SPECIAL FUND

December 31, 2003 Actuarial Valuation

April, 2004

December 31, 2003 Actuarial Valuation

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Introduction

Purpose

This report presents the results of the December 31, 2003 valuation for the Minneapolis Police Relief Association. Its primary purposes are:

- to determine the funded status as of December 31, 2003,
- to determine the normal cost for 2003 and the required amortization payment, and
- to present information required to be disclosed under Governmental Accounting Standards Board Statement No. 25 (GASB 25) as of December 31, 2003.

Sources of data

The Relief Association supplied December 31, 2003 data for all active and inactive members, including unit values and historical salary increase rates. The Relief Association has also provided asset information regarding the special fund including historical rates of return. We have relied on this data in preparing this report.

Changes from the previous valuation

The prior actuarial valuation of the plan was prepared as of December 31, 2002. The actuarial assumptions and methods used to prepare this report are the same as those used in the 2002 report. A unit value of 80.85, (77.74 effective as of January 1, 2002 projected at 4%) was used for the 2002 valuation. The unit value of 83.19 is effective January 1, 2004. All future unit values are projected at 4%.

Summary of valuation results

As of December 31, 2003, the funded status of the plan (actuarial value of assets divided by actuarial accrued liabilities), is 64.5% (see page 7). This is a decrease from last year's funded ratio of 66.8%.

The decrease is due in part to a slight increase in actuarial accrued liability, which was mainly a result of mortality less than expected. In a separate report, we have studied recent mortality experience, and developed an improved mortality table. In addition, the actuarial value of assets declined despite an increase in the market value of assets. The actuarial value equals book value plus a three-year average of unrealized gains. A large gain from 2000 dropped out of the average this year causing a net drop in actuarial value.

The actuarial value of assets is intended to reduce year-to-year fluctuations in finded status and contributions. Due to general market conditions over the past four years, many plan sponsors are reviewing the method used in determining the actuarial value of assets, including the possible use

December 31, 2003 Actuarial Valuation

Introduction (continued)

of market value. The actuarial value of assets here showed an actuarial loss of \$15 million, while the market value of assets had an actuarial gain of \$42 million.

The Unfunded Actuarial Accrued Liability (UAAL) has increased from \$153,819,401 last year to \$165,121,464 as of December 31, 2003. This increase in the UAAL, coupled with a decrease in the amortization period to 6 years, produced an increase in the amortization payment from \$25,994,756 to \$31,678,807, or about an \$5.7 million increase.

The current year results are a "snapshot" of the current actuarial status of the plan and are not necessarily indicative of long-term expectations. Nonetheless, it is crucial to the actuarial soundness of the fund that the City and the State fully contribute the required contribution outlined in this actuarial report.

Because the five-year average rate of return on investments did not exceed the five-year average salary increase rate, no "13th Check" will be payable in 2004.

Actuarial certification

We certify that the actuarial valuation has been prepared in accordance with Minnesota Statutes §§356.20-.23, §423B, and §69.77 as they relate to police department relief associations in cities of the first class in general and the Minneapolis Police Relief Association in particular.

Respectfully submitted,

Mark D. Meyer, FSA, MAAA

Mark Meyer

Consulting Actuary

Paul D. Krueger, JD, EA Consulting Actuary

December 31, 2003 Actuarial Valuation

Summary of Results

A. Plan participant data	December 31, 2002	December 31, 2003
1. Number of participants		
a. Active employees	53	24
b. Terminated vested employees	3	0
c. Retirees	674	689
d. Disability	0	0
e. Surviving spouses	248	244
f. Surviving children	<u>6</u>	<u>2</u>
g. Total	984	959
B. Normal costs	2002 Plan Year	2003 Plan Year
1. Total normal cost		
a. Amount	\$852,946	\$367,974
b. Percentage of active payroll	21.56%	19.78%
2. Employer normal cost		
a. Amount	536,512	219,145
b. Percentage of active payroll	13.56%	11.78%
C. Amortization payments		
1. Unfunded actuarial accrued liability	\$153,819,401	\$165,121,464
2. Amortization payment	25,994,756	31,678,807
D. Value of plan assets	December 31, 2002	December 31, 2003
1. Market value	\$277,143,300	\$323,467,992
2. Actuarial value (for calculating contributions)	309,667,154	300,154,422
E. Benefit liabilities		
1. Present value of future benefits	\$464,559,963	\$465,848,322
2. Actuarial accrued liability	463,486,555	465,275,886
F. Funded status		
1. Market value of assets as a % of liabilities	59.8%	69.5%
2. Actuarial value of assets as a % of liabilities	66.8%	64.5%

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Funding Basis

Actuarial Value of Assets

A. Average unrealized gain

Year Ending December 31:	Market <u>Value</u>	Book <u>Value</u>	Unrealized Gain (Market - Book)
2001 2002 2003	332,365,731 277,143,300 323,467,992	329,969,050 313,615,033 305,535,163	2,396,681 (36,471,733) 17,932,829
		Average:	(\$5,380,741)

B. Book value of assets December 31, 2003

\$305,535,163

C. Excess investment income

1. Salary increases and time-weighted rate of return on assets

Fiscal Year		Salary Increase	Asset Return
1999		13.400%	11.600%
2000		1.498%	-1.641%
2001		9.539%	-3.900%
2002		7.622%	-10.100%
2003		3.884%	22.700%
	Arithmetic average:	7.189%	3.732%

2. Determination of excess investment income

a. Excess of asset return over salary increase	-3.457%
b. Excess minus 2%	-5.457%
c. Lesser of 0.5% or 2.b., times market value (not < 0)	0
d. December 2003 monthly benefits paid	2,740,063
e. Adjustment to assets (lesser of c. or d.)	<u>0</u>

D. Actuarial value of assets December 31, 2003

\$300,154,422

(A. + B. - C.2.e.)

December 31, 2003 Actuarial Valuation

Summary of Member Data

	December 31, 2002	<u>December 31, 2003</u>
A. Active members		
1. Number		
a. Fully vested	53	24
b. Nonvested	<u>0</u>	<u>0</u>
c. Total	53	24
2. Average age	53.7	55.0
3. Average years of service	29.4	30.4
4. Total annual payroll for the year ending on valuation date	\$3,955,411	\$1,860,356
5. Average annual salary	\$74,630	\$77,515
B. Vested terminated members		
1. Number	3	0
2. Total annual deferred benefits	\$113,203	\$0
C. Retirees		
1. Age & service	674	689
2. Disability	0	0
3. Total	674	689
4. Total annual benefits	\$26,075,151	\$27,701,690
5. Average annual benefit	\$38,687	\$40,206
D. Beneficiaries		
1. Spouses	248	244
2. Children	6	2
3. Total	254	246
4. Total annual benefits	\$5,371,136	\$5,492,564
5. Average annual benefit	\$21,146	\$22,327
E. Total number of members (A.1. + B.1. + C.3. + D.3.)	984	959

December 31, 2003 Actuarial Valuation

Summary of Changes in Membership

	Actives	Vested <u>Terminees</u>	Retirees	<u>Beneficiaries</u>	<u>Total</u>
A. Number of members on December 31, 2002	53	3	674	254	984
B. Changes in membership					
1. Retirements	(29)	(3)	32		0
2. Vested terminations					0
3. Active deaths					0
4. Retiree deaths			(17)	8	(9)
5. Beneficiary deaths				(10)	(10)
6. Expiration of surviving child benefits				(4)	(4)
7. Corrections				(2)	(2)
8. Total changes	(29)	(3)	15	(8)	(25)
C. Number of members on December 31, 2003	24	0	689	246	959

December 31, 2003 Actuarial Valuation

Funding Basis

Actuarial Values Used to Determine Contribution

December 31, 2002 December 31, 2003

A. Actuarial present value of projected benefits (the value of all fut	ure benefits	
to be paid to the current group of members)	000 501 510	#10.604.500
1. Active members	\$38,721,710	\$18,684,732
2. Vested terminated members	2,254,770	0
3. Retired members	374,298,700	396,850,011
4. Spouses and children receiving benefits	49,284,783	50,313,579
5. Disabled members receiving benefits	<u>0</u>	<u>0</u>
6. Total present value of projected benefits	464,559,963	465,848,322
B. Actuarial accrued liability (the cost allocated to all prior years)		
1. Active members	\$37,648,302	\$18,112,296
2. Vested terminated members	2,254,770	0
3. Retired members	374,298,700	396,850,011
4. Spouses and children receiving benefits	49,284,783	50,313,579
5. Disabled members receiving benefits	<u>0</u>	0
6. Total actuarial accrued liability	463,486,555	465,275,886
C. Amortization of unfunded actuarial accrued liability		
1. Total actuarial accrued liability (B.6.)	\$463,486,555	\$465,275,886
2. Actuarial value of assets	309,667,154	300,154,422
3. Unfunded actuarial accrued liability (1 2.)	153,819,401	165,121,464
4. Funded status (2. ÷ 1.)	66.8%	64.5%
5. Years left in amortization period	7	6
6. Amortization payment	25,994,756	31,678,807
D. Normal cost (the cost allocated to the current year)		
1. Present value of future normal costs (A.6 B.6.)	\$1,073,408	\$572,436
2. Normal cost as a dollar amount	. , . ,	. . ,
a. Total normal cost	852,946	367,974
b. Statutory adjustment for member contributions	316,433	148,828
c. Employer normal cost (a b.)	536,512	219,145
3. Payroll for year ending on valuation date	3,955,411	1,860,356
4. Normal cost as a percent of active payroll	5,755,711	1,000,550
a. Total normal cost (2.a. ÷ 3.)	21.56%	19.78%
b. Statutory adjustment for member contributions (2.b. ÷ 3.)	8.00%	8.00%
c. Employer normal cost (2.c. ÷ 3.)	13.56%	11.78%
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December 31, 2003 Actuarial Valuation

Funding Basis

Changes in the Unfunded Actuarial Accrued Liability

A. Liability gain or loss for the year ending on December 31, 2003	
1. Expected actuarial accrued liability (AAL)	
a. AAL as of December 31, 2002	\$463,486,555
b. Normal cost as of December 31, 2003 (excluding expenses)	367,974
c. Interest to December 31, 2003 on the AAL and normal cost	27,809,193
d. Benefit payments for the year	(31,855,476)
e. Interest on benefit payments (1/2 year)	(955,664)
f. Expected AAL on December 31, 2003 (sum of a. through e.)	458,852,582
2. Actual AAL on December 31, 2003	
a. Before any assumption or plan changes	465,275,886
b. After assumption changes, but before any plan changes	465,275,886
3. Liability (gain) or loss	
a. Due to plan experience different from that expected (2a 1f.)	6,423,305
b. Due to changes in actuarial assumptions (2b 2a.)	$\underline{0}$
c. Total (a. + b.)	6,423,305
B. Asset gain or loss for the year ending on December 31, 2003	
1. Expected actuarial value of assets	
a. Actuarial value of assets on December 31, 2002	309,667,154
b. Benefit payments and expenses for the year	(32,437,846)
c. Contributions for the year	19,672,667
d. Expected return on assets	<u>18,197,074</u>
e. Expected actuarial value of assets on December 31, 2003 (sum of a. through d.)	315,099,049
2. Actual actuarial value of assets on December 31, 2003	300,154,422
3. Asset (gain) or loss (1e 2.)	14,944,627
C. Changes in the unfunded AAL	
1. Expected unfunded AAL on December 31, 2003	143,753,533
2. Changes	
a. Actuarial (gain) or loss other than change in unit value	22,375,090
b. Change in unit value different from expected	(1,007,158)
c. Changes in actuarial methods and assumptions	0
d. Total change	21,367,931
3. Unfunded AAL on December 31, 2003	165,121,464

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Accounting Basis

Statement of Plan Net Assets

A. Investment assets	<u>Market</u>	Book
Government obligations	\$52,536,438	\$51,279,259
Corporate obligations	25,719,849	24,641,975
Corporate stock	73,664,535	63,092,344
Limited partnerships	938,640	938,640
Equity Collective Fund	50,524,961	49,549,483
Common Stock Index Account	52,712,731	58,314,189
Bond Market Account	16,207,864	11,423,138
International Share Account	43,153,023	38,292,231
Short-term cash equivalents	<u>10,834,603</u>	10,828,556
Total	326,292,644	308,359,815
B. Checking account	21,042	21,042
C. Accrued/payable		
Accrued investment income	821,817	821,817
Accrued contributions	344,203	344,203
Accounts payable	(316,629)	(316,629)
Investment purchase payable	(3,695,085)	(3,695,085)
Total	(2,845,694)	(2,845,694)
D. Total pension assets $(A. + B. + C.)$	\$323,467,992	\$305,535,163

December 31, 2002 December 31, 2003

MINNEAPOLIS POLICE RELIEF ASSOCIATION

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Accounting Basis

Statement of Changes in Plan Net Assets

	,	
A. Additions		
1. Contributions		
a. Employer	\$8,325,895	\$19,420,159
b. Plan members	20,620	3,815
c. Total	8,346,515	19,423,974
2. Investment income	(32,756,618)	59,089,871
3. Unclaimed property	164,024	248,693
4. Proceeds from litigation	<u>140,106</u>	$\underline{0}$
4. Total additions	(24,105,973)	78,762,538
B. Deductions		
1. Benefits paid	\$30,724,261	\$31,855,476
2. Refund of contributions	0	0
3. Expenses	<u>874,230</u>	<u>582,370</u>
4. Total deductions	31,598,491	32,437,846
C. Net increase (A.4 B.4.)	(55,704,464)	46,324,692
D. Net assets held in special fund		
1. Beginning of year	\$332,365,731	\$277,143,300
2. Post closing audit adjustments	482,033	0
3. End of year	\$332,365,731	\$323,467,992

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Accounting Basis

Schedule of Funding Progress

(Dollar amounts in thousands)

	Actuarial	Actuarial	Unfunded			UAAL as a %
As of	Value of	Accrued	AAL	Funded	Covered	of Covered
December 31:	<u>Assets</u>	Liability (AAL)	(UAAL)	<u>Ratio</u>	<u>Payroll</u>	<u>Payroll</u>
1992	\$265,307	\$325,891	\$60,584	81.4%	\$16,913	358.2%
1993	288,942	347,879	58,937	83.1%	16,577	355.5%
1994	280,772	344,087	63,315	81.6%	14,799	427.8%
1995	294,692	358,657	63,965	82.2%	13,938	458.9%
1996	320,686	382,957	62,271	83.7%	13,003	478.9%
1997	362,683	398,728	36,045	91.0%	10,818	333.2%
1998	387,530	414,694	27,164	93.4%	8,857	306.7%
1999	427,122	447,596	20,474	95.4%	7,504	272.8%
2000	391,083	447,086	56,003	87.5%	6,583	850.7%
2001	349,170	464,649	115,479	75.1%	5,238	2204.6%
2002	309,667	463,487	153,820	66.8%	3,955	3889.3%
2003	300,154	465,276	165,122	64.5%	1,860	8877.5%

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Accounting Basis

Schedule of Employer Contributions

	Employer
	Contributions
Year Ended	Paid During
December 31:	the Year
1992	\$8,281,262
1993	8,859,961
1994	6,239,591
1995	8,359,115
1996	5,544,721
1997	7,298,118
1998	6,207,956
1999	3,719,453
2000	4,563,133
2001	3,459,195
2002	8,325,895
2003	19,420,159

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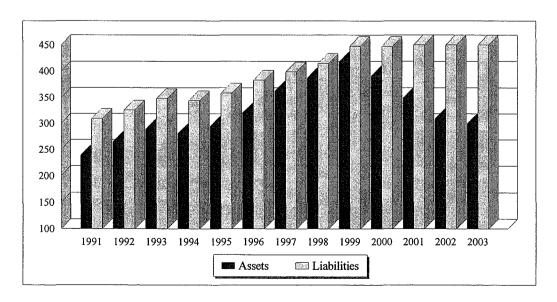
Historical Tables

Historical Funding Ratio Schedule

(Dollar amounts in thousands)

As of December 31:	Actuarial Accrued <u>Liability</u>	Actuarial Value of <u>Assets</u>	Percent Funded
1989	\$290,537	\$211,081	72.7%
1990#	299,151	223,919	74.9%
1991	309,429	238,975	77.2%
1992#	325,891	265,307	81.4%
1993#	347,879	288,942	83.1%
1994#	344,087	280,772	81.6%
1995	358,657	294,692	82.2%
1996	382,957	320,686	83.7%
1997	398,728	362,683	91.0%
1998#	414,694	387,531	93.4%
1999	447,596	418,122	95.4%
2000	447,086	391,083	87.5%
2001	464,649	349,170	75.1%
2002	463,487	309,667	66.8%
2003	465,276	300,154	64.5%

#After change in benefit provisions



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Historical Tables

History of Employer Contributions

Valuation December 31:	Normal Cost as a Percent of Payroll	Amortization of Unfunded Actuarial Liability
1989	24.53%	\$6,727,495
1990	25.61%	6,547,850
1991	25.58%	6,319,193
1992	25.62%	5,615,587
1993	25.57%	5,663,676
1994	25.43%	6,331,000
1995	24.91%	6,683,106
1996	24.83%	6,831,165
1997	24.66%	4,175,261
1998	26.53%	3,344,809
1999	26.50%	2,624,238
2000	24.03%	7,767,618
2001	23.10%	17,543,533
2002	21.56%	25,994,756
2003	19.78%	31,678,807

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Historical Tables

Comparative Schedule of Active Members

	Number of				
Valuation	Active	Projected		Averages	
December 31:	<u>Members</u>	<u>Payroll</u>	Age	<u>Service</u>	Pay
1989	460	\$18,421,160	46.6	21.0	\$40,046
1990	433	17,859,951	47.3	21.8	41,247
1991	410	17,658,290	48.0	22.5	43,069
1992	381	16,913,352	48.5	23.2	44,392
1993	349	16,576,802	49.2	24.0	47,498
1994	307	14,799,242	49.8	24.6	48,206
1995	278	13,937,530	50.3	25.3	50,135
1996	239	13,002,556	50.9	25.9	54,404
1997	188	10,817,520	51.1	26.3	57,540
1998	148	8,856,616	51.5	26.8	59,842
1999*	123	7,804,036	51.3	26.6	63,447
2000	97	6,583,342	51.7	27.2	67,870
2001	73	5,238,480	52.6	28.4	71,760
2002	53	3,955,411	53.7	29.4	74,630
2003	24	1,860,356	55.0	30.4	77,515

^{*}Payroll used to calculate normal cost for calendar year 1999 is \$7,503,881.

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Historical Tables

Comparative Schedule of Inactive Members

Number of Retirees and Beneficiaries			Actual	Projected		
As of	Added	Removed	On Valuation	Annual	Annual	Present Value
December 31:	to Rolls	from Rolls	<u>Date</u>	Benefits	Benefits	of Benefits
1989	40	31	752	\$12,988,156	\$12,007,149	\$163,236,324
1990	33	33	752	13,179,656	12,579,039	169,649,676
1991	30	25	757	12,726,042	13,152,752	175,237,680
1992	55	28	784	14,764,375	14,352,332	192,504,840
1993	45	33	796	15,646,456	15,690,269	212,051,856
1994	56	40	812	18,040,942	17,238,698	226,104,506
1995	35	39	808	17,597,704	17,375,347	235,698,327
1996	51	28	831	20,240,597	19,435,342	263,685,600
1997	82	35	878	25,513,260	21,662,581	298,497,984
1998	65	23	920	24,511,366	24,020,183	330,745,536
1999	34	37	917	26,213,944	26,701,339	368,568,524
2000	34	37	924	30,697,541	28,043,660	385,062,755
2001	41	34	933	30,503,691	30,398,324	413,026,264
2002	35	40	928	30,724,261	31,446,287	423,583,483
2003	40	31	935	31,855,476	33,194,254	447,163,590

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Actuarial Methods and Assumptions

1. Mortality

The UP-1984 Mortality Table set forward 2 years for males and set back 3 years for females.

2. Withdrawal

The rate of withdrawal is 6% at age 20 decreasing uniformly to zero at age 50 with no withdrawal after that age.

3. Disability

Rates varying by age. Sample disability rates are as follows:

<u>Age</u>	<u>Rate</u>
25	0.08%
30	0.08
35	0.08
40	0.20
45	0.26
50	0.49
55	0.89

4. Retirement age

Members are assumed to retire at age 54, or attained age if older.

5. Interest rate

6% compounded annually.

6. Unit value/Salary scale

The unit value of 83.19 as of January 1, 2004 was used in measuring active and inactive liabilities. All future unit values are projected at 4%. Inactive benefits are assumed to increase at the same rate.

7. Actuarial cost method

The Entry Age Normal Cost Method. Under this method, the normal cost for an individual member is the level percentage of pay required, beginning on the date of joining the association, to accumulate the funds needed to pay the member's accrued benefits by their assumed retirement age. The actuarial accrued liability is the accumulated value of these annual normal costs on a given date. The normal cost and accrued liability for the plan is the total of these values for all members.

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Summary of Plan Provisions

1. Normal retirement benefit

Annual benefit of 30.40/80 of base pay for first 19 years of service. An additional 3.60/80 unit is awarded for the 20th year of service. For service years in excess of 20, an additional 1.60/80 is granted; to a maximum of 25 years of service and 42/80 of base pay. "Base pay" for this purpose means the maximum monthly salary of a first class patrolman. Members must be at least age 50 with 5 years of service to receive this benefit.

2. Deferred vested benefit

Annual benefit equal to the accrued normal retirement benefit, deferred to age 50 for members with at least 5 years of service.

3. Disability benefit

Annual benefit of 34/80 of base pay for members no longer able to perform the duties of a policeman due to disability.

4. Surviving spouse's benefit

Annual benefit of 22/80 of base pay for the surviving spouse of an active or retired member.

5. Surviving children's benefit

Annual benefit of 8/80 of base pay for each surviving child of an active or retired member. Benefits continue to age 18, or to age 22 if the child is a full-time student. The total benefit for surviving children and spouse combined is limited to 41/80 of base pay.

6. Member contributions

Members are required to contribute 8% of base pay. After 25 years of service, member contributions are paid to a separate health insurance account. In the event of death without survivorship, member contributions are refundable including 5% interest from the month the contribution is made. Termination after 5 years of service but before benefit eligibility results in a \$500 refund, plus an additional \$100 for each full year of service over 5 years.