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STATE RESEARCH

Section 3, Supplement to Vol. V, 'NEW JERSEY,' No. 3, December, 1917

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Consecutive No. 8



REPORT

OF THE

N. J. PENSION AND RETIREMENT FUND
 COMMISSION

PART I

A Statement of the Contents of an Act for the Establishment of a Retirement System for Employees of the State of New Jersey

PART II

An Estimate of the Probable Cost to the Employees and the State of the Proposed Retirement System

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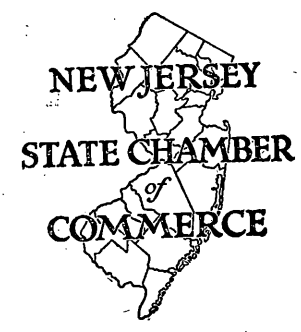
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PENSION AND RETIREMENT FUND COMMISSION

141ST SESSION OF THE LEGISLATURE OF THE STATE OF NEW JERSEY

J. R. II, LAWS OF 1917

Senators:

WILLIAM E. FLORANCE, Middlesex
WILLIAM B. MACKAY, JR., Bergen

Assemblymen:

ELMER H. GERAN, Monmouth
A. DAYTON OLIPHANT, Mercer
ARTHUR N. PIERSON, Union

ARTHUR N. PIERSON, *Chairman*

OFFICE OF THE COMMISSION
NEW JERSEY STATE CHAMBER OF COMMERCE
CLINTON BUILDING, NEWARK

January 31, 1918

*To the Senate and the General Assembly of the
State of New Jersey:*

The Special Commission, appointed under Joint Resolution 11, P. L. 1917, to investigate the subject of municipal, county, and state pension and retirement funds, has rendered a detailed report of its investigations in this field.

The Report herewith submitted covers the subject of pensions for state employees, and is supported by House Bill No. 371 which provides a carefully worked-out pension system on the cooperative contribution plan figured on a reserve basis.

The actuarial estimates of cost and liabilities have been compiled by George B. Buck, Esq., Actuary of the Bureau of Municipal Research, New York City, who was assigned to the Bureau of State Research for this purpose.

Under the bill submitted, the benefits accruing to the employee from the fund are based upon his contributions to the fund and provides that liabilities for disability and death met in service are placed entirely upon the state. The fund provides a cash surrender value always available to the members.

The Commission's recommendations in connection with a pension for the employees of the State embody the most approved features for service pensions. This scheme for pension funds is submitted for the consideration of the Legislature, with a view of its adoption as a State pension policy.

PENSION AND RETIREMENT FUND COMMISSION

ARTHUR N. PIERSON, *Chairman*
WILLIAM E. FLORANCE
ELMER H. GERAN
WILLIAM B. MACKAY, JR.
A. DAYTON OLIPHANT

PART I

A Statement of the Contents of an Act for the Establishment of a Retirement System for Employees of the State of New Jersey

I. Date of Establishment of System:

The retirement system shall be established on January 1, 1919.

II. Membership of System:

A. All present employees of the state who are not covered by a retirement system may elect to become members within a year. This period may be extended by the Board of Trustees to a period not exceeding five years.

B. All employees appointed after the establishment of the system who are not otherwise covered by a retirement system are automatically covered after six months of service. Such employees may elect to become members prior to the completion of six months' service.

C. Elected or appointed employees or employees only partially employed by the state may become members only in the discretion of the Board of Trustees.

III. Management of System:

A. The management of the system is vested in a Board of Trustees who shall appoint a secretary, an actuary, and such other technical and administrative employees as may be necessary for the transaction of the business of the retirement system. The Board of Trustees shall be assisted by each state department or branch of service by which members are employed.

B. The membership of the Board of Trustees shall consist of:

- (1) Two trustees appointed by the Governor of the state of New Jersey.
- (2) The Treasurer of the state of New Jersey.
- (3) Two Trustees elected from among the members.

C. The chief duties of the Board of Trustees shall be:

- (1) The maintenance of the system in a sound financial condition.
- (2) The management and investment of the reserve and savings funds created by this act.
- (3) The granting of retirement allowances provided by this act.

D. The chief assistance of the state department and branches of service in which members are employed shall be:

- (1) In furnishing required records and information to the Board of Trustees.

- (2) In making the deductions from members' salaries certified by the Board of Trustees.

IV. Benefits of the System:

A. Service Benefit:

(1) Condition of Allowance:

Service allowance is granted upon the application of a member who has attained age sixty. Retirement is compulsory at age seventy.

(2) Amount of Allowance:

The amount of the allowance is approximately equal to one-seventieth of the average salary of the ten years immediately preceding retirement multiplied by the number of years the employee has been a member of the association. For a member with thirty-five years of service at age sixty the allowance is therefore one-half final average salary. For a member with more than thirty-five years service the allowance is more than one-half salary. Members in service at the time the system is established are to receive an additional allowance of one-seventieth of the average salary of the last ten years for each year of service rendered prior to the establishment of the system.

B. Ordinary Disability Benefit:

(1) Condition of Allowance:

An ordinary disability benefit is payable to employees physically or mentally incapacitated for duty through causes not connected with the performance of duty after ten or more years of service.

(2) Amount of Allowance:

The allowance consists of a pension of one-fifth of the average salary of the last ten years plus such annuity as is purchasable by the employee's accumulated contributions. The total allowance therefore depends on the length of service and amounts to approximately twenty-two per cent. of salary after ten years of service, increasing in the case of retirement after longer periods of service to approximately forty-five per cent. of salary. The maximum pension is limited to eight-tenths of the rate of pension to which the employee would have been entitled on retirement at age sixty.

Members in service at the time the system is established are to receive an additional pension of 1-140 of the average salary of the last ten years for each year of service rendered prior to the establishment of the system. As such members will have no accumulated contributions at the outset with which to purchase annuities in the case of disability, this extra pension will place them in practically the same condition as they would have been if the system had always been in operation.

(3) Safeguard against Abuse:

Members retired on account of disability may be required to undergo periodic medical examinations. Members whose disabilities are found to be removed are to have their allowances reduced so that their earnings and pensions combined shall not exceed their previous earnings from the state.

C. Accidental Disability Benefit:

(1) Condition of Allowance:

An accidental disability benefit is granted to members physically or mentally incapacitated for duty through causes connected with the actual performance of duty.

(2) Amount of Allowance:

A pension of two-thirds of the average salary of the ten years immediately preceding disability is granted to members disabled in the performance of duty.

(3) Safeguard against Abuse:

Members retired on account of disability may be required to undergo periodic medical examinations. Members whose disabilities are found to be removed are to have their allowances reduced so that their earnings and pensions combined shall not exceed their previous earnings from the state.

D. Accidental Death Benefit:

(1) Condition of Allowance:

An accidental death benefit is granted to members dying through causes connected with the actual performance of duty.

(2) Amount of Allowance:

(a) If the member leaves dependents, a pension of one-half the average salary of the ten years immediately preceding his death is payable to his widow and continued upon death or remarriage of widow to children, until the youngest child attains the age of eighteen.

(b) If the member does not leave dependents, a flat payment of the average salary of the ten years immediately preceding his death is payable to his estate.

E. Refund of Contributions:

To members who leave the service without a retirement allowance or to the estate

of members who die in service through causes not connected with the performance of duty, a full return of contributions is made with four per cent. compound interest.

F. Special Privileges upon Retirement:

Members upon retirement may elect to receive the actuarial equivalent of their pensions and annuities in any one of the following forms:

- (a) Total amount payable in monthly instalments throughout life, all payments ending at death.
- (b) Reduced payments during life with a provision that in case of death before such payments have equalled the present value of pension and annuity at date of retirement, the balance shall be paid to the heirs or assigns.
- (c) Reduced payments covering two lives with a provision that at the death of the member the same payments or one-half of such payments shall be continued throughout the life of such other person as the member shall have designated.
- (d) Such other form of actuarial equivalent as may be certified by the actuary and approved by the retirement board.

V. Contributions by Members:

A. A definite percentage of compensation shall be contributed by members. Such percentage is determined by present age, sex, and occupation of member. Percentages vary for men of clerical occupations from 4.06 per cent. to 7.15 per cent.; for women of clerical occupations from 4.35 per cent. to 7.84 per cent.; for men of laboring class, from 3.53 per cent. to 7.07; for women of laboring class, from 3.65 to 7.38.

B. The initial rate paid by member is to continue unchanged until retirement, unless altered at the times of actuarial revaluations.

C. These rates are computed by use of mortality tables and interest tables. Each member must put into the fund every year enough so that when he becomes sixty, his contributions will be sufficient to purchase approximately one-half the allowance which is promised. The cost of that allowance is determined by the average final salary upon which it is based and upon the length of time the annuity will be drawn as shown by the mortality table. In determining the annual percentage that the member must contribute in order that the accumulated contributions be approximately equivalent to one-half the cost of the allowance, consideration is made of expected increases in the member's salary and of the fact that the state will guarantee that member's contributions shall bear interest compounded at four per cent.

D. These rates cannot be reduced unless:

- (1) The amount of allowance is reduced.
- (2) The age at retirement is deferred.
- (3) The interest rate is increased.
- (4) The state contributes more than fifty per cent. of the service allowance.

E. Members who have prior service at the time this bill goes into effect will purchase one-half the service allowance due to future service, and the state will provide the total allowance due to past service.

F. Members' contributions are placed in a distinct and separate fund, called the annuity savings fund. Each member's contributions are placed to his own account and may be withdrawn if he leaves the service without purchasing a retirement allowance.

VI. Contributions by State:

A. The state will provide one-half the cost of the service allowance to be granted on account of future service of members; all of the allowances to be granted on account of prior service, the ordinary disability pension, the accidental disability pension, and the total accidental death benefits. The state will also contribute the administrative expenses of the system.

B. The state will make its contributions in the following way:

- (1) To provide for allowances to be granted on account of service rendered after the establishment of the system, it will pay a certain proportion of members' compensation.
- (2) To provide for allowances to be granted on account of service rendered by members prior to the establishment of the system, the state will make twenty-five flat annual payments.

C. The amount of the state's contribution toward the various benefits will be approximately:

- (1) Two per cent. of the annual compensation of new entrants into the service and the retirement system, to provide for all of the benefits to be paid by the state on account of such entrants.
- (2) Two and one-half per cent. of the annual compensation of present employees who enter the retirement system, to provide for the benefits to be paid to them by the state on account of future service.
- (3) \$31,761 annually for twenty-five years to provide for benefits to be paid to present employees, who enter the retirement system, on account of their service prior to the establishment of the system.

VII. Provisions for continued solvency of system:

A. Actuarial valuations of fund are periodically required.

B. Contributions of state and members shall be actuarially determined and be equivalent to the cost of the benefits proposed.

C. Reserve funds shall be maintained, by means of which accruing liabilities are provided for before they mature.

D. Investment of funds is limited to those legal for savings banks.

E. The Superintendent of Insurance and state Treasurer will both be responsible for its proper administration.

PART II

An Estimate of the Probable Cost to the Employees and State of the Proposed Employees' Retirement System

The Commission on Pensions and Retirement Funds submits the following estimate of the probable cost of the proposed retirement system for state employees in order that the taxpayers and the employees may have before them the basis upon which the system is founded. It is believed that the legislators of the state should know what is involved in the legislation proposed, because the failure of many of the retirement systems in this country may be attributed to the fact that pension legislation has been adopted without knowledge of the probable future cost of the system thereby established. The permanency of a fund cannot be assured unless it be known somewhat definitely what the demands upon that fund will ultimately be, and that the sources of support provided for the fund are to be adequate for these demands.

The proposed system is to cover all present employees of the state who are not otherwise covered by a retirement system and who elect to become members within a certain length of time. To estimate exactly, the total cost of such a retirement system is obviously impossible, in view of the fact that the number of employees now in the service who will be covered by the plan cannot be ascertained until the

employees are given the privilege to elect whether or not they will join the system. Furthermore, records are not available on which to prepare tables on the basis of New Jersey experience alone, showing the probabilities of employees resigning, dying, being dismissed, or disabled in service, their mortality while on pension, and other rates which are essential to a detailed actuarial valuation of the liabilities which would be involved in establishing the plan for any particular group of employees.

That the basis for the figures is not one to be desired in an actuarial investigation, is admitted; however, despite the many difficulties which were attendant upon the preparation of the estimate, it is believed that the results predicated thereon, can be safely employed in the organization of the proposed plan. The rates of contribution required of employees are considered adequate to provide the benefits for which they are made, and it is anticipated that an actuarial investigation of the fund after its establishment will not result in any material changes therein, although some changes may be made in the estimates of the total liability on account of certain groups of employees.

Benefits and Contributions Provided

The following digest gives a summary of such provisions of the proposed bill as affect the actuarial valuation of the assets and liabilities involved:

Benefits

(1) Upon the demand of an employee who has attained age sixty, a retirement allowance is provided of approximately one-seventieth of the average salary of the last ten years of service multiplied by number of years the employee has been a member of the retirement system. Employees in service at the time the system is established, are to receive an additional allowance of one-seventieth of the average salary of the last ten years for each year of service prior to the establishment of the system.

(2) Upon disability through causes not connected with the performance of duty, after ten or more years of service, an allowance is provided of one-fifth of the average salary of the last ten years, with return of employee's contributions as additional annuity. The rate of the disability pension never exceeds eight-tenths of the rate of the service pension which would have been granted, had employee remained in the service until age sixty. Employees in service at the time the system is established, are to receive an additional allowance of 1-140 of average salary of the last ten years for each year of service prior to the establishment of the system.

(3) Upon disability, through causes connected with the performance of duty at any time, an allowance is provided of two-thirds of the average salary of the last ten years, plus the return of employee's contributions as an additional annuity.

(4) Upon death through causes connected with the performance of duty, where there is a widow or children, an allowance is provided of one-half average salary of last ten years, payable to widow until death or re-marriage and continued to children until youngest child attains the age of eighteen; where there is no widow or children, a flat payment of the average annual salary of the last ten years of service is provided.

(5) Upon separation from service without retirement allowance, return of employee's contributions, together with four per cent. compound interest, is provided.

Contributions

By Employees. Employees contribute such percentages of salary as are sufficient to provide for one-half the cost of the service allowance at age sixty, which is dependent upon future service as a member; and for the return of contributions with four per cent. compound interest at separation prior to age sixty.

By State. The state makes such contributions as are sufficient to provide one-half of the service benefit allowable on account of future service of members, all of the pensions allowable on account of prior service, the ordinary disability pension, the accidental disability pension, and the total accidental death benefits.

Service Factors Required to Value Cost

The cost of providing the benefits of the system to a certain group of employees, is dependent upon the number and final salaries of those members of the group who will become eligible to receive benefits and

the length of time that they will live to draw their benefits. In other words, the probable rates at which members of the group will leave the service in the future from various causes, and the probable rate at which members will die after retirement, are required. The probable cost of a retirement system comprising the benefits of the proposed system is dependent upon the future operation of the following service factors:

- (1) Rate of withdrawal.
- (2) Rate of disability from ordinary causes.
- (3) Rate of disability from causes connected with the performance of duty.
- (4) Rate of death from ordinary causes.
- (5) Rate of accidental death.
- (6) Rate of retirement of employees upon attainment of age sixty.
- (7) Rate of salary change.
- (8) Rate of death of pensioners retired on service allowance.
- (9) Rate of death of pensioners retired on disability allowance.

In addition to these factors, certain other rates giving the basis for deriving the cost of benefits payable to dependents are required.

Occupational Grouping of Employees

An examination of the occupations of the employees to be covered by the proposed bill has been made with a view of dividing them into homogeneous groups as far as possible, prior to the consideration of rates of separation developed from outside sources, which might be the most applicable to them. It has been found that the employees may be broadly classified into two groups, as follows:

Group 1. Laborers and other employees engaged upon duties requiring principally physical exertion.

Group 2. Clerks, administrative and technical workers, engaged upon duties requiring principally mental exertion.

Each group may further be subdivided into men and women employees. In view of the comparatively small percentage represented by the pay-roll for women (about twenty-five per cent. of the total pay-roll) the most practicable procedure has seemed to be to adopt service rates applicable to men employees of the two groups, namely, clerks and laborers, and to base the valuation of the benefits on account of both men and women thereon. The consequent error in the aggregate results of the valuation has been considered not enough to warrant the additional time and expense required to develop separate tables for women. However, it has been thought advisable in the preparation of employees' rates of contribution to recognize the difference in annuity values and rates of salary change applicable to men and women employees. Accordingly, two salary scales have been developed for each occupational group, and annuity values based on the experience of women annuitants have been employed, notwithstanding the fact that rates of separation have been adopted for men employees only.

Adopted Rates and Basis for Adoption

Active Service Rates

The following tables show the rates of separation from active service adopted for use in the valuation of the assets and liabilities of the proposed retirement plan.

TABLE I
RATES OF SEPARATION FROM ACTIVE SERVICE—Clerks

AGE	RATES OF WITHDRAWAL			RATES OF DEATH IN PERFORMANCE OF DUTY			RATES OF DEATH NOT IN PERFORMANCE OF DUTY			RATES OF DISABILITY			RATE OF SERVICE RETIREMENT	
	First Year	Second Year	Third Year	Ultimate	First Year	Second Year	Third Year	Ultimate	First Year	Second Year	Third Year	Ultimate		
16	.0887				.0001*				.0036	.0040	.0043	.0045	.0009	
17	.1022	.0811	.0709		.0001*				.0038	.0042	.0045	.0045	.0009	.0010
18	.1157	.0908	.0757	.0661	.0001*	.0001*	.0001*	.0001	.0039	.0043	.0045	.0045	.0009	.0010
19	.1271	.0976	.0791	.0673	.0001*	.0001	.0001	.0001	.0040	.0044	.0045	.0045	.0009	.0010
20	.1379	.1033	.0814	.0677	.0001	.0001	.0002	.0002	.0041	.0045	.0047	.0047	.0009	.0011
21	.1467	.1075	.0855	.0676	.0002	.0002	.0002	.0002	.0042	.0046	.0049	.0049	.0010	.0011
22	.1545	.1117	.0885	.0699	.0002	.0002	.0002	.0002	.0042	.0047	.0050	.0050	.0010	.0011
23	.1609	.1147	.0891	.0662	.0002	.0002	.0002	.0002	.0042	.0047	.0050	.0050	.0010	.0011
24	.1668	.1170	.0851	.0655	.0002	.0002	.0002	.0002	.0044	.0049	.0052	.0052	.0010	.0011
25	.1721	.1185	.0852	.0655	.0003	.0003	.0003	.0003	.0045	.0051	.0054	.0054	.0010	.0012
26	.1765	.1191	.0849	.0647	.0003	.0003	.0003	.0003	.0047	.0053	.0056	.0056	.0011	.0012
27	.1799	.1193	.0846	.0639	.0003	.0004	.0004	.0004	.0048	.0055	.0059	.0059	.0011	.0013
28	.1828	.1195	.0838	.0630	.0004	.0004	.0004	.0004	.0048	.0055	.0059	.0059	.0011	.0013
29	.1853	.1188	.0821	.0620	.0004	.0004	.0004	.0004	.0050	.0057	.0061	.0061	.0011	.0014
30	.1868	.1174	.0804	.0610	.0004	.0004	.0004	.0004	.0052	.0060	.0064	.0064	.0011	.0014
31	.1875	.1159	.0785	.0599	.0004	.0004	.0004	.0004	.0054	.0063	.0067	.0067	.0012	.0015
32	.1876	.1137	.0760	.0587	.0004	.0004	.0004	.0004	.0057	.0066	.0070	.0070	.0012	.0016
33	.1872	.1110	.0737	.0575	.0004	.0004	.0004	.0004	.0059	.0068	.0072	.0072	.0014	.0016
34	.1859	.1078	.0709	.0560	.0004	.0004	.0004	.0004	.0062	.0071	.0076	.0076	.0014	.0017
35	.1836	.1039	.0681	.0543	.0005	.0005	.0005	.0005	.0065	.0074	.0079	.0079	.0015	.0018
36	.1810	.1001	.0650	.0528	.0005	.0006	.0006	.0006	.0067	.0078	.0082	.0082	.0016	.0019
37	.1773	.0961	.0622	.0510	.0005	.0006	.0006	.0006	.0071	.0082	.0086	.0086	.0017	.0020
38	.1733	.0916	.0594	.0489	.0005	.0006	.0006	.0006	.0075	.0086	.0090	.0090	.0018	.0022
39	.1654	.0877	.0565	.0465	.0006	.0007	.0007	.0007	.0079	.0091	.0095	.0095	.0019	.0024
40	.1625	.0834	.0541	.0445	.0006	.0007	.0007	.0007	.0084	.0096	.0100	.0100	.0021	.0025
41		.0791	.0513	.0411	.0007	.0007	.0007	.0007	.0089	.0101	.0106	.0106	.0022	.0027
42			.0491	.0383	.0007	.0007	.0006	.0006	.0108	.0118	.0122	.0122	.0028	.0031
43				.0354	.0006	.0006	.0006	.0006	.0112	.0122	.0126	.0126	.0031	.0034
44				.0329	.0006	.0006	.0006	.0006	.0114	.0124	.0128	.0128	.0031	.0034
45				.0306	.0006	.0006	.0006	.0006	.0118	.0128	.0132	.0132	.0031	.0034
46				.0289	.0006	.0006	.0006	.0006	.0121	.0131	.0135	.0135	.0031	.0034
47				.0281	.0006	.0006	.0006	.0006	.0122	.0132	.0136	.0136	.0031	.0034
48				.0273	.0005	.0005	.0005	.0005	.0123	.0133	.0137	.0137	.0031	.0034
49				.0215	.0004	.0004	.0004	.0004	.0124	.0134	.0138	.0138	.0031	.0034
50				.0194	.0003	.0003	.0003	.0003	.0125	.0135	.0139	.0139	.0031	.0034
51				.0171	.0003	.0003	.0003	.0003	.0126	.0136	.0140	.0140	.0031	.0034
52				.0150	.0003	.0003	.0003	.0003	.0127	.0137	.0141	.0141	.0031	.0034
53				.0130	.0003	.0003	.0003	.0003	.0128	.0138	.0142	.0142	.0031	.0034
54				.0111	.0002	.0002	.0002	.0002	.0129	.0139	.0143	.0143	.0031	.0034
55				.0093	.0002	.0002	.0002	.0002	.0130	.0140	.0144	.0144	.0031	.0034
56				.0076	.0002	.0002	.0002	.0002	.0131	.0141	.0145	.0145	.0031	.0034
57				.0062	.0001	.0001	.0001	.0001	.0132	.0142	.0146	.0146	.0031	.0034
58				.0049	.0001	.0001	.0001	.0001	.0133	.0143	.0147	.0147	.0031	.0034
59				.0037	.0001	.0001	.0001	.0001	.0134	.0144	.0148	.0148	.0031	.0034
60				.0027	.0000	.0000	.0000	.0000	.0135	.0145	.0149	.0149	.0031	.0034
61									.0136	.0146	.0150	.0150	.0031	.0034
62									.0137	.0147	.0151	.0151	.0031	.0034
63									.0138	.0148	.0152	.0152	.0031	.0034
64									.0139	.0149	.0153	.0153	.0031	.0034
65									.0140	.0150	.0154	.0154	.0031	.0034
66									.0141	.0151	.0155	.0155	.0031	.0034
67									.0142	.0152	.0156	.0156	.0031	.0034
68									.0143	.0153	.0157	.0157	.0031	.0034
69									.0144	.0154	.0158	.0158	.0031	.0034
70									.0145	.0155	.0159	.0159	.0031	.0034

* Rate less than .0001.

TABLE II
RATES OF SEPARATION FROM ACTIVE SERVICE—Laborers

AGE	RATES OF WITHDRAWAL			RATES OF DEATH IN PERFORMANCE OF DUTY			RATES OF DEATH NOT IN PERFORMANCE OF DUTY			RATES OF DISABILITY			RATE OF SERVICE RETIREMENT	
	First Year	Second Year	Ultimate	First Year	Second Year	Third Year	First Year	Second Year	Third Year	First Year	Second Year	Third Year		Ultimate
16	.1586			.0006	.0007	.0008	.0038	.0044	.0047	.0006	.0008	.0009	.0010	
17	.1643	.0901	.0618	.0006	.0007	.0008	.0038	.0045	.0048	.0007	.0008	.0009	.0010	
18	.1691	.0927	.0642	.0007	.0008	.0008	.0039	.0046	.0048	.0007	.0008	.0009	.0010	.0010
19	.1734	.0950	.0666	.0007	.0008	.0008	.0040	.0047	.0049	.0008	.0009	.0010	.0011	.0011
20	.1768	.0966	.0682	.0007	.0008	.0008	.0041	.0048	.0050	.0009	.0010	.0011	.0012	.0012
21	.1796	.0978	.0697	.0007	.0008	.0009	.0042	.0049	.0051	.0009	.0010	.0011	.0012	.0013
22	.1822	.0988	.0716	.0008	.0009	.0009	.0044	.0051	.0054	.0009	.0010	.0011	.0012	.0013
23	.1840	.0994	.0733	.0008	.0009	.0010	.0045	.0052	.0055	.0009	.0010	.0011	.0012	.0013
24	.1850	.0997	.0749	.0008	.0009	.0010	.0045	.0052	.0055	.0009	.0010	.0011	.0012	.0013
25	.1857	.0996	.0766	.0008	.0009	.0010	.0048	.0056	.0058	.0009	.0010	.0011	.0012	.0013
26	.1862	.0994	.0782	.0009	.0010	.0011	.0049	.0057	.0059	.0009	.0010	.0011	.0012	.0013
27	.1860	.0988	.0799	.0010	.0011	.0012	.0051	.0059	.0062	.0009	.0010	.0011	.0012	.0013
28	.1852	.0981	.0816	.0011	.0012	.0013	.0053	.0062	.0065	.0009	.0010	.0011	.0012	.0013
29	.1838	.0970	.0833	.0012	.0014	.0015	.0056	.0065	.0068	.0009	.0010	.0011	.0012	.0013
30	.1819	.0958	.0850	.0013	.0015	.0016	.0060	.0070	.0073	.0009	.0010	.0011	.0012	.0013
31	.1801	.0947	.0867	.0015	.0017	.0018	.0061	.0074	.0078	.0009	.0010	.0011	.0012	.0013
32	.1778	.0935	.0886	.0016	.0019	.0020	.0066	.0079	.0084	.0009	.0010	.0011	.0012	.0013
33	.1752	.0920	.0906	.0019	.0021	.0023	.0073	.0085	.0090	.0009	.0010	.0011	.0012	.0013
34	.1729	.0903	.0933	.0020	.0023	.0025	.0078	.0090	.0095	.0009	.0010	.0011	.0012	.0013
35	.1703	.0888	.0966	.0023	.0026	.0028	.0083	.0095	.0100	.0009	.0010	.0011	.0012	.0013
36	.1671	.0867	.0947	.0025	.0029	.0031	.0087	.0100	.0105	.0009	.0010	.0011	.0012	.0013
37	.1637	.0850	.0932	.0028	.0032	.0033	.0092	.0105	.0110	.0009	.0010	.0011	.0012	.0013
38	.1602	.0829	.0912	.0030	.0035	.0036	.0097	.0110	.0116	.0009	.0010	.0011	.0012	.0013
39	.1567	.0809	.0892	.0034	.0039	.0040	.0097	.0114	.0120	.0009	.0010	.0011	.0012	.0013
40	.1531	.0791	.0874	.0037	.0042	.0044	.0105	.0119	.0125	.0009	.0010	.0011	.0012	.0013
41		.0768	.0851	.0041	.0046	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
42			.0824	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
43			.0800	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
44			.0776	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
45			.0752	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
46			.0728	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
47			.0704	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
48			.0680	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
49			.0656	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
50			.0632	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
51			.0608	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
52			.0584	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
53			.0560	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
54			.0536	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
55			.0512	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
56			.0488	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
57			.0464	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
58			.0440	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
59			.0416	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
60			.0392	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
61			.0368	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
62			.0344	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
63			.0320	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
64			.0296	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
65			.0272	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
66			.0248	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
67			.0224	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
68			.0200	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
69			.0176	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013
70			.0152	.0044	.0049	.0048	.0105	.0125	.0130	.0009	.0010	.0011	.0012	.0013

The experience of employees in occupational groups similar to those of the employees to be covered by the retirement plan has been studied to obtain a basis for the rates to be adopted. The fact that monetary values were to be made dependent upon them was kept in mind and an effort has been made to adopt such rates that, when used together, they would form a safe and reasonable basis for estimating the cost of the proposed plan. Where several outside services under consideration indicated a marked similarity in any one rate, a rate has been adopted which followed closely the one indicated by these services. Peculiarities in any experience which were evidently characteristic of the one service alone have been rejected.

Experience developed from various governmental and industrial services showed that among both clerks and laborers, the rate of withdrawal varies in the first three years of service not only by age but by the year of service attained by the employee, while on the other hand, other rates of separation during this period did not show a marked variance with years of service. It seemed, therefore, advisable to adopt select rates of withdrawal for these groups from the basis of other experiences.

Rates Applicable to Clerical Employees. The data available in regard to rates of separation from active service to be expected among clerks covered the experience of clerical employees of New York City, of municipal employees of Chicago, of members of the Public Service Superannuation Fund of New Zealand, of salaried members of the government service of New South Wales, and of clerical employees in private corporations.

The select rates of withdrawal are those obtaining among clerks in New York City, as these seem to be the most applicable as well as the most conservative of the comparative rates available on which to base monetary values. The ultimate rate of withdrawal is, however, lower than that obtaining among clerks in New York City, from about age forty-five. It is generally higher than corresponding rates among government employees of New Zealand and New South Wales, but lower than the rate found among certain clerical workers in industrial employment.

The rate of retirement on account of disability is a higher rate than that obtaining among clerical workers in New York City, and members of the New Zealand fund, but higher only in the younger ages than the rate found among employees of New South Wales. A division of the rate of disability into that occurring in actual performance of duty and that occurring through other causes was required. On account of the paucity of data on which to make this division, one per cent. of the total retirements were assumed to have occurred on account of disability in actual performance of duty. This figure is believed to be consistent with such information as is available regarding the proportion of cases of disability which are the result of accident, when consideration is given to the fact that not all cases will occur in service.

The rate of death from all causes is a lower rate of death than that derived from the experience of New York City clerks, but higher than that found among municipal employees of Chicago and members of the Superannuation Fund of New Zealand, and New South Wales. The rate of death has been divided into a rate of death due to causes connected with the per-

formance of duty and to other causes, with the assistance of certain insurance statistics relating to the rate of accidental death among clerical workers and statistics compiled by the United States Census Bureau.

The rate of retirement of employees after attainment of age sixty is a rate adopted for clerks on the basis of the experience of New York City clerks and the experience of certain industrial employees.

Rates Applicable to Laborers. The data available in regard to rates of separation from active service to be expected among laborers covered the experience of laboring employees of New York City, which included data in regard to both skilled laborers, mechanics, and unskilled laborers; the experience of 'wages' men (in distinction to salaried and professional men) who are members of the superannuation fund of the government services of New South Wales and the experience of a comparatively large number of skilled laborers in industrial employment.

The select rates of withdrawal adopted were those found to obtain among the laborers of New York City. The ultimate rate of withdrawal has been based on the experience of New York City laborers to about age forty-six. From that age it is a lower rate than that found among laborers of New York City, but is a higher rate than that found among laborers employed by certain industrial concerns.

The rate of retirement on account of disability is a rate based upon the experience of New York City laborers. It is a lower rate to about age forty than the rate based on the experience of laborers in New South Wales; but increases more rapidly than the latter rate after age forty. To about age forty-eight it is a higher rate than that found among certain laborers in industrial employment, but after that age is exceeded by the rate based upon the experience of such workers.

A division of the rate of disability was required into a rate occurring through causes connected with the performance of duty and through other causes. On account of absence of reliable data from which to derive these rates, it has seemed advisable to assume that a flat percentage of the total cases of disability occurred in the performance of duty. A percentage of two and one-half has been adopted in the same manner as was the corresponding percentage for clerks.

The rate of death adopted for laborers is based upon the experience of laborers of New York City. It is a higher rate than that found among certain industrial laborers and also higher than that used for laborers in the government service of New South Wales. The rate of death was divided into a rate of death due to causes connected with the performance of duty and to other causes, with the assistance of certain insurance statistics relating to the rate of accidental death among laborers and statistics compiled by the United States Census Bureau.

The rate of retirement of employees after attainment of age sixty, is a rate adopted for laborers on the basis of the experience of New York City laborers and the experience of certain industrial employees.

Pensioners Mortality Rates

The rates of mortality adopted for pensioners are derived from the experience of New York City clerks and laborers. The following table gives these rates:

TABLE III

Rates of Mortality Among Pensioners

AGE	DISABILITY		SERVICE		AGE	DISABILITY		SERVICE	
	Clerks	Laborers	Clerks	Laborers		Clerks	Laborers	Clerks	Laborers
20	.1069	.2013			63	.1103	.1224	.0338	.0345
21	.1064	.2011			64	.1106	.1245	.0304	.0374
22	.1061	.2009			65	.1124	.1264	.0391	.0406
23	.1056	.2006			66	.1131	.1307	.0421	.0442
24	.1050	.2002			67	.1147	.1339	.0454	.0480
25	.1043	.1998			68	.1159	.1397	.0490	.0522
26	.1036	.1992			69	.1174	.1418	.0529	.0567
27	.1024	.1986			70	.1190	.1472	.0572	.0617
28	.1015	.1979			71	.1205	.1531	.0619	.0672
29	.1002	.1971			72	.1220	.1593	.0670	.0731
30	.0989	.1961			73	.1249	.1675	.0726	.0796
31	.0977	.1949			74	.1274	.1723	.0786	.0865
32	.0960	.1936			75	.1301	.1818	.0852	.0942
33	.0942	.1921			76	.1327	.1910	.0924	.1025
34	.0929	.1904			77	.1358	.2002	.1002	.1115
35	.0914	.1884			78	.1393	.2106	.1087	.1213
36	.0897	.1862			79	.1429	.2218	.1179	.1319
37	.0884	.1837			80	.1474	.2340	.1279	.1434
38	.0870	.1810			81	.1515	.2471	.1387	.1558
39	.0855	.1779			82	.1556	.2610	.1505	.1692
40	.0853	.1747			83	.1618	.2762	.1631	.1838
41	.0848	.1711			84	.1672	.2922	.1768	.1992
42	.0845	.1673			85	.1733	.3098	.1915	.2159
43	.0847	.1633			86	.1800	.3283	.2074	.2340
44	.0850	.1591			87	.1874	.3481	.2244	.2531
45	.0865	.1550			88	.1954	.3691	.2426	.2733
46	.0873	.1506			89	.2038	.3913	.2621	.2957
47	.0885	.1465			90	.2134	.5068	.2830	.3168
48	.0907	.1421			91	.2238		.3051	.3428
49	.0917	.1383			92			.3286	.3690
50	.0932	.1343			93			.3535	.3962
51	.0957	.1309			94			.3797	.4247
52	.0973	.1277			95			.4072	.4544
53	.0990	.1248			96			.4359	.4852
54	.0993	.1224			97			.4659	.5171
55	.1015	.1205			98			.4969	.5498
56	.1030	.1194			99			.5288	.5831
57	.1045	.1182			100			.5556	.6166
58	.1066	.1172			101			.6042	.6400
59	.1069	.1177			102			.6316	
60	.1076	.1177	.0275	.0271	103			.6619	
61	.1083	.1182	.0294	.0293	104			.6953	
62	.1093	.1199	.0315	.0318	105			.7281	

Rates Relating to Dependents

All rates required in order to value the benefits to the dependents of employees dying are based upon the experience derived in regard to dependents in New York City.*

Service and Mortality Tables

Active Service Tables and Salary Scales

The Active Service Tables IV and V have been constructed on the basis of the rates given in Tables 1 and 2, respectively. The salary scales are based upon the rates of salary increases which obtain in comparative experiences with due regard to the actual average salaries paid in New Jersey.

Retirement Tables

The active service tables follow the experience of employees to age sixty. The following tables trace the history of employees from age sixty, when they become eligible to retirement on demand until age seventy, when they are compelled to retire.

* These rates are published in Part II of the Report of New York City Commission on Pensions.

TABLE VI
RETIREMENT TABLE—Laborers

AGE	LIVING	DEATHS	RETIREMENTS
60	100,000	3,300	16,700
61	80,000	2,712	14,640
62	62,648	2,186	12,530
63	47,932	1,716	10,665
64	35,551	1,305	8,888
65	25,358	949	7,100
66	17,309	661	5,496
67	11,152	437	4,015
68	6,700	269	2,747
69	3,684	153	1,731
70	1,800	77	1,723

TABLE VII
RETIREMENT TABLE—Clerks

AGE	LIVING	DEATHS	RETIREMENTS
60	100,000	3,880	11,600
61	84,520	3,381	11,326
62	69,813	2,897	10,682
63	56,234	2,407	9,728
64	44,099	1,940	8,644
65	33,515	1,518	7,457
66	24,540	1,146	6,135
67	17,259	829	4,789
68	11,641	576	3,609
69	7,456	380	2,572
70	4,504	236	4,268

TABLE IV
SELECT ACTIVE SERVICE TABLE AND SALARY SCALE—Clerks

AGE	SALARY SCALE	DISABILITY CASES	DEATHS		WITHDRAWALS				Ultimate	Third Year	Second Year	First Year
			In Performance of Duty	Not in Performance of Duty	First Year	Second Year	Third Year	Ultimate				
16	363	858	18	3,589	88,700	73,544	58,764	50,635				
17	442	824	20	3,602	97,915	77,698	58,564	50,635				
18	525	794	25	3,564	105,576	77,698	58,564	50,635				
19	609	766	38	3,440	109,877	78,328	56,949	50,635				
20	695	742	97	3,270	112,654	77,513	54,436	50,635				
21	776	725	107	3,135	112,932	75,268	51,848	50,635				
22	855	671	117	3,027	111,799	72,931	48,744	50,635				
23	929	650	130	2,883	109,191	69,738	45,495	50,635				
24	997	629	141	2,770	106,019	66,195	42,262	50,635				
25	1,059	583	150	2,691	102,337	62,336	39,078	50,635				
26	1,114	565	159	2,599	98,052	58,225	36,152	50,635				
27	1,164	554	169	2,507	93,232	54,181	33,248	50,635				
28	1,209	543	179	2,413	88,300	50,403	30,233	50,635				
29	1,250	505	191	2,342	83,372	46,523	27,500	50,635				
30	1,288	502	168	2,278	78,201	42,677	24,955	50,635				
31	1,322	499	156	2,212	72,985	39,114	22,458	50,635				
32	1,356	499	152	2,140	67,854	35,634	20,206	50,635				
33	1,387	486	149	2,081	62,930	32,307	18,153	50,635				
34	1,416	479	148	2,014	58,023	29,107	16,257	50,635				
35	1,445	470	148	1,953	53,241	26,126	14,479	50,635				
36	1,470	462	143	1,913	48,826	23,442	12,951	50,635				
37	1,495	458	135	1,872	44,491	20,900	11,581	50,635				
38	1,519	455	133	1,851	40,551	18,685	10,331	50,635				
39	1,542	452	127	1,829	35,993	16,751	9,297	50,635				
40	1,563	459	119	1,816	33,182	14,946	8,304	50,635				
41	1,584	464	112	1,819		13,338	7,507	50,635				
42	1,604	460	91	1,847				50,635				
43	1,624	486	86	1,856				50,635				
44	1,642	488	81	1,888				50,635				
45	1,660	501	77	1,929				50,635				
46	1,676	525	61	1,991				50,635				
47	1,691	534	58	2,054				50,635				
48	1,706	551	55	2,125				50,635				
49	1,720	564	42	2,244				50,635				
50	1,734	586	30	2,502				50,635				
51	1,746	593	28	2,526				50,635				
52	1,759	617	27	2,506				50,635				
53	1,778	638	25	2,482				50,635				
54	1,787	698	16	2,487				50,635				
55	1,794	728	15	2,461				50,635				
56	1,801	774	6	2,424				50,635				
57	1,807	832	6	2,397				50,635				
58	1,812	917	6	2,350				50,635				
59	1,816	1,024	6	2,317				50,635				
60				2,269				50,635				

TABLE V
SELECT ACTIVE SERVICE TABLE AND SALARY SCALE—Laborers

AGE	LIVING			WITHDRAWALS			DEATHS		DISABILITY CASES	SALARY SCALE	AGE
	First Year	Second Year	Third Year	Ultimate	First Year	Second Year	Third Year	Ultimate			
16	1,000,000	836,402	756,139	704,631	158,600	75,359	46,730	627	3,766	605	167
17	950,148	789,135	711,204	660,908	156,109	73,153	45,659	609	3,653	642	196
18	899,770	742,841	667,679	618,676	152,151	70,570	44,464	588	3,524	666	226
19	848,435	696,679	624,886	578,289	147,119	67,299	43,814	564	3,382	691	256
20	798,090	652,494	584,325	539,960	141,102	63,814	42,242	529	3,258	707	285
21	749,188	610,279	545,761	503,820	134,554	60,296	40,143	495	3,143	717	312
22	702,674	570,425	509,605	470,024	128,027	56,700	37,821	466	2,979	733	337
23	658,059	532,856	475,719	438,546	121,983	53,126	35,570	434	2,900	744	359
24	615,561	497,671	444,183	409,396	113,879	49,568	33,253	404	2,766	741	379
25	576,123	465,217	415,102	382,593	106,986	46,243	30,915	374	2,707	743	397
26	538,921	434,702	387,921	357,744	100,347	42,949	28,767	341	2,631	759	414
27	504,386	406,738	363,939	335,059	93,816	39,901	26,379	306	2,571	770	429
28	472,370	381,089	353,939	314,269	87,403	36,966	24,178	274	2,525	776	442
29	442,697	357,527	340,321	295,130	81,368	34,251	22,223	244	2,482	783	454
30	415,065	335,736	319,447	277,514	75,500	31,794	20,445	218	2,496	797	465
31	389,851	315,767	300,070	261,221	70,212	29,524	18,634	196	2,495	811	474
32	365,913	296,932	282,321	246,096	65,059	27,318	17,109	174	2,509	823	482
33	343,671	279,469	265,523	231,938	60,211	25,236	15,486	154	2,512	841	489
34	323,017	263,126	250,192	218,652	55,550	23,366	14,161	136	2,523	855	496
35	303,255	247,518	235,667	206,132	51,644	21,460	12,891	119	2,510	894	502
36	284,753	233,047	221,934	194,285	47,582	19,809	11,652	103	2,482	923	507
37	267,172	219,286	209,088	183,090	43,736	18,179	10,622	88	2,449	958	512
38	250,649	206,314	196,926	172,460	40,154	16,691	9,649	73	2,422	996	516
39	235,113	194,084	185,436	162,361	36,842	15,352	8,790	60	2,360	1,030	519
40	220,299	182,385	174,546	152,765	33,728	14,007	7,994	48	2,318	1,062	522
41			164,187	143,639			7,241	37	2,276	1,104	525
42				134,946				27	2,240	1,145	528
43				126,668				19	2,207	1,189	530
44				118,739				13	2,190	1,231	533
45				111,235				8	2,132	1,274	535
46				104,094				5	2,115	1,318	536
47				97,297				3	2,078	1,354	538
48				90,827				2	2,069	1,379	539
49				84,714				1	2,040	1,405	541
50				78,920				1	2,004	1,450	542
51				73,380				1	1,989	1,499	543
52				68,126				1	1,965	1,559	544
53				63,112				1	1,941	1,642	543
54				58,353				1	1,908	1,710	546
55				53,761				1	1,867	1,798	546
56				49,326				1	1,799	1,881	547
57				45,030				1	1,733	2,001	547
58								1	1,661	2,113	548
59								1	1,569	2,214	548
60								1	1,486	2,342	549

Pensioners' Mortality Table

The following mortality tables have been constructed on the basis of the rates given in Table III:

TABLE VIII
SERVICE PENSIONERS' MORTALITY TABLE

AGE	CLERKS		LABORERS	
	Living	Dying	Living	Dying
60	560,461	15,415	58,059	1,572
61	545,046	16,040	56,487	1,656
62	529,006	16,681	54,831	1,742
63	512,325	17,335	53,089	1,830
64	494,990	17,995	51,259	1,918
65	476,995	18,654	49,341	2,004
66	458,341	19,305	47,337	2,090
67	439,036	19,936	45,247	2,170
68	419,100	20,537	43,077	2,247
69	398,563	21,095	40,830	2,316
70	377,468	21,597	38,514	2,377
71	355,871	22,026	36,137	2,427
72	333,845	22,365	33,710	2,463
73	311,480	22,600	31,247	2,486
74	288,880	22,710	28,761	2,489
75	266,170	22,682	26,272	2,475
76	243,488	22,498	23,797	2,439
77	220,990	22,145	21,358	2,382
78	198,845	21,613	18,976	2,302
79	177,232	20,898	16,674	2,200
80	156,334	19,995	14,474	2,075
81	136,339	18,914	12,399	1,932
82	117,425	17,666	10,467	1,771
83	99,759	16,271	8,696	1,598
84	83,488	14,759	7,098	1,414
85	68,729	13,162	5,684	1,227
86	55,567	11,523	4,457	1,043
87	44,044	9,882	3,414	864
88	34,162	8,289	2,550	697
89	25,873	6,782	1,853	548
90	19,091	5,402	1,305	416
91	13,689	4,177	889	305
92	9,512	3,125	584	216
93	6,387	2,258	368	146
94	4,129	1,568	222	94
95	2,561	1,043	128	58
96	1,518	661	70	34
97	857	400	35	18
98	457	227	17	9
99	230	132	8	5
100	108	60	3	2
101	48	29	1	1
102	19	12		
103	7	5		
104	2	1		
105	1	1		

Present Active Service Roll

In order to value the cost of providing the benefits of this system to the employees now in service, a distribution of the number and salaries of such employees by age and length of service was required. It was impossible to obtain this information from existing records, and it was not practicable to collect the data as a basis for this estimate. The total * number and salaries of each group, as of January 1, 1918, were available by sex. By use of the age distributions of similar occupational groups in New York City, the number of employees were distributed by age. A distribution of salaries by age was then made by the use of the salary scales. The number and salaries at each age were further divided by years of service by means of the distribution of number and salaries of employees by length of service in New York City. The results of these distributions are presented in summary form in the following tables.

* Exclusive of appointed or elected employees.

TABLE IX

DISABILITY PENSIONERS' MORTALITY TABLE

AGE	CLERKS		LABORERS	
	Living	Dying	Living	Dying
20	13,550	1,448	2,063,167	415,332
21	12,102	1,288	1,647,835	331,386
22	10,814	1,147	1,316,449	264,418
23	9,667	1,021	1,052,031	210,992
24	8,646	908	841,039	168,370
25	7,738	807	672,669	134,374
26	6,931	718	538,295	107,252
27	6,213	636	431,043	85,620
28	5,577	566	345,423	68,364
29	5,011	502	277,059	54,600
30	4,509	446	222,459	43,620
31	4,063	397	178,839	34,863
32	3,666	352	143,976	27,876
33	3,314	312	116,100	22,303
34	3,002	279	93,797	17,855
35	2,723	249	75,942	14,308
36	2,474	222	61,634	11,474
37	2,252	199	50,160	9,214
38	2,053	181	40,946	7,410
39	1,872	160	33,536	5,966
40	1,712	146	27,570	4,815
41	1,566	134	22,755	3,893
42	1,432	121	18,862	3,155
43	1,311	111	15,707	2,565
44	1,200	102	13,142	2,091
45	1,098	95	11,051	1,713
46	1,003	88	9,333	1,406
47	915	81	7,932	1,162
48	834	75	6,770	962
49	759	70	5,803	803
50	689	64	5,005	672
51	625	60	4,333	567
52	565	55	3,766	481
53	510	51	3,285	410
54	459	45	2,875	352
55	414	43	2,523	304
56	371	38	2,219	265
57	333	35	1,954	231
58	298	31	1,723	202
59	267	29	1,521	179
60	238	26	1,342	158
61	212	23	1,184	140
62	189	20	1,044	125
63	169	19	919	113
64	150	16	806	100
65	134	15	706	89
66	119	14	617	81
67	105	12	536	72
68	93	11	464	64
69	82	9	400	57
70	73	9	343	50
71	64	8	293	45
72	56	7	248	40
73	49	6	208	34
74	43	5	174	30
75	38	5	144	27
76	33	5	117	22
77	28	3	95	19
78	25	4	76	16
79	21	3	60	13
80	18	3	47	11
81	15	2	36	9
82	13	2	27	7
83	11	2	20	6
84	9	1	14	4
85	8	2	10	3
86	6	1	7	2
87	5	1	5	2
88	4	1	3	1
89	3	1	2	1
90	2	1	1	1
91	1	1	0	0

TABLE X
THE NUMBER AND SALARIES OF EMPLOYEES
CLASSIFIED BY AGE—Clerks

AGE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES		SERVICE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES	
	Number	Salaries	Number	Salaries	Number	Salaries		Number	Salaries	Number	Salaries	Number	Salaries
Younger than 18	9	\$ 2,626	9	\$ 2,626	16	\$ 8,495	Less than 1 year	116	\$103,625	67	\$69,202	49	\$34,423
18 to 22	59	38,372	43	29,877	16	8,495	1 year and less than 2	103	100,354	62	69,503	41	39,851
23 to 27	125	110,441	68	72,006	57	38,435	2 years and less than 3	86	86,068	46	53,671	40	37,397
28 to 32	152	159,929	81	104,288	71	55,641	3 years and less than 5	120	126,997	71	90,061	49	36,936
33 to 37	127	151,927	72	104,007	55	47,920	5 years and less than 10	189	237,601	124	177,863	65	59,738
38 to 42	101	133,105	61	95,366	40	37,739	10 years and less than 15	85	125,184	59	96,875	26	28,309
43 to 47	72	103,709	48	79,677	24	24,032	15 years and less than 20	63	112,968	52	99,410	11	13,558
48 to 52	55	85,068	40	60,371	15	15,697	20 years and less than 25	16	27,225	12	25,593	4	1,632
53 to 57	37	60,453	29	51,826	8	8,627	25 years and less than 30	12	17,757	7	14,601	5	3,156
58 to 62	23	40,317	21	35,126	2	2,191	30 years and over	4	9,221	4	9,221		
63 to 67	14	24,898	13	23,792	1	1,106							
68 and over	20	36,155	19	35,038	1	1,117							
Total	794	\$947,000	504	\$706,000	290	\$241,000	Total	794	\$947,000	504	\$706,000	290	\$241,000

TABLE XI
THE NUMBER AND SALARIES OF EMPLOYEES CLASSIFIED
BY YEARS OF PRIOR SERVICE—Clerks

AGE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES		SERVICE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES	
	Number	Salaries	Number	Salaries	Number	Salaries		Number	Salaries	Number	Salaries	Number	Salaries
Younger than 18	13	\$1,788	13	\$1,788	13	\$1,788	Less than 1 year	148	\$47,543	64	\$27,489	84	\$20,054
18 to 22	68	14,184	63	12,758	5	8,495	1 year and less than 2	117	40,297	49	23,220	68	17,077
23 to 27	106	21,798	37	9,478	69	12,320	2 years and less than 3	123	47,041	66	31,382	57	15,659
28 to 32	126	43,064	70	32,522	56	12,542	3 years and less than 5	142	62,274	93	46,459	49	15,815
33 to 37	169	55,967	87	43,955	82	12,312	5 years and less than 10	379	176,554	259	136,520	120	49,034
38 to 42	179	75,875	105	54,841	74	21,034	10 years and less than 15	161	79,637	114	62,904	47	16,733
43 to 47	169	79,669	98	52,391	71	27,278	15 years and less than 20	119	59,071	66	39,598	53	19,473
48 to 52	160	77,135	97	52,553	63	24,582	20 years and less than 25	31	10,077	17	10,610	14	5,467
53 to 57	138	65,084	87	47,537	51	17,547	25 years and less than 30	17	7,907	8	5,232	9	2,675
58 to 62	97	47,168	67	36,780	30	10,388	30 years and over	8	3,599	5	2,586	3	1,013
63 to 67	54	27,547	43	23,716	11	3,831							
68 and over	58	30,711	51	28,259	7	2,452							
Total	1,245	\$540,000	741	\$386,000	504	\$154,000	Total	1,245	\$540,000	741	\$386,000	504	\$154,000
Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000	Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000

Laborers

AGE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES		SERVICE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES	
	Number	Salaries	Number	Salaries	Number	Salaries		Number	Salaries	Number	Salaries	Number	Salaries
Younger than 18	13	\$1,788	13	\$1,788	13	\$1,788	Less than 1 year	148	\$47,543	64	\$27,489	84	\$20,054
18 to 22	68	14,184	63	12,758	5	8,495	1 year and less than 2	117	40,297	49	23,220	68	17,077
23 to 27	106	21,798	37	9,478	69	12,320	2 years and less than 3	123	47,041	66	31,382	57	15,659
28 to 32	126	43,064	70	32,522	56	12,542	3 years and less than 5	142	62,274	93	46,459	49	15,815
33 to 37	169	55,967	87	43,955	82	12,312	5 years and less than 10	379	176,554	259	136,520	120	49,034
38 to 42	179	75,875	105	54,841	74	21,034	10 years and less than 15	161	79,637	114	62,904	47	16,733
43 to 47	169	79,669	98	52,391	71	27,278	15 years and less than 20	119	59,071	66	39,598	53	19,473
48 to 52	160	77,135	97	52,553	63	24,582	20 years and less than 25	31	10,077	17	10,610	14	5,467
53 to 57	138	65,084	87	47,537	51	17,547	25 years and less than 30	17	7,907	8	5,232	9	2,675
58 to 62	97	47,168	67	36,780	30	10,388	30 years and over	8	3,599	5	2,586	3	1,013
63 to 67	54	27,547	43	23,716	11	3,831							
68 and over	58	30,711	51	28,259	7	2,452							
Total	1,245	\$540,000	741	\$386,000	504	\$154,000	Total	1,245	\$540,000	741	\$386,000	504	\$154,000
Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000	Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000

Laborers

AGE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES		SERVICE GROUP	TOTAL		MALE EMPLOYEES		FEMALE EMPLOYEES	
	Number	Salaries	Number	Salaries	Number	Salaries		Number	Salaries	Number	Salaries	Number	Salaries
Younger than 18	13	\$1,788	13	\$1,788	13	\$1,788	Less than 1 year	148	\$47,543	64	\$27,489	84	\$20,054
18 to 22	68	14,184	63	12,758	5	8,495	1 year and less than 2	117	40,297	49	23,220	68	17,077
23 to 27	106	21,798	37	9,478	69	12,320	2 years and less than 3	123	47,041	66	31,382	57	15,659
28 to 32	126	43,064	70	32,522	56	12,542	3 years and less than 5	142	62,274	93	46,459	49	15,815
33 to 37	169	55,967	87	43,955	82	12,312	5 years and less than 10	379	176,554	259	136,520	120	49,034
38 to 42	179	75,875	105	54,841	74	21,034	10 years and less than 15	161	79,637	114	62,904	47	16,733
43 to 47	169	79,669	98	52,391	71	27,278	15 years and less than 20	119	59,071	66	39,598	53	19,473
48 to 52	160	77,135	97	52,553	63	24,582	20 years and less than 25	31	10,077	17	10,610	14	5,467
53 to 57	138	65,084	87	47,537	51	17,547	25 years and less than 30	17	7,907	8	5,232	9	2,675
58 to 62	97	47,168	67	36,780	30	10,388	30 years and over	8	3,599	5	2,586	3	1,013
63 to 67	54	27,547	43	23,716	11	3,831							
68 and over	58	30,711	51	28,259	7	2,452							
Total	1,245	\$540,000	741	\$386,000	504	\$154,000	Total	1,245	\$540,000	741	\$386,000	504	\$154,000
Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000	Grand total	2,039	\$1,487,000	1,245	\$830,000	794	\$305,000

Pensioners' Annuity Values

The following table gives the annuity values based upon the pensioners' mortality table.

TABLE XII
ANNUITY VALUES APPLICABLE TO PENSIONERS

AGE	DISABILITY		AGE	SERVICE	
	Clerks	Laborers		Clerks	Laborers
20	6.82	3.84	60	10.38	10.15
21	6.86	3.85	61	10.07	9.81
22	6.90	3.86	62	9.75	9.48
23	6.94	3.87	63	9.44	9.14
24	6.99	3.89	64	9.12	8.81
25	7.04	3.91	65	8.80	8.48
26	7.10	3.93	66	8.49	8.15
27	7.16	3.95	67	8.17	7.82
28	7.21	3.98	68	7.86	7.50
29	7.27	4.01	69	7.55	7.18
30	7.32	4.05	70	7.24	6.87
31	7.37	4.09	71	6.93	6.56
32	7.42	4.14	72	6.63	6.25
33	7.46	4.19	73	6.34	5.95
34	7.50	4.25	74	6.04	5.66
35	7.52	4.31	75	5.76	5.38
36	7.54	4.39	76	5.48	5.10
37	7.54	4.47	77	5.20	4.83
38	7.53	4.55	78	4.94	4.57
39	7.52	4.65	79	4.68	4.31
40	7.48	4.75	80	4.43	4.07
41	7.44	4.85	81	4.18	3.83
42	7.39	4.96	82	3.95	3.61
43	7.33	5.07	83	3.72	3.39
44	7.26	5.18	84	3.50	3.18
45	7.18	5.29	85	3.29	2.98
46	7.11	5.40	86	3.09	2.79
47	7.03	5.49	87	2.90	2.61
48	6.95	5.59	88	2.71	2.44
49	6.88	5.67	89	2.54	2.28
50	6.80	5.73	90	2.37	2.13
51	6.73	5.79	91	2.22	1.98
52	6.66	5.83	92	2.07	1.85
53	6.60	5.85	93	1.93	1.72
54	6.55	5.86	94	1.80	1.60
55	6.48	5.85	95	1.67	1.48
56	6.43	5.83	96	1.56	1.37
57	6.38	5.79	97	1.45	1.26
58	6.32	5.73	98	1.35	1.15
59	6.27	5.67	99	1.25	1.00
60	6.23	5.59			
61	6.17	5.51			
62	6.11	5.40			
63	6.06	5.29			
64	5.99	5.18			
65	5.93	5.06			
66	5.86	4.93			
67	5.78	4.80			
68	5.71	4.66			
69	5.63	4.53			

Employees' Rates of Contribution

Under the provisions of the proposed bill, employees will contribute according to the following rates of contribution, expressed as percentages of their salary. The rates are applicable to both present employees and new entrants. An employee on entering the system commences to contribute at the rate shown for his age at that time and he continues at this rate until he retires or attains age sixty and discontinues contributions by his own election.

TABLE XIV
RATES OF CONTRIBUTION AS PERCENTAGES
OF SALARY PAYABLE BY EMPLOYEES

AGE	CLERKS		LABORERS	
	Male	Female	Male	Female
20	4.06	4.35	3.53	3.65
21	4.06	4.37	3.54	3.67
22	4.07	4.40	3.57	3.71
23	4.08	4.45	3.61	3.76
24	4.08	4.49	3.65	3.81
25	4.16	4.54	3.70	3.86
26	4.21	4.60	3.75	3.92
27	4.25	4.65	3.81	3.98
28	4.29	4.69	3.86	4.03
29	4.34	4.76	3.92	4.10
30	4.40	4.82	3.99	4.18
31	4.46	4.89	4.07	4.26
32	4.53	4.96	4.15	4.34
33	4.60	5.04	4.23	4.42
34	4.67	5.12	4.31	4.51
35	4.74	5.20	4.40	4.60
36	4.79	5.25	4.46	4.67
37	4.87	5.34	4.55	4.76
38	4.95	5.51	4.65	4.86
39	5.03	5.52	4.75	4.96
40	5.12	5.62	4.85	5.07
41	5.21	5.71	4.95	5.18
42	5.30	5.82	5.06	5.29
43	5.36	5.87	5.12	5.36
44	5.45	5.98	5.23	5.47
45	5.55	6.09	5.35	5.59
46	5.66	6.20	5.46	5.71
47	5.76	6.32	5.58	5.84
48	5.88	6.44	5.71	5.96
49	5.99	6.57	5.84	6.10
50	6.03	6.61	5.89	6.15
51	6.15	6.74	6.01	6.28
52	6.27	6.88	6.15	6.42
53	6.40	7.02	6.29	6.57
54	6.54	7.17	6.43	6.72
55	6.64	7.28	6.54	6.83
56	6.77	7.43	6.68	6.97
57	6.88	7.55	6.79	7.00
58	7.02	7.70	6.94	7.25
59	7.15	7.84	7.07	7.38

Rates of Contribution to be Provided by State for New Entrants

The preceding valuation does not take into account the value of benefits to be paid future entrants. According to the provisions of the bill, the state will contribute a certain percentage of the salary of such entrants determined by their age at entrance. The following table gives these percentages, which are lower than the rates shown for the employees because the state does not withdraw its contributions on ac-

count of an employee when he leaves the service, as does the employee; consequently, these amounts left in the fund provide for other employees.

TABLE XV
RATES OF CONTRIBUTION AS PERCENTAGES
OF SALARY TO BE PROVIDED BY STATE
FOR NEW ENTRANTS—*Clerks*

AGE	TOTAL	SERVICE BENEFIT	DISABILITY BENEFIT		DEATH BENEFIT	
			Ordinary	Accidental	To Dependents	To Estate
20	.97	.59	.18	.01	.18	.01
21	1.01	.62	.18	.01	.19	.01
22	1.07	.65	.19	.01	.21	.01
23	1.11	.68	.19	.01	.22	.01
24	1.18	.72	.20	.01	.24	.01
25	1.25	.77	.21	.01	.25	.01
26	1.31	.81	.21	.01	.27	.01
27	1.37	.86	.21	.01	.28	.01
28	1.45	.92	.21	.01	.30	.01
29	1.51	.97	.21	.01	.31	.01
30	1.59	1.04	.21	.01	.32	.01
31	1.66	1.11	.21	.01	.32	.01
32	1.74	1.18	.21	.01	.33	.01
33	1.82	1.25	.21	.02	.33	.01
34	1.91	1.33	.21	.02	.34	.01
35	1.99	1.41	.21	.02	.34	.01
36	2.06	1.49	.20	.02	.34	.01
37	2.13	1.58	.20	.02	.32	.01
38	2.19	1.66	.19	.02	.31	.01
39	2.29	1.77	.18	.02	.31	.01
40	2.36	1.86	.18	.02	.29	.01
41	2.43	1.97	.16	.02	.27	.01
42	2.51	2.08	.15	.02	.25	.01
43	2.60	2.19	.14	.02	.24	.01
44	2.68	2.31	.13	.02	.21	.01
45	2.77	2.42	.11	.03	.20	.01

Laborers

AGE	TOTAL	SERVICE BENEFIT	DISABILITY BENEFIT		DEATH BENEFIT	
			Ordinary	Accidental	To Dependents	To Estate
20	1.77	.42	.27	.03	1.00	.05
21	1.86	.45	.29	.03	1.04	.05
22	2.00	.47	.30	.03	1.15	.05
23	2.14	.50	.32	.03	1.24	.05
24	2.30	.53	.34	.04	1.34	.05
25	2.46	.56	.36	.04	1.45	.05
26	2.62	.60	.37	.04	1.56	.05
27	2.79	.64	.38	.04	1.68	.05
28	2.97	.68	.39	.05	1.80	.05
29	3.14	.72	.40	.05	1.92	.05
30	3.34	.78	.41	.06	2.04	.05
31	3.51	.83	.41	.06	2.16	.05
32	3.70	.89	.42	.06	2.28	.05
33	3.89	.95	.42	.07	2.40	.05
34	4.06	1.01	.43	.07	2.50	.05
35	4.26	1.08	.43	.08	2.62	.05
36	4.42	1.15	.43	.08	2.71	.05
37	4.58	1.23	.42	.09	2.79	.05
38	4.74	1.32	.42	.10	2.85	.05
39	4.88	1.42	.41	.10	2.90	.05
40	4.99	1.51	.40	.11	2.92	.05
41	5.07	1.61	.38	.12	2.91	.05
42	5.13	1.72	.36	.13	2.87	.05
43	5.19	1.85	.34	.14	2.82	.05
44	5.21	1.98	.31	.14	2.74	.05
45	5.24	2.12	.27	.15	2.66	.05