Report of
AN ACTUARIAL VALUATION
December 31, 1980
CITY OF WEST ST. PAUL
POLICE RELIEF ASSOCIATION
West St. Paul, Minnesota

GABRIEL, ROEDER, SMITH & COMPANY

TABLE OF CONTENTS

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April 27, 1981

City of West St. Paul
Police Relief Association
West St. Paul, Minnesota

Submitted in this report are the results of the December 31, 1980 actuarial valuation of the assets, actuarial values, and contribution requirements associated with the benefits provided by the City of West St. Paul Police Relief Association.

The valuation results contained in Section A provide the actuarial information needed to determine the employer's "minimum obligation" effective January 1, 1982. Section A also contains comments regarding the valuation results.

The valuation was based upon information furnished by the association concerning benefits, financial transactions, active members, terminated members, retirants and beneficiaries. Data was checked for internal and year to year consistency but was not otherwise audited by us. This information is summarized in Section B.

A description of the actuarial funding method and the risk experience assumptions used is contained in Section C. The economic risk experience assumptions as well as the actuarial funding method to be used are established by state law.

Information needed to comply with Statement of Financial Accounting Standards 35 is contained in Section D.

The actuarial valuation was prepared using generally accepted actuarial principles and practices based upon the methods, assumptions, summary of plan provisions and the member and financial data described in this report.

Respectfully submitted,

Robert M. O'Keefe

Gary W. Findlay

SECTION A

RESULTS OF THE VALUATION

COMMENTS

Recent State Legislation

Legislation enacted in 1980 by the State of Minnesota resulted in significant changes effecting every Minnesota local police and salaried firefighters relief association. These changes can be briefly summarized as follows:

1. All local relief associations were required to phase out by placing all police and fire employees hired after June 15, 1980 into the Minnesota PERA - Police and Fire Fund unless the respective city elected to retain the local fund. (See Appendix I regarding closed plan funding.)
2. All local relief associations (regardless of whether they phase out or not) must amortize (fund) their unfunded accrued liability by December 31, 2010.
3. All cities with local relief associations which did phase out and which comply with the Financial Guidelines Act are entitled to participate in a state amortization aid program.
4. All current active members, of local relief associations which did phase out, were eligible to receive a benefit improvement.
5. Active member contributions are to be 8.0% in 1982 and later unless a higher rate is otherwise specified.

Funding Method Modification

The funding method used in preparing this valuation was the same as was used in your previous report, with the following exception: In the initial report, the cost of disability and death benefits was determined using a one year term cost method. In this report, these costs were determined using the entry age normal cost method. This change was made in order to comply with state law. The effect of this change alone was an increase in the contribution of 1.85% of payroll plus $1,700. This change increased the unfunded accrued liabilities $35,700.

Financing Unfunded Accrued Liabilities

As was mentioned earlier, the 1980 change in the law requires that the unfunded accrued liability of each relief association be funded by December 31, 2010. (See Appendix II for a description of unfunded accrued liabilities.) The previous requirement for your plan was for payment of only the interest on the unfunded accrued liability. The effect of this change alone was an increase in the contribution of $14,900.

Benefit Improvements

This valuation reflected the adoption of a post-retirement escalator for current and future retired members. Benefits are increased each year after retirement with the increase in base pay but not in excess of 3.5%. The increase in the contribution was 4.50% of payroll plus $19,900. This change increased the unfunded accrued liabilities $407,000.

WEST ST. PAUL POLICE RELIEF ASSOCIATION

CONTRIBUTION RATE TO PROVIDE BENEFITS

Member portion & Employer portion

Effective January 1, 1982

Contributions for	If Paid Equally Throughout Year % of Active Payroll for 1982	+	U.A.L Dollars
Normal cost of annuities:			
Age & service: to members	15.45%		
Age & service: to survivors	3.49		
Disability	1.42		
Death before retirement	3.28		
Refunds of member contributions	0.50		
Total Normal Cost	24.14%		
Amortization of unfunded accrued liabilities (UAL) (29 year level dollar payment)			
Retired lives			$ 0
Active members			61,373
Total			61,373
Total Cost of Benefits	24.14%	+	$61,373
Member contributions	8.00%		
COMPUTED EMPLOYER RATE:			
(a) If Paid Equally Throughout Year	16.14%	+	$61,373
(b) IF PAID AT CALENDAR YEAR END	16.54%	+	$62,889

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Present Actuarial Condition

The Association accrued actuarial assets were in excess of $1,000,000 on December 31, 1980 -- a considerable sum of money if unencumbered and allocated among a small group of persons. This is not the case with Association assets.

The following schedule puts the $1,000,000 into perspective by showing the relationship between accrued assets, accrued liabilities, and the number of persons with actual and potential claims on the Association's assets.

	Accrued Actuarial Assets	Accrued Liabilities	Unfunded Accrued Liabilities	% Funded
Retirants and Beneficiaries				
Retired Members (3)		$ 452,655		
Surviving Spouse (0)		0		
Surviving Children (1)		176		
Total (4)	$ 452,831	$ 452,831	$ 0	100%
Deferred Members (0)		0	0	
Active Members (22)	590,096	1,542,396	952,300	38
Totals	$1,042,927	$1,995,227	$952,300	52%

Accrued liabilities represent the value, computed as of December 31, 1980 of:

(i) retirement allowances likely to be paid the 4 retirants and beneficiaries; and

(ii) the contributions assumed to have been made for the 22 active members from their entry into the plan until December 31, 1980.

To illustrate, the value of retirement allowances likely to be paid the 4 retirants and beneficiaries -- discounted for investment earnings and mortality -- was computed to be $452,831 as of December 31, 1980. This means that if the 4 retirants and beneficiaries live and die according to the assumed mortality and if the $452,831 can be invested to yield an average annual return of 5.0 percent over the remaining lifetimes of the 4 retirants and beneficiaries, then the $452,831 together with investment earnings thereon will just be sufficient to pay the 4 retirants and beneficiaries their allowances for their remaining lifetimes.

With respect to active members, the accrued liability of $1,542,396 represents the amount that would have been accumulated by December 31, 1980 if the normal cost (which is expressed as a level percentage of pay) had been contributed from the date of hire until December 31, 1980 for each of the 22 actives, if these amounts had earned 5.0% interest and if the members in the past had lived, died, withdrawn, retired and received salary increases according to the actuarial assumptions shown in this report.

Historical Funding Ratio Schedule
($ in thousands)

Valuation Date December 31	Accrued Liabilities	Accrued Assets	Percent Funded
1978	$1,108,373	$ 765,617	69%
1980	1,995,227	1,042,927	52

WEST ST. PAUL POLICE RELIEF ASSOCIATION

CONTRIBUTION FOR CALENDAR YEAR EFFECTIVE JANUARY 1, 1982

For any period of time the percent-of-payroll contribution rate is converted to dollars. The amount of dollars for any calendar year depends upon the results of the last actuarial valuation, and upon the timing of contributions within the year. The later the contribution date, the greater the dollar amount will be.

The municipality's dollar contribution for the year may be determined as follows:

(1)	Estimated covered payroll for 1982	$	
(2)	Total normal cost % from page A-3	24.14%	
(3)	Total normal cost (Line 1 times line 2)		$
(4)	Amortization payment on UAL from page A-3		61,373
(5)	Total contributions required (Line 3 plus line 4)		
(6)	Employee contributions (Line 1 times 8%)	$	
(7)	State amortization aid based on 12/31/78 UAL of $342,756	5,158	
(8)	Estimated insurance premium aid		
(9)	Total of line 6 plus line 7 plus line 8		
(10)	Employer's Minimum Obligation if payment is made in equal installments throughout the year. (Line 5 minus line 9)		$
(11)	EMPLOYER'S MINIMUM OBIIGATION IF PAYMENT IS MADE AT YEAR END (Line 10 times 1.0247)		$

SECTION B

VALUATION DATA

AND

SUMMARY OF BENEFIT PROVISIONS

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Retirants and Beneficiaries December 31, 1980

By Type of Annuity Being Paid

Type of Annuity Being Paid	No.	Monthly Amounts	Computed Accrued Liabilities
Retirants receiving:			
Age & Service	3	$2,128.63	$452,655
Disability	0	0	0
Totals	3	2,128.63	452,655
Beneficiaries receiving:			
Spouse	0	0	0
Child	1	15.00	176
Totals	1	15.00	176
Deferred Annuity	0	0	0
Totals	4	$2,143.63	$452,831

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Retirants and Beneficiaries December 31, 1980

By Attained Ages

Attained Ages	Number: Age & Service Retirants	Disability	Death Before Retirement
Under 20			1
55-59	1		
65-69	2		
Totals	3		1

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Retirants and Beneficiaries Added to and Removed from Rolls

Comparative Statement

Valuation Date December 31	No. Added to Rolls	No. Removed from Rolls	Rolls End of Year		% Incr. in Annual Allowances	Average Allowances	Discounted Value of Allowances	
			No.	Annual Allowances			Total	Average
1978			3	$ 4,800		$1,600	$ 50,304	$ 16,768
1979	1	1	3	14,376	300%	4,792	196,812	65,604
1980	1		4	25,724	34	6,431	452,831	113,208

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Active Members December 31, 1980

Tabulated by Attained Age Groups and Years of Accrued Service

Attained Age Groups	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	Total No.
25-29	3							3
30-34	2							2
35-39			5	1				6
40-44	2		3	1				6
45-49				1	1			2
50-54					1			1
55-59					1		1	2
Totals	7		8	3	3		1	22

Average age: 39.9 years

Average accrued service: 11.9 years

Valuation payroll: $508,200 ($23,100 each)

- -

There are no inactive members entitled to a deferred annuity.

- -

The active member, retirant, and beneficiary data included in the valuation is shown in groups or summaries for reading convenience. Financial calculations were made individually for each covered person.

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Comparative Schedule

Of Active Members

Valuation Date December 31	Active Members	Valuation Payroll	Average Age	Average Service	Average Pay	Average % Incr.
1978	20	$390,240	41.7 yrs.	13.7 yrs.	$19,512	
1979	21	441,000	40.3	12.4	21,000	7.6%
1980	22	508,200	39.9	11.9	23,100	10.0

West St. Paul Police Relief Association

Brief Summary (12/31/80) of Benefit Provisions Evaluated and/or Considered

Age & Service Retirement

Eligibility. 20 years of service and 50 years of age.

Amount. 50% of base pay. For each year over 25 an additional 1/2% of base pay is added to the benefit. (The additional benefit is not subject to the post retirement adjustment provisions.)

Disability Retirement

Eligibility. Disabled to the extent that unable to perform the duties of a police officer before being eligible for age & service retirement.

Amount. $900 per year. (Not paid during period in which worker's compensation payments are being received.)

Member's Death While Active, Or In Deferred Status, Or Retired

Eligibility.

Spouse. Legally married to member at separation from service and residing with member at time of death. Benefits terminate upon remarriage.

Child. Younger than age 18.

Amount.

Spouse. 25% of base pay.

Child. $180 per child per year. Maximum of $360 per year if spouse is receiving benefits. If no spouse is receiving benefits, $900 per year is divided equally among eligible children.

Vested Deferred. 20 years of service and separated before age 50. Payment beginning is deferred to attainment of age 50.

Post Retirement Adjustments ("Escalator"). Retired member's benefits increase by 3 1/2% per year if base pay increases by at least that amount. Each time base pay is changed, surviving spouse benefits are simultaneously changed by the same percent that base pay is changed.

Member Contributions. 8% of base pay. Total member contributions are refundable, without interest, if no monthly benefit is payable upon separation from service.

SECTION C

VALUATION METHODS AND ASSUMPTIONS

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Valuation Methods and Assumptions

The Entry Age Normal Cost method was used to determine the normal cost of all benefits. Disability and death before retirement benefits were valued in previous valuations on a terminal funding basis (one year term cost).

The rate of investment return (interest) used in making the valuation was 5.0 percent per annum, compounded annually.

The mortality table used was the United States Life Table, 1959-61, White Males and White Females.

Sample Ages	Single Life Values: Present Value of $1 Monthly — Level For Life: Men	Level For Life: Women	Increasing 3.5% Yearly: Men	Increasing 3.5% Yearly: Women	Future Life Expectancy (Years): Men	Future Life Expectancy (Years): Women
45	$169.61	$186.84	$263.23	$304.86	27.33	32.52
50	154.85	174.20	229.51	270.80	23.22	28.08
55	139.29	159.62	197.24	236.11	19.45	23.81
60	122.79	142.73	166.26	200.76	16.01	19.69
65	106.31	124.22	137.82	166.16	12.97	15.88
70	89.86	104.31	111.71	132.82	10.29	12.38
75	73.39	83.92	87.66	101.94	7.92	9.28
80	57.54	64.24	66.29	74.77	5.89	6.67

Age & service retirement was assumed to occur at age 58, or attained age if older.

Sample Rates of Separation From Active Employment Before Retirement, Death or Disability

Sample Ages	% of Active Members Separating Within Next Year
20	3.00%
25	2.50
30	2.00
35	1.50
40	1.00
45	0.50
50+	0.00

SECTION D

ACCUMULATED PLAN BENEFITS

WEST ST. PAUL POLICE RELIEF ASSOCIATION

Statement of the Present Value of Accumulated Plan Benefits

December 31, 1980

Actuarial Present Value of Accumulated Plan Benefits	
Vested Benefits:	
Participants currently receiving payments	$ 453,688
Other participants	778,672
Total Vested Benefits	1,232,360
Non-Vested Benefits	343,305
Total Actuarial Present Value of Accumulated Plan Benefits	$1,575,665

The accompanying notes are an integral part of the Statement of the Present Value of Accumulated Plan Benefits.

1. The actuarial present value of accumulated plan benefits presented in this statement was determined using the following assumptions:

   a. Future salary increases prior to retirement were not considered for active members.

   b. Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.

   c. Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, and disability.

   d. Investment return was assumed to be at the rate of 7% compounded annually.

   e. Salary increase related post retirement benefit adjustments were assumed to be at the rate of 5 1/2% compounded annually unless a lower rate is specified by law.

2. The calculation of the actuarial present value of accumulated plan benefits was made because of the requirements of the Financial Accounting Standards Board. Comparison of this value with plan assets is not indicative of the future ability of the plan to pay benefits when due or of their security in a termination situation.

   Calculation of contribution requirements and related benefit value information in a "going concern" environment according to the principles of level cost financing is made by the annual actuarial valuations. The results of the contribution rate calculations cannot be simply replaced by the accumulated plan benefit results. To do so will mislead.

APPENDICES

APPENDIX I

FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES

Promises Made, and Eventually Paid. As each year is completed, the plan in effect hands an "IOU" to each member then acquiring a year of service credit -- the "IOU" says: "The Pension Plan owes you a portion of your retirement benefits, payments to be made in cash, commencing when you qualify for retirement."

The related key financial questions are:

Which generation of taxpayers contributes the money to cover the IOU?

The present taxpayers, who receive the benefit of the member's present year of service?

Or the future taxpayers, who happen to be in town paying taxes at the later time when the IOU becomes a cash demand?

A sound principle of sound retirement plan financing is to have this year's taxpayers contribute the money to cover the IOUs being handed out this year. By following this principle, THE CONTRIBUTION RATE WILL REMAIN APPROXIMATELY LEVEL FROM GENERATION TO GENERATION -- our children and grandchildren will contribute the same percents of active payroll we contribute now.

A PENSION PLAN BECOMES CLOSED

The diagram in this appendix shows two important activities which occur after a plan has been closed to employees hired in the future.

Cash benefits paid continue to increase for decades, while active member payroll begins to decrease to zero.

Funding Method. A funding method is the long-term, planned pattern for employer contributions.

For an open plan (a plan covering future employees), the level-percent-of-active member payroll funding method is the basic funding method.

The level-percent funding method can also be applied to a closed plan. However, the resulting contribution percent usually jumps to a high rate, because the number of covered active members is decreasing.

A preferred funding method for a closed plan consists of: level-percent funding for normal cost (the cost of members' service now being rendered); plus a level dollar contribution for unfunded accrued liabilities over a limited period of years. The period of years must be limited so that plan assets don't become zero while benefits are still payable.

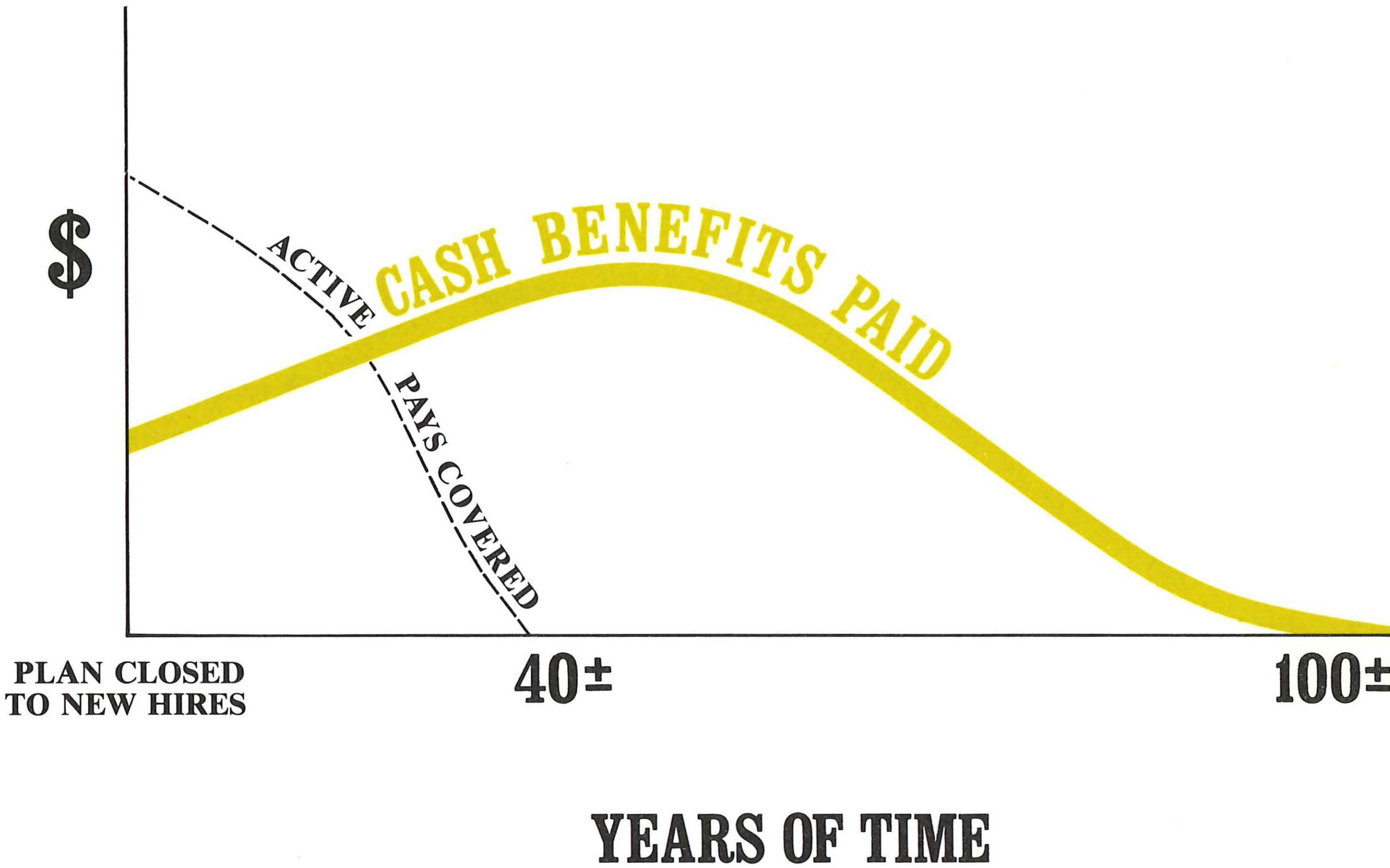
Computing Contributions to Support Plan Benefits. From a given schedule of benefits and from the employee data and asset data furnished him, the actuary determines the contribution rates to support the benefits by means of an actuarial valuation and a funding method

In making an actuarial valuation, assumptions must be made regarding anticipated financial experiences for the next year and for decades in the future. Only the subsequent actual experience of the plan can indicate the degree of accuracy of the assumptions.

Reconciling Differences Between Assumed Experience and Actual Experience. Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions or the skill of the actuary and the millions of calculations he made. The future can be predicted with considerable but not 100% precision, except for inflation which seems to defy reliable prediction.

A well managed plan copes with these continually changing differences by having periodic actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continuing adjustment in financial position.

A CLOSED PENSION PLAN



A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

CASH BENEFITS LINE. After a pension plan becomes closed, the usual pattern is for cash benefits to continue to increase for decades of time. Eventually the cash benefits will peak, and then gradually decrease over more decades of time, ultimately to zero. The last cash benefit is likely to occur a century after the time the plan is closed.

The precise amounts of cash benefits cannot be known now, and must be estimated by assumptions of future experiences in a variety of financial risk areas.

APPENDIX II

MEANING OF UNFUNDED ACCRUED LIABILITIES

Almost every pension plan (public or private) has "unfunded accrued liabilities", so whatever they are, they aren't rare. Since the term is not part of everyday conversation, it needs some definition.

"Accrued liabilities" are the present value $ of plan promises to pay benefits in the future based upon service already rendered - - - a liability has been established ("accrued") because the service has been rendered, but the resulting monthly cash benefit may not be payable until years in the future. Accrued liabilities $ are the result of complex mathematical calculations, which are made by the plan's actuary (which is the name given to the specialist who makes such calculations).

If "accrued liabilities" at any time exceed the plan's accrued assets (cash & investments), the difference is "unfunded accrued liabilities". This is the common condition. If the plan's assets equalled the plan's "accrued liabilities", the plan would be termed "fully funded". This is a rare condition.

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Each time a plan adds a new benefit which applies to service already rendered, an "accrued liability" is created, which is also an "unfunded accrued liability" because the plan can't print instant cash to cover the accrued liability. Payment for such unfunded accrued liabilities is spread over a period of years, commonly in the 20-40 year range.

Unfunded accrued liabilities can occur in another way: If actual financial experience is less favorable than assumed financial experience, the difference is added to unfunded accrued liabilities. In plans where plan benefits are directly related to an employee's pay near time of retirement (a common plan provision) rather than his average pay throughout his working career, unfunded accrued liabilities have been increasing in recent years because unexpected rates of pay increase have created additional accrued liabilities which could not be matched by reasonable investment results. Some of these unexpected pay increases are the direct result of inflation, which is a very destructive force on financial stability.

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The existence of unfunded accrued liabilities is not bad, then (any more than a mortgage on your house is "bad"), but the changes from year to year in amount of unfunded accrued liabilities are important - - - "bad" or "good" or somewhere in between.

Nor are unfunded accrued liabilities a bill payable immediately (your food costs are payable immediately), but it is important that policy-makers prevent the amount from becoming unreasonably high and it is vital that your plan have a sound method for making payments toward them so that they are controlled.

The existence of large amounts of unfunded accrued liabilities indicates that total contributions in past years were less than level - - - an almost certain history if retired life liabilities are not fully funded now.