This document is made available electronically by the Minnesota Legislative Reference Library as part of an ongoing digital archiving project. http://www.leg.state.mn.us/lrl/lrl.asp



December 31, 2009 Actuarial Valuation

June, 2010

VAN IWAARDEN

VAN IWAARDEN ASSOCIATES 840 LUMBER EXCHANGE TEN SOUTH FIFTH STREET MINNEAPOLIS MN 55402-1010 612.596.5960 f: 612.596.5999 www.vaniwaarden.com

December 31, 2009 Actuarial Valuation

,

# Table of Contents

	Page
Introduction	
Introduction and actuarial certification	1
Summary of results	3
Valuation data - plan assets and members	
Actuarial value of assets	4
Summary of member data	5
Summary of changes in membership	6
Valuation results - actuarial values	
Actuarial values used to determine contribution	7
Present value of amortization payments	8
Changes in the unfunded actuarial accrued liability	9
Accounting basis results - GASB disclosure information	
Statement of plan net assets - market value	10
Statement of changes in plan net assets	11
Schedule of funding progress	12
Schedule of employer contributions	13
Historical tables	
Historical funding ratio schedule	14
History of employer contributions	15
Comparative schedule of active members	16
Comparative schedule of inactive members	17
Supplementary information	
Actuarial assumptions and methods	18
Summary of plan provisions	19

December 31, 2009 Actuarial Valuation

#### **Introduction**

#### <u>Purpose</u>

This report presents the results of the December 31, 2009 valuation for the Fairmont Policemen's Relief Association. Its primary purposes are:

- to determine the funded status as of December 31, 2009,
- to determine the amortization payment for 2009, and
- to present information required to be disclosed under General Accounting Standards Board Statement No. 25 (GASB 25) as of December 31, 2009.

#### Sources of Data

The Relief Association supplied December 31, 2009 census data for all members. Roessler, Nuss & Co., P.A provided cash flow information and the portfolio summary from the State Board of Investment. 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, 2008. The actuarial assumptions and methods used to prepare this report are the same as those used in the 2008 report. The annual benefit value per unit increased from \$850.38 on December 31, 2008 to \$883.91 on December 31, 2009, a 3.94% increase, 0.44% more than the assumed increase of 3.5%.

#### Summary of Valuation Results

The market value of assets increased from \$6,179,967 to \$6,972,356. The actuarial value of assets, which is based on book value, decreased from \$6,706,750 to \$6,316,856 as of December 31, 2009.

The funded status of the plan decreased from 84.9% on December 31, 2008 to 84.4% on December 31, 2009. The decrease was generated principally by the decrease in the actuarial value of assets. The amortization payment has increased from \$111,366 last year, to \$144,226 this year, based on H.F. 1383 which extends the amortization date to December 31, 2020.

FAIRMONT POLICEMEN'S RELIEF ASSOCIATION December 31, 2009 Actuarial Valuation

# Introduction (continued)

# 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 local police department relief associations in general and the Fairmont Policemen's Relief Association in particular. This valuation has determined the amortization amount based on the December 31, 2020 amortization date required under Minnesota Statutes §69.77, subd 4 and extended by H.F. 1383.

Respectfully submitted,

Sandra Bruns

Sandra L Bruns, FSA Consulting Actuary

Mark Meye

Mark D. Meyer, JD, FSA

December 31, 2009 Actuarial Valuation

# **Summary of Results**

<ul> <li><u>A. Membership data*</u></li> <li>1. Liability Duration <ul> <li>a. Average annuity factor</li> <li>b. Average life expectancy</li> <li>c. Benefit life expectancy</li> </ul> </li> <li>2. Number of members <ul> <li>a. Retirees</li> </ul> </li> </ul>	December 31, 2008 12.6 11.8 21.7 10	12.1 11.3 20.7 10
b. Surviving spouses c. Total	<u>4</u> 14	<u>3</u> 13
B. Amortization payments		
1. Unfunded actuarial accrued liability 2. Amortization payment	1,188,349 111,366	1,166,706 144,226
<i>C. Value of plan assets</i> 1. Market value	December 31, 2008 6,179,967	December 31, 2009 6,972,356
<ol> <li>Actuarial value (for calculating contributions)</li> <li>Investment return on actuarial value of assets</li> </ol>	6,706,750 -13.82%	6,316,856 17.84%
<b>D. Benefit liabilities</b> <ol> <li>Present value of future benefits</li> <li>Actuarial accrued liability</li> </ol>	7,895,099 7,895,099	7,483,562 7,483,562
<i>E. Funded status</i> 1. Actuarial value of assets as a % of liabilities 2. Market value of assets as a % of liabilities	84.9% 78.3%	84.4% 93.2%

\*This is a closed group, all members have retired, so there are only retirees and beneficiaries.

December 31, 2009 Actuarial Valuation

# Funding Basis

### **Actuarial Value of Assets**

#### A. Unrealized gain

Year Ending December 31:	Market <u>Value</u>	Book <u>Value</u>	Unrealized Gain <u>(Market - Book)</u>
2005	6,732,970	6,353,680	379,290
2006	7,192,518	6,468,184	724,334
2007	7,451,758	6,846,282	605,476
2008	6,179,967	6,970,142	(790,175)
2009	6,972,356	5,989,106	983,250

# **B.** Actuarial value of assets

1. Book value

2. One-third of unrealized gain

3. Actuarial value (1. + 2.)

### December 31, 2008 December 31, 2009

6,970,142	5,989,106
(263,392)	327,750
\$6,706,750	\$6,316,856

December 31, 2009 Actuarial Valuation

#### **Summary of Member Data**

December 31, 2008	December 31.	2009
-------------------	--------------	------

1. Age & service	10	10
2. Total annual benefits	\$479,614	\$498,525
3. Average annual benefit	\$47,961	\$49,853
4. Average age	69.2	70.2
5. Average annuity factor	14.0	13.2
B. Beneficiaries	. · ·	
1. Surviving spouses	4	3
2. Total annual benefits	\$119,053	\$92,811
3. Average annual benefit	\$29,763	\$30,937
4. Average age	77.2	79.3
5. Average annuity factor	9.2	8.4
C. Total number of members (A.1. + B.1.)	14	1

This is a closed group, all membesr have retired, so there are only retirees and beneficiaries.



December 31, 2009 Actuarial Valuation

# Summary of Changes in Membership

	Retirees	<b>Beneficiaries</b>	<u>Total</u>
A. Number of members on December 31, 2008	10	4	14
<u>B. Changes in membership</u>			
1. Deaths		(1)	(1)
2. Corrections			0
3. Total changes	0	(1)	(1)
C. Number of members on December 31, 2009	10	3	13

December 31, 2009 Actuarial Valuation

# Funding Basis

# Actuarial Values Used to Determine Contribution

#### December 31, 2008 December 31, 2009

7

A. Actuarial present value of projected benefits (the value of all future benefits		
to be paid to the current group of members)	<b>\$</b> 0	<b>\$</b>
1. Active members	\$0	\$0
2. Vested terminated members	0	0
3. Retired members	6,805,251	6,707,531
4. Spouses and children receiving benefits	1,089,848	776,031
5. Disabled members receiving benefits	<u>0</u>	<u>0</u>
6. Total present value of projected benefits	7,895,099	7,483,562
B. Actuarial accrued liability (the cost allocated to all prior years)		
1. Active members	\$0	· \$0
2. Vested terminated members	0	0
3. Retired members	6,805,251	6,707,531
4. Spouses and children receiving benefits	1,089,848	776,031
5. Disabled members receiving benefits	<u>0</u>	<u>0</u>
6. Total actuarial accrued liability	7,895,099	7,483,562
C. Unfunded actuarial accrued liability		
1. Total actuarial accrued liability (A.7.)	\$7,895,099	\$7,483,562
2. Actuarial value of assets	6,706,750	6,316,856
3. Unfunded actuarial accrued liability (1 2.)	1,188,349	1,166,706
4. Funded status (2. / 3.)	84.9%	84.4%
<b>D. Development of municipal contribution payable:</b>	2010	2011
1. Unfunded actuarial accrued liability (UAL) (C.3.)	1,188,349	1,166,706
2. Amortization payment to fund plan by 12/31/2010 (see page 8)	111,366	144,226
3. Expected administrative expense	23,361	25,165
4. Municipal contribution $(2. + 3.)$	134,727	169,391
	·	
E. Key economic assumptions		
1. Funding interest rate	5.00%	5.00%
2. Annual benefit increase rate	3.50%	3.50%

This is a closed group, all members have retired, so there is no normal cost.

VAN IWAARDEN

December 31, 2009 Actuarial Valuation

# **Present Value of Amortization Payments**

H.F.1383 - Ex	ctension to 2020		Amortization
			Based on
Payment	Amortization	Present Value	Valuation
Date	Payment	12/31/2009	Dec 31:
12/31/2010	\$111,366	\$106,063	2008
12/31/2011	144,226	130,817	2009
12/31/2012	144,226	124,588	2009
12/31/2013	144,226	118,655	2009
12/31/2014	144,226	113,005	2009
12/31/2015	144,226	107,624	2009
12/31/2016	144,226	102,499	2009
12/31/2017	144,226	97,618	2009
12/31/2018	144,226	92,969	2009
12/31/2019	144,226	88,542	2009
12/31/2020	144,226	84,326	2009
	Total	\$1,166,706	

Interest for present value:

5.0%

December 31, 2009 Actuarial Valuation

# Changes in the Unfunded Actuarial Accrued Liability

A. Liability gain or loss for the year ending on December 31, 2009	
1. Expected actuarial accrued liability (AAL)	<b>.</b>
a. AAL as of December 31, 2008	\$7,895,099
b. Normal cost as of December 31, 2008	0
c. Interest to December 31, 2009 on the AAL and normal cost	394,755
d. Expected benefit payments for the year (excluding post-retirement benefits)	(598,668)
e. Interest on benefit payments (1/2 year)	<u>(14,967)</u>
f. Expected AAL on December 31, 2009 (sum of a. through e.)	7,676,219
2. Actual AAL on December 31, 2009	
a. Before any assumption or plan changes	7,451,643
b. After assumption changes, but before any unit value changes	7,451,643
c. After assumption and unit value changes	7,483,562
3. Liability (gain) or loss	
a. Due to plan experience different from that expected (2a 1f.)	(224,576)
b. Due to changes in actuarial assumptions (2b 2a.)	0
c. Due to changes in unit value (2c 2b.)	<u>31,919</u>
d. Total $(a. + b. + c.)$	(192,657)
B. Asset gain or loss for the year ending on December 31, 2009	
1. Expected actuarial value of assets	
a. Actuarial value of assets on December 31, 2008	6,706,750
b. Actual benefit payments and expenses for the year	(620,502)
c. Contributions for the year	346,393
d. Expected return on assets	328,485
e. Expected actuarial value of assets on December 31, 2009 (sum of a. through d.)	6,761,126
2. Actual actuarial value of assets on December 31, 2009	6,316,856
3. Asset (gain) or loss (1e 2.)	444,270
C. Changes in the unfunded AAL	
1. Expected unfunded AAL on December 31, 2009	915,093
2. Changes	510,055
a. Actuarial (gain) or loss other than change in unit value	219,694
b. Change in unit value different from expected	31,919
c. Changes in actuarial methods and assumptions	0
d. Total change	Ŭ
3. Unfunded AAL on December 31, 2009	1,166,706

December 31, 2009 Actuarial Valuation

# Accounting Basis

# Statement of Plan Net Assets - Market Value

	December 31, 2008	December 31, 2009
A. Assets		\$202.000
1. Cash	\$0	\$303,888
2. Short-term investments	<u>0</u>	<u>0</u>
3. Total	0	303,888
<u>B. Receivables</u>		
1. Accrued interest	9,165	772
2. Distributions	0	0
3. Accrued contributions	<u>0</u>	<u>0</u>
4. Total	9,165	772
C. Accounts payable	0	0
<u>D. Investments, at fair value</u>		
1. Money market	110,998	0
2. Mutual funds	2,842,380	
3. Asset and mortgage backed securities	1,122,746	
4. Municipal Bonds	20,828	
5. Unit trusts	550,125	
6. Corporate bonds	85,647	
7. Government securities	1,079,906	
8. GNMA mortgage certificate	5,252	
9. Limited partnerships	1,210	
10. Investments through City of Fairmont Trust Fund	351,710	
11. Minnesota State Board of Investments	<u>0</u>	-
12. Total	6,170,802	6,667,696
<u>E. Net assets held in trust for pension benefits</u>	6,179,967	6,972,356

December 31, 2009 Actuarial Valuation

### Accounting Basis

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

December 31, 2008 December 31, 2009

<u>A. Additions</u> 1. Contributions		
a. Employer	\$251 622	\$246 202
b. Plan members	\$351,633	\$346,393
c. Total	$\frac{0}{251}$	$\frac{0}{246202}$
2. Investment income	351,633	346,393
a. Interest and dividends	211 220	06 410
b. Partnership income	311,238	96,419
	109	137
c. Realized gain/(loss)	63,169	(803,497)
d. Change in unrealized appreciation (depreciation) e. Miscellaneous income	(1,395,649)	1,773,423
	<u>0</u>	<u>16</u>
d. Total	(1,021,133)	1,066,498
3. Transfers in	0	0
4. Total additions	(669,500)	1,412,891
<u>B. Deductions</u>	,	
1. Service pensions	453,340	468,520
2. Survivors pensions	114,462	115,750
3. Distributions to members	11,918	11,918
4. Professional services	9,025	10,620
5. Salaries	12,352	12,352
6. Other expenses	1,194	1,342
7. Transfers out	0	0
8. Total deductions	602,291	620,502
<u>C. Net increase</u>	(1,271,791)	792,389
<u>D. Adjustments</u>	0	0
E. Net assets held in special fund		
1. Beginning of year	\$7,451,758	\$6,179,967
2. End of year	\$6,179,967	\$6,972,356
F. Investment return		
1. Market value of assets	-13.94%	17.65%
2. Actuarial value of assets	-13.82%	17.84%
2.110100101 10100 01 00000	-10.02/0	1/.04/0

VAN IWAARDEN

December 31, 2009 Actuarial Valuation

# Accounting Basis

# **Schedule of Funding Progress**

(Dollar amounts in thousands)

As of December 31:	Actuarial Value of <u>Assets</u>	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL)	Funded <u>Ratio</u>	Covered Payroll	UAAL as a % of Covered <u>Payroll</u>
1993	\$4,570	\$5,781	\$1,211	79.1%	\$218	555.5%
1994	4,828	5,987	1,159	80.6%	223	519.7%
1995	5,274	6,066	792	86.9%	223	355.2%
1996	5,808	6,179	371	94.0%	243	152.7%
1997	6,516	6,164	(352)	105.7%	200	-176.0%
1998	6,355	6,835	480	93.0%	210	228.7%
1999	7,113	7,174	61	99.1%	163	37.4%
2000	7,170	7,245	75	99.0%	118	407.0%
2001	6,960	7,573	613	91.9%	-	-
2002	6,431	7,831	1,400	82.1%	-	-
2003	6,431	7,831	1,400	82.1%	-	-
2004	6,438	7,910	1,472	81.4%	-	-
2005	6,480	7,734	1,254	83.8%	-	-
2006	6,710	7,882	1,172	85.1%	-	-
2007	7,048	7,932	884	88.9%	-	-
2008	6,707	7,895	1,188	84.9%	-	-
2009	6,317	7,484	1,167	84.4%	-	-

December 31, 2009 Actuarial Valuation

# Accounting Basis

# **Schedule of Employer Contributions**

Year Ended	Annual Employer
December 31:	<b>Contributions</b>
1993	\$243,556
1994	243,726
1995	208,626
1996	163,177
1997	257,828
1998	5,829
1999	0
2000	7,529
2001	10,095
2002	90,321
2003	230,291
2004	218,835
2005	323,808
2006	336,725
2007	365,853
2008	351,633
2009	346,393

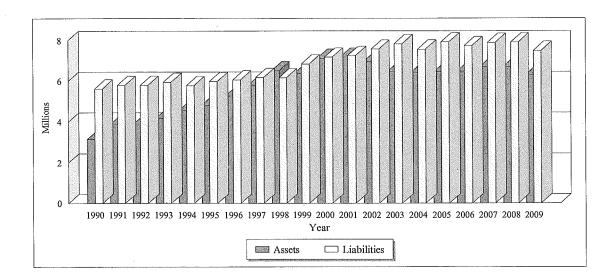
#### FAIRMONT POLICEMEN'S RELIEF ASSOCIATION December 31, 2009 Actuarial Valuation

#### Historical Tables

### **Historical Funding Ratio Schedule**

(Dollar amounts in thousands)

	Actuarial	Actuarial	
As of	Accrued	Value of	Percent
December 31:	<u>Liability</u>	<u>Assets</u>	<b>Funded</b>
1990	\$5,627	\$3,137	55.7%
1991	5,803	3,874	66.8%
1992	5,803	3,874	66.8%
1993	5,952	4,179	70.2%
1994	5,781	4,570	79.1%
1995	5,987	4,828	80.6%
1996	6,066	5,274	86.9%
1997	6,179	5,808	94.0%
1998	6,164	6,516	105.7%
1999	6,835	6,355	93.0%
2000	7,174	7,113	99.1%
2001	7,245	7,170	99.0%
2002	7,573	6,960	91.9%
2003	7,831	6,431	82.1%
2004	7,560	6,394	84.6%
2005	7,910	6,438	81.4%
2006	7,734	6,480	83.8%
2007	7,882	6,710	85.1%
2008	7,895	6,707	84.9%
2009	7,484	6,317	84.4%



December 31, 2009 Actuarial Valuation

# Historical Tables

# **History of Employer Contributions**

Valuation December 31:	Normal Cost as a Percent <u>of Payroll</u>	Amortization of Unfunded Actuarial <u>Liability</u>
1990	36.40%	\$201,066
1991	36.26%	161,011
1992	35.13%	153,456
1993	35.13%	109,085
1994	35.24%	108,913
1995	35.51%	78,140
1996	35.54%	38,541
1997	36.49%	0
1998	37.21%	56,447
1999	-	7,529
2000	-	10,095
2001	-	90,321
2002	-	230,291
2003	-	218,835
2004	-	323,808
2005	<b>-</b> '	336,725
2006	-	328,444
2007	-	322,710
2008	-	111,366
2009	-	144,226

December 31, 2009 Actuarial Valuation

### Historical Tables

# **Comparative Schedule of Active Members**

	Number of					
Valuation	Active	Valuation		Averages		
December 31:	Members	Payroll	Age	Service	Pay	% Increase
1000	6	246 820	45.5	10.9	41 140	2.50/
1990	6	246,839	45.5	19.8	41,140	3.5%
1991	6	254,243	46.5	20.8	42,374	3.0%
1992	5	217,830	46.8	21.9	43,566	2.8%
1993	5	223,316	47.8	22.9	44,663	2.5%
1994	5	243,049	48.8	23.9	48,610	8.8%
1995	4	199,651	49.5	24.5	49,913	2.7%
1996	4	209,607	50.5	25.5	52,402	5.0%
1997	3	163,423	51.0	25.5	54,474	4.0%
1998	2	117,841	52.5	27.4	58,921	8.2%
1999	0	-	-	-	-	-
2000	0	-	-	-	-	-
2001	0	-	-	-	-	-
2002	0	-	-	-	-	-
2003	0	-	-	-	-	-
2004	0	-	-	-	-	-
2005	0	-	-	-	-	-
2006	0	-	-	-	-	-
2007	0	-	-	-	-	-
2008	0	-	-	-	-	-
2009	0	-	-	-	-	-

December 31, 2009 Actuarial Valuation

#### Historical Tables

# **Comparative Schedule of Inactive Members**

Number of Retirees and Beneficiaries					
As of	Added	Removed	On Valuation	Annual	Present Value
December 31:	<u>to Rolls</u>	<u>from Rolls</u>	Date	<b>Benefits</b>	of Benefits
1990				\$252,417	\$3,526,812
1991	0	0	14	261,491	3,521,472
1992	0	0	14	287,546	3,944,772
1993	1	0	15	250,879	3,611,904
1994	0	2	13	242,682	3,504,876
1995	0	1	12	264,009	3,954,504
1996	2	1	13	262,615	3,848,304
1997	0	1	12	286,633	4,302,888
1998	2	1	13	342,613	5,418,324
1999	1	0	14	444,729	7,174,075
2000	2	0	16	452,326	7,245,193
2001	0	1	15	463,261	7,573,377
2002	0	1	14	494,356	7,830,552
2003	0	0	14	494,954	7,560,132
2004	0	0	14	535,864	7,909,793
2005	0	0	14	542,622	7,733,819
2006	0	0	14	555,661	7,882,160
2007	0	0	14	579,723	7,932,388
2008	0	0	14	598,667	7,895,099
2009	0	1	13	591,336	7,483,562

December 31, 2009 Actuarial Valuation

#### Summary of Plan Provisions

1. Normal Retirement Benefit

3. Surviving Spouse's Benefit

4. Surviving Children's Benefit

50% of "base pay" with 20 years of service, increased 2% per year up to a maximum of 60%. "Base pay" is the prevailing pay of a first class patrolman for the City of Fairmont. All members are now retired. Their benefit is the benefit they are currently receiving, adjusted by increases in base pay.

2. Deferred Vested Benefit None. All members are retired.

Annual benefit equal to 35% of base pay. If surviving spouse married member after retirement, marriage must have occurred at least five years before member's death.

Annual benefit equal to 6.25% of base pay per child, up to a maximum benefit of 25% of base pay if spouse is receiving benefits, or 50% if no spouse. Children are eligible until attainment of age 18.

5. Member Contributions

None. There are no active members.

December 31, 2009 Actuarial Valuation

#### **Actuarial Methods and Assumptions**

- 1. Mortality
- 2. Withdrawal, disability, retirement age

3. Interest rate

4. Cost-of-living adjustment

5. Actuarial cost method

6. Amortization period

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

As of December 31, 1999, there are no active members, and the plan is closed to new members.

5% compounded annually.

3.5% annually. Benefits for members retiring as lieutenants remain level until they equal the benefits of a first class patrolman.

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. There is no normal cost for a member or beneficiary in pay status. The actuarial accrued liability is the accumulated value of these annual normal costs on a given date. For members or beneficiaries receiving monthly benefits, the accrued liability is the present value of future benefit payments. The normal cost and accrued liability for the plan is the total of these values for all members.

Fixed date amortization of December 31, 2020.