174 98	J. D'Amico Company
Westminster st.....	Bet. Lewiston st. and Ayles rd.....	Hyde Park	8	265	989 44	.....	27 52	942 45	1,959 41	Baker & Co.
Ayles rd.....	From Westminster st.....	Hyde Park	8	199	504 72	.....	27 52	568 08	1,100 32	Baker & Co.
Caddy rd.....	Bet. Monson and Sanford sts.....	Dorchester	8	426	2,210 22	.....	54 64	1,422 66	3,687 52	Baker & Co.
Embankment rd.....	Bet. Beacon and Mt. Vernon sts.....	City	12	616	4,134 54	.....	54 64	*	4,189 18	Appel & O'Toole
Blackfan st.....	Bet. Shattuck st. and Longwood av.....	Roxbury	8	155	1,010 99	.....	136 60	1,575 00	2,722 59	C. Russo Co., executed by Taaffe
Totals.....		.....	6,371		\$30,253 32	\$622 27	\$1,509 10	\$23,804 34	\$56,279 03	

\* Petitioner's expense.

Table No. VI.

Total Number of Hydrants in System, December 31, 1951.

LOCATION.	Lowry.	Boston Lowry.	Boston Post.	Ordinary Post.	Ludlow Post.	Batchelder and Finneran Post.	Chapman Post.	Darling Post.	Matthews Post.	Boston Hydrant.	Mueller Post.	Total.
Brighton (public).....	5	12	200	251		638				8		1,114
" (private).....				8							2	10
Charlestown (public).....	23	13	97	25		180				2		340
" (private).....	13	1	2	37							5	58
City Proper (public).....	381	26	310	145	1	595				42		1,500
" (private).....	5		9	1		2					37	54
Dorchester (public).....	39	81	603	776	2	1,142				11	7	2,661
" (private).....	1	1	9			2				4		17
East Boston (public).....	6	5	146	157	1	223				4		512
" (private).....	8	1	1	8							25	43
Hyde Park (public).....			65			684		2				751
" (private).....					13		56		4			73
Roxbury (public).....		24	270	186		1,047						1,527
" (private).....	2	1	3	4		2				9		21
South Boston (public).....	47	11	163	111		300				14		649
" (private).....	4	1	1	14		3				27		50
West Roxbury (public).....		74	312	648		1,363		4		12		2,413
" (private).....				15		1				1		17
Deer Island (private).....			4	16		7						27
Gallups Island (private).....				3						1		4
Long Island (private).....				6								6
Rainsford Island (private).....				3								3
Thompson's Island (private).....				2								2
Quincy (private).....				9								9
Total number (public).....	501	249	2,166	2,299	4	6,172		6		93	7	11,497
Total number (private).....	33	5	29	126	13	17	56		4	111		394
Total number (public and private).....	534	254	2,195	2,425	17	6,189	56	6	4	204	7	11,891
High pressure fire hydrants.....												504
Total hydrants (all kinds).....												12,395



