

1971 ACTUARIAL REPORT  
for  
BLOOMINGTON FIRE DEPARTMENT  
RELIEF ASSOCIATION

May 21, 1971

 **FILE COPY**

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Section 1. A Brief Summary of the Census Data

The data on which this actuarial valuation is based is summarized below. Information on each member and beneficiary included in the valuation is presented in Appendix D.

Active Members

Number	79
Aggregate Salary (on Which Retirement Benefits are Based)	\$906,288
Employee Contributions for Past Plan Year	13,827
Prospective Annual Retirement Annuities	529,437

Other Members

	<u>Number</u>	<u>Annual Annuity Payments</u>
Retired Members	17	\$ 62,016
Disabled Members	2	7,296
Widows of Deceased Members	2	5,136
Children of Deceased Members	-	<u>74,448</u>
Deferred Annuitant Members	1	3,648*

\*Prospective Retirement Annuities

Section 2. The Actuarial Valuation

The results of the valuation on December 31, 1970, are shown below.

1.	Accrued Liability	\$3,782,027
2.	Assets	<u>516,377</u>
3.	Unfunded Accrued Liability (Prior Service Deficit)	\$3,265,650
4.	Normal Cost for Current Year	\$ 385,009
5.	Normal Cost as a Level Percentage of Current and Projected Future Participating Payroll	42.482%
6.	Current Participating Payroll Used for Valuation	\$ 906,288

The actuarial assumptions will be found in Appendix A.

Section 3. Contributions

The contributions outlined below are the support rates required on an annual basis to meet the level of funding indicated. The amounts shown are based on the payroll used in the current valuation. The Normal Cost portion has been determined as a level per cent of the payroll used in determining benefits and will fluctuate in dollar amounts in future years as the participating payroll fluctuates. The support rates shown assume payment as of the valuation date.

Contribution to Amortize Unfunded Accrued Liability (Prior Service Deficit)

by 2007

1.	Normal Cost for Current Year	\$385,009
2.	Amortization Payment on Unfunded Accrued Liability (Prior Service Deficit)	<u>143,029</u>
3.	Total Contribution	\$528,038

Section 4. The Preparation of the Report

This report has been prepared in accordance with generally accepted actuarial principles and practices. This actuarial survey was made in accordance with the requirements of Chapter 729 of Minnesota Laws 1967. The usual care has been exercised in making the calculations and presenting the results. The contents of this report are, therefore, believed to be a correct appraisal of the state of affairs of the Plan.

Respectfully submitted,

HEWITT ASSOCIATES



Rodger R. Patrick, ASA

May 21, 1971

APPENDIX A

ACTUARIAL ASSUMPTIONS

Mortality Rates

The mortality rates used are based on the United States Life Table, 1959-61, White Males and White Females. These tables were used for both active and retired members and for survivors.

Withdrawal Rates

The rate of withdrawal of .030 at age 20 decreasing uniformly to zero at age 50 with no withdrawal after that age.

Disability Rates

These rates are based on "Intermediate Rates of Disablement" that were used by the Social Security Administration in their 1962 cost estimating procedures.

Retirement Age

The assumed average retirement age for this fund is age 53.

Salary Scale

A 3% annual increase in the salary on which retirement benefits are based has been assumed.

Interest Rate

Three per cent compounded annually.

Actuarial Method

The Entry Age Normal Cost Method has been used to determine the Unfunded Prior Service Cost. The Normal Cost has been determined as a level percentage of current and future participating payroll on which the retirement benefits are based.

APPENDIX B

SUMMARY OF PLAN PROVISIONS

Requirements for Benefits

<u>Retirement</u>	Twenty years of service and 50 years of age.
<u>Disability</u>	<u>In Line of Duty:</u> None. <u>Not in Line of Duty:</u> None.
<u>Vesting</u>	Twenty years of service. Benefit is deferred to the attainment of age 50.

Amount of Benefit

<u>Retirement</u>	<u>Benefit When Minimum Requirements Are Met:</u> 33-1/3% of the last three years' average pay of a Police Patrolman (escalator).
<u>Disability</u>	<u>In Line of Duty:</u> 33-1/3% of last three years' average salary of a Police Patrolman. <u>Not in Line of Duty:</u> Same as for In Line of Duty.
<u>Vesting</u>	Same as for Retirement benefit.
<u>Widow's Benefit</u>	Twenty-five per cent of last three years' average salary of a Police Patrolman. Maximum family benefit is 33-1/3% of the last three years' average salary of a Police Patrolman.
<u>Children of Deceased Members</u>	Four per cent of the last three years' average salary of a Police Patrolman.

Other Death Benefits

\$500 funeral benefit.



APPENDIX B

SUMMARY OF PLAN PROVISIONS

(Continued)

Salary Basis for Benefits

Last three years' average salary of a Police Patrolman. For the year 1970, this average was \$10,264 per year.

Unit Value

Not applicable.

Member Contribution

\$144 per year payable semi-annually.

APPENDIX C

INCOME OF FUND DURING 1970

Member's Contributions	\$ 13,827.00
Taxes or Public Funds	121,904.64
Other	-
Total Contributions	135,731.64
Investment Income	81,929.19

APPENDIX D  
CENSUS DATA

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT

ACTIVE MEMBERS CURRENT SALARY IS THE SALARY ON WHICH  
RETIREMENT BENEFITS ARE BASED

CODE NUMBER	AGE	SERVICE	SEX	CURRENT SALARY	PROSP ANNUAL ANNUITY
2	48	23	M	11472	4306
12	47	14	M	11472	4435
17	47	17	M	11472	4435
3	46	12	M	11472	4569
18	45	11	M	11472	4707
10	44	10	M	11472	4847
29	43	9	M	11472	4993
4	43	11	M	11472	4993
20	43	11	M	11472	4993
5	42	12	M	11472	5141
8	41	7	M	11472	5297
26	41	9	M	11472	5297
11	40	11	M	11472	5453
19	40	8	M	11472	5453
15	39	11	M	11472	5620
39	39	4	M	11472	5620
22	39	11	M	11472	5620
13	39	11	M	11472	5620
14	39	10	M	11472	5620
23	39	11	M	11472	5620
43	38	3	M	11472	5788
35	38	7	M	11472	5788
33	37	7	M	11472	5962
7	37	2	M	11472	5962

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT

ACTIVE MEMBERS CURRENT SALARY IS THE SALARY ON WHICH  
RETIREMENT BENEFITS ARE BASED

CODE NUMBER	AGE	SERVICE	SEX	CURRENT SALARY	PROSP ANNUAL ANNUITY
64	36	2	M	11472	6140
27	35	8	M	11472	6323
28	35	3	M	11472	6323
47	35	3	M	11472	6323
59	35	2	M	11472	6323
65	35	2	M	11472	6323
75	35	0	M	11472	6323
30	34	8	M	11472	6512
51	34	2	M	11472	6512
9	34	9	M	11472	6512
76	34	0	M	11472	6512
48	34	3	M	11472	6512
49	34	3	M	11472	6512
1	33	4	M	11472	6709
25	33	11	M	11472	6709
56	33	2	M	11472	6709
44	32	3	M	11472	6909
21	32	3	M	11472	6909
32	32	7	M	11472	6909
36	32	5	M	11472	6909
45	32	3	M	11472	6909
50	32	2	M	11472	6909
55	32	4	M	11472	6909
58	31	2	M	11472	7117

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT

ACTIVE MEMBERS CURRENT SALARY IS THE SALARY ON WHICH  
RETIREMENT BENEFITS ARE BASED

CODE NUMBER	AGE	SERVICE	SEX	CURRENT SALARY	PROSP ANNUAL ANNUITY
74	31	0	M	11472	7117
6	31	4	M	11472	7117
31	31	1	M	11472	7117
53	31	2	M	11472	7117
38	31	5	M	11472	7117
68	31	1	M	11472	7117
73	30	1	M	11472	7333
72	30	1	M	11472	7333
62	30	2	M	11472	7333
16	30	6	M	11472	7333
54	29	2	M	11472	7552
66	29	1	M	11472	7552
52	29	2	M	11472	7552
46	29	3	M	11472	7552
71	29	1	M	11472	7552
34	29	3	M	11472	7552
70	29	0	M	11472	7552
77	29	0	M	11472	7552
41	28	3	M	11472	7779
60	28	1	M	11472	7779
24	28	2	M	11472	7779
78	27	0	M	11472	8013
42	27	3	M	11472	8013
61	27	2	M	11472	8013

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT

ACTIVE MEMBERS CURRENT SALARY IS THE SALARY ON WHICH  
RETIREMENT BENEFITS ARE BASED

CODE NUMBER	AGE	SERVICE	SEX	CURRENT SALARY	PROSP ANNUAL ANNUITY
69	27	0	M	11472	8013
63	26	2	M	11472	8251
40	25	4	M	11472	8499
37	25	0	M	11472	8499
67	24	1	M	11472	8756
79	24	0	M	11472	8756
57	23	1	M	11472	9015

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT  
TERMINATED MEMBERS WITH DEFERRED VESTED BENEFITS

CODE NUMBER	AGE	TYPE ANNUITY	SEX	ANNUAL ANNUI
I	42	ESCALATOR	M	3648



CENSUS DATA BLOOMINGTON FIRE DEPARTMENT  
RETIRED MEMBERS

CODE NUMBER	AGE	TYPE ANNUITY	SEX	ANNUAL ANNUITY
15	68	ESCALATOR	M	3648
1	65	ESCALATOR	M	3648
12	62	ESCALATOR	M	3648
11	60	ESCALATOR	M	3648
7	59	ESCALATOR	M	3648
5	58	ESCALATOR	M	3648
6	58	ESCALATOR	M	3648
16	56	ESCALATOR	M	3648
8	55	ESCALATOR	M	3648
9	53	ESCALATOR	M	3648
10	53	ESCALATOR	M	3648
13	53	ESCALATOR	M	3648
17	53	ESCALATOR	M	3648
14	52	ESCALATOR	M	3648
2	51	ESCALATOR	M	3648
4	51	ESCALATOR	M	3648
3	50	ESCALATOR	M	3648

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT  
DISABLED MEMBERS

CODE NUMBER	AGE	TYPE ANNUITY	SEX	ANNUAL ANNUITY
1	50	ESCALATOR	M	3648
2	34	ESCALATOR	M	3648

CENSUS DATA BLOOMINGTON FIRE DEPARTMENT  
WIDOWS OF DECEASED MEMBERS

CODE NUMBER	AGE	TYPE ANNUITY	SEX	ANNUAL ANNUITY
1	60	ESCALATOR	F	2568
2	60	ESCALATOR	F	2568