# SPECIAL FUND

December 31, 2006 Actuarial Valuation

June 7, 2007

December 31, 2006 Actuarial Valuation of the Special Fund

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December 31, 2006 Actuarial Valuation of the Special Fund

#### Introduction

#### **Purpose**

This report presents the results of the December 31, 2006 valuation for the Minneapolis Firefighters' Relief Association. Its primary purposes are:

- to determine the funded status as of December 31, 2006,
- to determine the normal cost for 2006, and
- to present information required to be disclosed under Governmental Accounting Standards Board Statement No. 25 (GASB 25) as of December 31, 2006.

#### Sources of Data

The Relief Association supplied December 31, 2006 data for all active and inactive members, and asset information, including the market and book value of investments as of December 31, 2006, and the amount of receivables and payables at year end. The Relief Association also provided historical salary increase rate and investment return values used in determining the actuarial value of assets. 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, 2005. The actuarial assumptions and methods used to prepare this report are the same as those used in the 2005 report (see page 19). The most recent unit value established under the union contract is \$82.9674, effective as of October 15, 2006. Since the contract expired December 31, 2006, and the next contract has not yet been settled, we have projected this unit value at an annual rate of 4%, as directed by statute, to January 1, 2007. For projected benefits during 2007 we have used a unit value of \$83.6481. All future unit values are projected at 4% per year. Any additional changes under a future contract will be reflected in future reports.

For the 2005 report, based on the contract and unit values in effect at that time, we projected a unit value of \$82.5862 during 2006, and assuming 4% annual increases, a unit value of \$85.8896 for 2007. Since the projected unit value for 2007 based on this year's report is less (\$83.6481 instead of \$85.8896), the plan's actuarial liabilities are less than expected - an actuarial "gain" of \$8.1 million (see page 10, item A.3.b.)

#### Summary of Valuation Results

As of December 31, 2006, the funded status of the plan (actuarial accrued liabilities divided by the actuarial value of assets) is 87.5%, up from 86.2% on December 31, 2005. This improvement was largely due to the actuarial "gain" described above, and overcame a drop in the actuarial value of assets. Although the market value of assets increased from \$253,180,944 to \$263,951,959, with an investment return for the year of 12.46%, the *actuarial* value of assets declined from \$269,425,963 to \$263,275,562. The decline is a result of the smoothing method dictated by statute (see page 4).

December 31, 2006 Actuarial Valuation of the Special Fund

## **Introduction (continued)**

Because of favorable investment return in recent years - averaging 7.749% over the past 5 years - compared with recent pay increases, a post retirement benefit is payable in 2007 (see page 4, section C.). Based on the average investment return for the past 4 years - about 12.1% - it appears likely that a post retirement benefit will be payable in 2008.

## Actuarial Certification

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

Respectfully submitted,

Mark D. Meyer, FSA, MAAA

Mark Meye

**Consulting Actuary** 

Paul D. Krueger, JD, EA Consulting Actuary

Paul D. Knieger/Emp

# **Summary of Results**

A. Plan participant data	December 31, 2005	December 31, 2006
1. Number of participants	27	21
a. Active employees	37	31
b. Terminated vested employees c. Retirees	385	374
	50	.51
d. Disability	164	167
e. Surviving spouses		
f. Surviving children	2	0
g. Total	638	623
B. Normal costs	2005 Plan Year	2006 Plan Year
1. Total normal cost	•	
a. Amount	\$655,070	\$547,006
b. Percentage of active payroll	23.22%	22.85%
2. Employer normal cost		
a. Amount	429,420	355,516
b. Percentage of active payroll	15.22%	14.85%
C. Amortization payments	•	•
1. Unfunded actuarial accrued liability	\$43,137,048	\$37,649,951
2. Amortization payment	3,917,905	4,195,292
2. Amortization payment	3,917,903	4,193,292
D. Value of plan assets		December 31, 2006
1. Market value	253,180,944	263,951,959
2. Actuarial value (for calculating contributions)	269,425,963	263,275,562
E. Benefit liabilities		•
1. Present value of future benefits	314,720,324	302,609,327
2. Actuarial accrued liability	312,563,011	300,925,513
F. Funded status		
1. Actuarial value of assets as a % of liabilities	86.2%	87.5%
2. Market value of assets as a % of liabilities	81.0%	87.7%
2. Markot value of assets as a 70 of machines	01.070	97.770

# **Funding Basis**

#### **Actuarial Value of Assets**

## A. Average unrealized gain

Year Ending	Market	Book	Unrealized Gain
December 31:	<u>Value</u>	<u>Value</u>	(Market - Book)
2002	<b>9350 353 630</b>	#107 420 092	<b>\$50,000,500</b>
2003	\$250,352,620	\$197,430,082	\$52,922,538
2004	255,076,595	208,940,621	46,135,974
2005	253,180,944	228,019,216	25,161,728
2006	263,951,959	229,268,152	34,683,807

ė	B. Preliminary actuarial value of assets	December 31, 2005	December 31, 2006
	1. Book value of assets	\$228,019,216	\$229,268,152
	2. Average unrealized gain for previous three years	41,406,747	35,327,170
	3. Preliminary actuarial value	269,425,963	264,595,322

#### C. Excess investment income

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

			Asset Return	
	2001	3.654%	-3.302%	
	2002	3.491%	-9.650%	3.491%
	2003	1.887%	20.000%	1.887%
	2004	6.296%	10.047%	6.296%
	2005	1.524%	5.890%	1.524%
	2006	2.576%	12.460%	2.576%
				3.155%
<ul> <li>2. Determination of excess investme</li> <li>a. Arithmetic average of previous 5</li> <li>b. Arithmetic average of previous 5</li> <li>c. Excess of asset return over salar</li> <li>d. Excess minus 2%</li> <li>e. Excess investment income - min</li> <li>f. Post-retirement benefit - min of 6</li> </ul>	years salary incr years of asset re y increase of 1.0% or 2.d.,	turns x market value	3.370% 4.597% 1.227% 0.000% 0	3.155% 7.749% 4.594% 2.594% 2,639,520 1,319,760

D. Actuarial value of assets (B.3. - C.2.f.)

.

\$269,425,963

# **Summary of Member Data**

	Dagombor 21, 2005	Dagambar 21 2006
A. Active members	December 31, 2003	December 31, 2006
1. Number		
a. Fully vested	37	31
b. Nonvested	<u>0</u>	
c. Total	37	<u>0</u> 31
	54.3	
<ul><li>2. Average age</li><li>3. Average years of service</li></ul>	28.8	29.2
4. Total valuation payroll (for the year following the valuation date 5. Average annual salary		\$2,489,368
3. Average aimuai salary	\$79,283	\$80,302
	•	
B. Vested terminated members		
1. Number	. 0	0
2. Total annual deferred benefits	\$0	\$0
3. Average annual benefit	\$0	\$0
4. Average age	0.0	0.0
1.71101450 450	0.0	0.0
C. Retirees		
1. Number	385	374
2. Total annual benefits	\$15,640,891	\$15,371,432
3. Average annual benefit	\$40,626	\$41,100
4. Average age	69.5	69.9
D. Disabilitants		
1. Number	. 50	51
2. Total annual benefits	\$2,068,755	\$2,098,898
3. Average annual benefit	\$41,375	\$41,155
4. Average age	66.5	67.8
D. Surviving spouses		
1. Number	164	167
2. Total annual benefits	\$3,664,766	\$3,792,702
3. Average annual benefit,	\$22,346	\$22,711
4. Average age	77.8	78.2
	_	
E. Dependent children		
1. Number	2	0
2. Total annual benefits	\$15,549	
3. Average annual benefit	\$7,774	. \$0
4. Average age	21.5	0.0
F. Total number of members	638	623

## **Summary of Changes in Membership**

	Vested						
	Actives	<u>Terminees</u>	Retirees	Disabled	Spouses	Children	<u>Total</u>
A. Number of members on December 31, 2005	37	0	385	50	164	2	638
B. Changes in membership							
1. Retirements	(6)		6				0
2. Vested terminations							0
3. Member deaths			(16)		11		(5)
4. Beneficiary deaths					(9)		(9)
5. Expiration of surviving child benefits						(2)	(2)
6. Separations due to disability							0
7. Change to disability payment status			(1)	1			•
8. Corrections					1		1
9. Total changes	(6)	0	(11)	1	3	(2)	(15)
C. Number of members on December 31, 2006	31	0 0	374	51	167	. 0	623

December 31, 2006 Actuarial Valuation of the Special Fund

# **Historical Unit Values**

					Salary Ra	tes for PRB	
	Effective	Contract	Annualized	Annualized	Dollar	Annualized	5-Year
	<u>Date</u>	Unit Values	Unit Values	<u>Salary</u>	<u>Increase</u>	Return	<u>Average</u>
1999	01/01/99	\$64.9037	\$65.5256	\$62,905			
	10/15/99	67.8887					•
2000	01/01/2000	67.9408	68.3398	65,606	2,702	4.295%	
	10/15/2000	69.8559			• •		
2001	01/01/2001	70.4249	70.8372	68,004	2,398	3.654%	
	10/15/2001	72.4039					
2002	01/01/2002	73.0107	73.3100	70,378	2,374	3.491%	•
	10/15/2002	74.4474				200	•
2003	01/01/2003	74.4474	74.6934	71,706	1,328	1.887%	1
	10/15/2003	75.6284					
2004	01/01/2004	79.3547	79.3958	76,220	4,514	6.296%	3.925%
	10/15/2004	79.5518		•			
2005	01/01/2005	79.5518	80.6054	77,381	1,161	1.524%	3.370%
	07/01/2005	80.9824					
	10/15/2005	82.6062					
2006	01/01/2006	82.6062	82.6815	79,374	1,993	2.576%	3.155%
	10/15/2006	82.9674					

Contract Unit Values: The most recent contract as of the date of this report expired December 31, 2006. The last unit value determined under that contract was 82.9674 effective as of October 15, 2006.

# Funding Basis

# **Actuarial Values Used to Determine Contribution**

	December 31, 2005	December 31, 2006
A. Actuarial present value of projected benefits (the value of all future benefits)	efits	
to be paid to the current group of members)	•	
1. Active members	\$29,378,673	\$24,924,156
2. Vested terminated members	0	0
3. Retired members	220,017,028	212,232,388
4. Spouses and children receiving benefits	34,265,150	35,120,216
5. Disabled members receiving benefits	31,059,473	30,332,567
6. Total present value of projected benefits	314,720,324	302,609,327
		• •
B. Actuarial accrued liability (the cost allocated to all prior years)		•
1. Active members	\$27,221,360	\$23,240,342
2. Vested terminated members	0	.0
3. Retired members	220,017,028	212,232,388
4. Spouses and children receiving benefits	34,265,150	35,120,216
5. Disabled members receiving benefits	31,059,473	30,332,567
6. Total actuarial accrued liability	312,563,011	300,925,513
C. Amortization of unfunded actuarial accrued liability		
1. Total actuarial accrued liability (B.6.)	\$312,563,011	\$300,925,513
2. Actuarial value of assets	269,425,963	263,275,562
3. Unfunded actuarial accrued liability (1 2.)	43,137,048	37,649,951
4. Funded status (2. / 3.)	86.2%	87.5%
5. Years left in amortization period	see page 9	see page 9
6. Amortization payment	3,917,905	4,195,292
D. Normal cost (the cost allocated to the current year)	December 31, 2005	December 31, 2006
1. Present value of future normal costs	\$2,157,312	\$1,683,814
2. Normal cost as a dollar amount		
a. Total normal cost	655,070	547,006
b. Statutory adjustment for member contributions	225,651	191,490
c. Employer normal cost (a b.)	429,420	355,516
3. Payroll for year ending on valuation date	2,820,636	2,393,623
4. Normal cost as a percent of active payroll		
a. Total normal cost	23.22%	22.85%
b. Statutory adjustment for member contributions	8.00%	8.00%
c. Employer normal cost (a b.)	15.22%	14.85%

December 31, 2006 Actuarial Valuation of the Retirement Plan

# Funding Basis

# **Amortization Schedule for the Required Contribution**

Date Established	Initial <u>Balance</u>	Outstanding Balance on 12/31/2006	Remaining Years to Amortize	Amortization Payment
12/31/2003	\$56,964,446	\$49,173,063	12	\$5,533,223
12/31/2004	(33,737,023)	(30,751,185)	13	(3,277,035)
12/31/2005	17,107,353	16,372,374	14	1,661,717
12/31/2006	2,855,699	2,855,699	15	277,387
Total		37,649,951		4,195,292

## Funding Basis

# **Changes in the Unfunded Actuarial Accrued Liability**

1. Expected actuarial accrued liability (AAL) a. AAL as of December 31, 2005 b. Normal cost as of December 31, 2005 (excluding expenses) c. Interest to December 31, 2006 on the AAL and normal cost d. Benefit payments for the year (excluding post-retirement benefits) e. Interest on benefit payments (1/2 year) f. Expected AAL on December 31, 2006 (sum of a. through e.) 2. Actual AAL on December 31, 2006 a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes 300,925,513 d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to changes in unit value different from expected (2b 2a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  8. Asset gain or loss for the year ending on December 31, 2006 1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year c. Expected actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss other than change in unit value 44,374,493 2. Changes a. Actuarial (gain) or loss other than change in unit value	A. Liability gain or loss for the year ending on December 31, 2006	
b. Normal cost as of December 31, 2005 (excluding expenses) c. Interest to December 31, 2006 on the AAL and normal cost d. Benefit payments for the year (excluding post-retirement benefits) e. Interest on benefit payments (1/2 year) f. Expected AAL on December 31, 2006 (sum of a. through e.) 309,928,812 2. Actual AAL on December 31, 2006 a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes 300,925,513 d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  8. Asset gain or loss for the year ending on December 31, 2006 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 6. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 6. Expected actuarial value of assets on December 31, 2006 6. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 6. Expected return on assets 6. Expected actuarial value of assets on December 31, 2006 6. Actual benefit payments and expenses for the year (including post-ret benefits) 6. Contributions for the year 7. 2,561,180 7. C. Changes in the unfunded AAL 7. Expected unfunded AAL 7. Expected unfunded AAL on December 31, 2006 7. Changes		
c. Interest to December 31, 2006 on the AAL and normal cost d. Benefit payments for the year (excluding post-retirement benefits) e. Interest on benefit payments (1/2 year) f. Expected AAL on December 31, 2006 (sum of a. through e.)  2. Actual AAL on December 31, 2006 a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes 300,925,513 d. Due to plan experience different from that expected (2a 1f.) (939,463) b. Due to change in unit value different from expected (2.b 2.a.) (8,063,836) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan experience different from expected (2.b 2.a.) (9,003,299)  B. Asset gain or loss for the year ending on December 31, 2006 1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes 2. Changes	•	\$312,563,011
d. Benefit payments for the year (excluding post-retirement benefits) e. Interest on benefit payments (1/2 year) f. Expected AAL on December 31, 2006 (sum of a. through e.) 2. Actual AAL on December 31, 2006 a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes d. After plan changes 300,925,513 d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes		655,070
e. Interest on benefit payments (1/2 year) f. Expected AAL on December 31, 2006 (sum of a. through e.)  2. Actual AAL on December 31, 2006 a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes 300,925,513 d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2b 2a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  6. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes  44,374,493 2. Changes		18,794,657
f. Expected AAL on December 31, 2006 (sum of a. through e.)  2. Actual AAL on December 31, 2006  a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes 300,925,513 d. After plan changes 300,925,513 d. After plan changes 300,925,513 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  69,003,299   B. Asset gain or loss for the year ending on December 31, 2006 1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	d. Benefit payments for the year (excluding post-retirement benefits)	(21,440,705)
2. Actual AAL on December 31, 2006  a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes 300,925,513 d. After plan changes 300,925,513 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006 1. Expected actuarial value of assets a. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 265,554,319 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	e. Interest on benefit payments (1/2 year)	(643,221)
a. Before any assumption or plan changes b. After unit value changes c. After assumption and unit value changes d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2b 2a.) c. Due to change in unit value different from expected (2b 2a.) d. Due to plan experience different from expected (2b 2a.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (le 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	f. Expected AAL on December 31, 2006 (sum of a. through e.)	309,928,812
b. After unit value changes c. After assumption and unit value changes d. After plan changes 300,925,513 d. After plan changes 300,925,513 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) (8,063,836) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	2. Actual AAL on December 31, 2006	
c. After assumption and unit value changes d. After plan changes 3 . Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	a. Before any assumption or plan changes	308,989,349
d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	b. After unit value changes	300,925,513
d. After plan changes 3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	c. After assumption and unit value changes	300,925,513
3. Liability (gain) or loss a. Due to plan experience different from that expected (2a 1f.) b. Due to change in unit value different from expected (2.b 2.a.) c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	d. After plan changes	
b. Due to change in unit value different from expected (2.b 2.a.)  c. Due to changes in actuarial assumptions (2c 2b.)  d. Due to plan changes (2d 2c.)  e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets  a. Actuarial value of assets on December 31, 2005  b. Actual benefit payments and expenses for the year (including post-ret benefits)  c. Contributions for the year  d. Expected return on assets  e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.)  2. Actual actuarial value of assets on December 31, 2006  3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006  44,374,493  2. Changes	3. Liability (gain) or loss	
b. Due to change in unit value different from expected (2.b 2.a.)  c. Due to changes in actuarial assumptions (2c 2b.)  d. Due to plan changes (2d 2c.)  e. Total (a. + b. + c. + d.)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets  a. Actuarial value of assets on December 31, 2005  b. Actual benefit payments and expenses for the year (including post-ret benefits)  c. Contributions for the year  d. Expected return on assets  e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.)  2. Actual actuarial value of assets on December 31, 2006  3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006  44,374,493  2. Changes	a. Due to plan experience different from that expected (2a 1f.)	(939,463)
c. Due to changes in actuarial assumptions (2c 2b.) d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes		, , ,
d. Due to plan changes (2d 2c.) e. Total (a. + b. + c. + d.)  (9,003,299)   B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL 1. Expected unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	c. Due to changes in actuarial assumptions (2c 2b.)	0
e. Total (a. + b. + c. + d.)  B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes		0
B. Asset gain or loss for the year ending on December 31, 2006  1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2005 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 44,374,493 2. Changes		(9,003,299)
1. Expected actuarial value of assets  a. Actuarial value of assets on December 31, 2005  b. Actual benefit payments and expenses for the year (including post-ret benefits)  c. Contributions for the year  d. Expected return on assets  e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.)  2. Actual actuarial value of assets on December 31, 2006  3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006  2. Changes  44,374,493  2. Changes	B. Asset gain or loss for the year ending on December 31, 2006	
b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes		
b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes 2. Changes		269,425,963
c. Contributions for the year d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 2. Asset (gain) or loss (1e 2.) 2. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	b. Actual benefit payments and expenses for the year (including post-ret benefits)	· · · · · · · · · · · · · · · · · · ·
d. Expected return on assets e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.) 2. Actual actuarial value of assets on December 31, 2006 2. Asset (gain) or loss (1e 2.) 2. C. Changes in the unfunded AAL 2. Expected unfunded AAL on December 31, 2006 2. Changes		• • • • • • • • • • • • • • • • • • • •
e. Expected actuarial value of assets on December 31, 2006 (sum of a. through d.)  2. Actual actuarial value of assets on December 31, 2006  3. Asset (gain) or loss (1e 2.)  2. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006  2. Changes		
2. Actual actuarial value of assets on December 31, 2006 3. Asset (gain) or loss (1e 2.)  2. 278,757  C. Changes in the unfunded AAL 1. Expected unfunded AAL on December 31, 2006 2. Changes	•	
3. Asset (gain) or loss (1e 2.)  C. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006 2. Changes	• • • • • • • • • • • • • • • • • • • •	
C. Changes in the unfunded AAL  1. Expected unfunded AAL on December 31, 2006 2. Changes  44,374,493		- · · · · · · · · · · · · · · · · · · ·
1. Expected unfunded AAL on December 31, 2006 2. Changes 44,374,493	2.1.1.1.1.1 (B.1.1.1) 1.1.1.1.1 (1.1.1.1.1.1)	-, <b>-</b> ,, e,, e,,
1. Expected unfunded AAL on December 31, 2006 2. Changes 44,374,493	C. Changes in the unfunded AAL	
2. Changes		44 374 493
	•	. 1,571,155
		1 339 294
b. Change in unit value different from expected (8,063,836)		
c. Changes in actuarial methods and assumptions	•	(0,005,050)
d. Total change (6,724,542)		(6.724.542)
3. Unfunded AAL on December 31, 2006 37,649,951		

# Accounting Basis

# Statement of Plan Net Assets as of December 31, 2006

	Market Value	Book Value
A. Investment assets	•	
1. Short term investments	22,006,115	22,006,115
2. U.S. government obligations	27,658,687	27,769,456
3. GNMA and mortgage-backed securities	10,904,830	10,974,599
4. Municipal obligations	0	0
5. Corporate bonds	5,076,031	5,128,881
6. Corporate bond funds	12,323,816	7,829,987
7. Foreign bonds, notes, debentures	105,011	108,997
8. U.S. corporate stock	101,403,540	84,869,704
9. Equity mutual funds	12,087,287	9,085,612
10. Foreign stock	30,984,764	25,913,586
11. Int'l equity mutual funds	40,486,438	34,665,775
12. Limited partnerships	0	0
13. Total	263,036,519	228,352,712
B. Checking account	590,167	590,167
C. Accrued/payable		· · · · · · · · · · · · · · · · · · ·
1. Accrued contributions	0	0
2. Accounts receivable	28,733	28,733
3. Accrued income	543,174	543,174
4. Accounts payable	(246,634)	(246,634)
5. Total	325,273	325,273
D. Net assets held in trust for pension benefits	263,951,959	229,268,152

# Accounting Basis

# **Statement of Changes in Plan Net Assets**

December 31, 2005 December 31	31, 2005 December 31, 200	2006
-------------------------------	---------------------------	------

A. Additions	•	
1. Contributions		
a. Employer	6,651,403	2,570,016
b. Plan members	12,010	(8,836)
c. Contributions for 2004	422,906	0
d. Total	7,086,319	2,561,180
2. Investment income (net of expense)	15,216,148	30,224,609
3. Other	0	0
4. Total additions	22,302,467	32,785,789
B. Deductions		
1. Benefits paid	23,543,793	21,440,705
2. Refund of contributions	0	. 0
3. Administrative expense and trustee fees	654,325	574,069
4. Total deductions	24,198,118	22,014,775
C. Net increase	(1,895,651)	10,771,015
D. Net assets held in trust for pension benefits		
1. Beginning of year	\$255,076,595	253,180,944
2. End of year	253,180,944	263,951,959

#### Accounting Basis

# **Schedule of Funding Progress**

(Dollar amounts in thousands)

	Actuarial	Actuarial	Unfunded	,		UAAL as a %
As of	Value of	Accrued	AAL	Funded	Projected	of Covered
December 31:	<u>Assets</u>	Liability (AAL)	(UAAL)	Ratio	Payroll**	Payroll*
1995	194,611	234,386	39,775	83.0%	\$11,839	336.0%
1996	208,969	252,540	43,571	82.7%	12,298	354.3%
1997	245,306	274,030	28,724	89.5%	12,079	237.8%
1998	300,150	284,874	(15,276)	105.4%	11,357	-134.5%
1999	318,043	291,168	(26,875)	109.2%	10,039	-267.7%
2000	315,900	293,802	(22,098)	107.5%	7,054	-313.3%
2001	304,887	293,396	(11,491)	103.9%	5,888	-195.2%
2002	255,194	292,678	37,484	87.2%	5,540	676.6%
2003	236,991	293,955	56,964	80.6%	4,397	1295.5%
2004	248,546	275,513	26,967	90.2%	3,142	858.3%
2005	269,426	312,563	43,137	86.2%	2,933	1470.7%
2006	263,276	300,926	37,650	87.5%	2,489	1512.7%

<sup>\*</sup> This measure of funded status is meaningless for a closed group but is presented in order to meet the requirement of GASB No. 25.

<sup>\*\*</sup>Projected payrol for the year following the valuation date (see page 5, line A.4.)

# Accounting Basis

# **Schedule of Employer Contributions**

Year Ended	Employer
December 31:	<b>Contributions</b>
1995	\$7,405,980
1996	6,328,580
1997	4,844,823
1998	3,541,518
1999	1,177,332
2000	1,938,365
2001	1,232,252
2002	1,030,019
2003	1,333,170
2004	. 1,950,098
2005	6,651,403
2006	2,570,016

#### Historical Tables

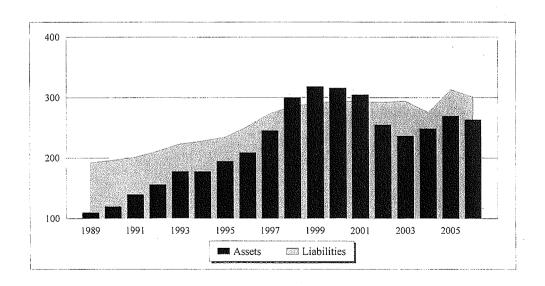
### **Historical Funding Ratio Schedule**

(Dollar amounts in thousands)

As of December 31:	Actuarial Accrued Liability	Actuarial Value of <u>Assets</u>	Percent Funded
1988*#	\$188,014	\$93,601	49.8%
1989	192,264	110,092	57.3%
1990#	196,491	119,652	60.9%
1991	201,461	139,891	69.4%
1992#	211,558	156,279	73.9%
1993#	223,357	177,529	79.5%
1994	228,567	178,003	77.9%
1995	234,386	194,611	83.0%
1996	252,540	208,969	82.7%
1997	274,030	245,306	89.5%
· 1998	284,874	300,150	105.4%
1999	291,168	318,043	109.2%
2000	293,802	315,900	107.5%
2001	293,396	304,887	103.9%
2002	292,678	255,194	87.2%
2003	293,955	236,991	80.6%
2004	275,513	248,546	90.2%
2005#	312,563	269,426	86.2%
2006	300,926	263,276	87.5%

#After change in actuarial assumptions

<sup>\*</sup>After change in benefit provisions



## Historical Tables

# **History of Employer Contributions**

		Amortization
•	Normal Cost	of Unfunded
Valuation	as a Percent	Actuarial
December 31:	of Payroll	<u>Liability</u>
1001	22.956/	Φ <i>E</i>
1991	23.85%	\$5,538,556
1992	23.90%	5,123,898
1993	23.98%	4,403,949
1994	23.99%	5,056,000
1995	23.94%	4,155,683
1996	23.91%	4,779,811
1997	23.88%	3,327,287
1998	23.66%	0
1999	24.07%	0
2000	22.71%	0
2001	22.11%	. 0
2002	21.74%	0*
2003	21.44%	5,533,223
2004	21.07%	2,256,188
2005	23.22%	3,917,905
2006	22.85%	4,195,292

<sup>\*</sup>Minn. Stat. §423C.06(6) provides that the City is not required to fund a deficit until the funded ratio has been under 100% for two successive years.

Historical Tables

# **Comparative Schedule of Active Members**

	Number of				
Valuation	Active	Projected		Averages	
December 31:	<u>Members</u>	Payroll	Age	Service	Pay
1991	321	13,664,649	48.6	21.5	42,569
1992	309	13,614,231	49.2	22.2	44,059
1993	285	13,395,285	49.5	22.6	47,001
1994	267	13,073,121	50.2	23.2	48,963
1995	236	11,838,704	50.3	23.5	50,164*
1996*	220	12,297,560	50.8	24.1	55,898
1997	198	12,078,990	51.4	24.7	61,005
1998	179	11,356,611	51.2	24.5	63,445
1999**	153	10,039,101	51.5	25.2	65,615
2000	104	6,782,803	52.0	25.8	67,828
2001	84	5,661,137	52.3	26.3	70,090
2002	76	5,326,859	53.2	27.1	72,894
2003	58	4,227,844	53.1	27.3	75,810
2004	42	3,020,755	53.7	28.1	74,800
2005	37	2,820,636	54.3	28.8	79,283
2006	31	2,393,623	54.8	29.2	80,302

<sup>\*</sup> Labor agreement settled in late 1996 with the 1996 single salary of \$53,175

<sup>\*\*</sup>Payroll used to calculate normal cost for calendar year 1999 is \$9,652,982.

# Historical Tables

# **Comparative Schedule of Inactive Members**

	Number of	of Retirees and B	eneficiaries		
As of	Added	Removed	On Valuation	Annual	Present Value
December 31:	to Rolls	from Rolls	<u>Date</u>	<b>Benefits</b>	of Benefits
1990	24	22	557	\$9,364,461	\$115,174,188
1991	19	22	554	9,717,991	117,998,856
1992	34	24	564	10,418,854	125,708,460
1993	32	22	574	11,350,689	135,712,458
1994	32	31	575	12,845,678	143,862,253
1995	39	18	596	13,417,874	153,032,140
1996	27	27	596	14,091,016	166,750,488
1997	41	34	603	15,441,956	184,855,572
1998	20	12	611	16,759,837	200,745,351
1999	. 38	27	622	18,001,012	212,743,795
2000	62	34	653	19,610,997	240,364,062
2001	38	46	645	19,919,708	247,423,056
2002	16	27	634	20,451,109	248,173,771
2003	25	29	630	21,248,675	257,735,265
2004	32	41	621	20,598,079	250,231,783
2005	14	34	601	21,397,735	285,341,651
2006	32	41	592	21,263,032	277,685,171

December 31, 2006 Actuarial Valuation of the Special Fund

## **Actuarial Methods and Assumptions**

1. Mortality

The 1983 GAM mortality table set forward 2 years for females. Before 2005, 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:

Age	<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 57, or attained age if older.

5. Interest Rate

6% compounded annually.

6. Unit value/Salary Scale

\$83.6481 as of January 1, 2007 (projected at a 4% annual rate from the last contract value of \$82.9674 effective October 15, 2006), increasing at 4% per year.

7. Actuarial Cost Method

The Entry Age Normal Cost Method. Under this method, the normal cost for an individual member is the level annual dollar amount 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.

December 31, 2006 Actuarial Valuation of the Special Fund

### **Summary of Plan Provisions**

1. Normal Retirement Benefit

Annual benefit of 1.6/80 of base pay for each year of service up to 25 years. An additional 2 units are awarded for the 20th year of service, for a maximum of 42 units. Members may choose among alternative survivor payment forms (see 4. below) which modify the number of units payable to the member and their spouse. A member who is single at the time of retirement and who has at least 25 years of service may choose to receive 42.3 units on the condition of a reduced survivor payment to any future spouse. "Base pay" for this purpose means the maximum monthly salary of a first grade firefighter. 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 41/80 of base pay for members no longer able to perform the duties of a firefighter 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. Upon retirement, members may choose an alternate form of payment that provides 50%, 75% or 100% of their benefit to their spouse after their death. The 22 units are adjusted if one of these alternate forms is selected. Retiring members who are unmarried may elect an actuarial increase.

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 if the child is a full-time student, to age 22. The total benefit for surviving children and spouse combined is limited to 42/80 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.