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FAIRMONT POLICEMEN'S RELIEF ASSOCIATION December 31, 2010 Actuarial Valuation

Van Iwaarden

December 31, 2010 Actuarial Valuation

April 2011

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VAN IWAARDEN

December 31, 2010 Actuarial Valuation

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December 31, 2010 Actuarial Valuation

Introduction and Actuarial Certification

Purposes of the valuation

This report presents the results of the December 31, 2010 valuation for the Fairmont Policemen's Relief Association. Its primary purposes are:

- to determine the funded status as of December 31, 2010
- to determine the amortization payment for 2010, and
- to present information required to be disclosed under Governmental Accounting Standards Board Statement No. 25 (GASB 25) as of December 31, 2010.

<u>Sources of data</u>

The Relief Association supplied December 31, 2010 census data for all members, 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 prior year

The prior actuarial valuation of the plan was prepared as of December 31, 2009. The actuarial assumptions and methods used to prepare this report are the same as those used in the 2009 report. The annual benefit value per unit increased from \$883.91 on December 31, 2009 to \$923.81 on December 31, 2010, a 4.51% increase; 1.01% more than the assumed increase of 3.5%.

Summary of valuation results

The market value of assets increased from \$6,972,356 to \$7,421,193. The actuarial value of assets, which is based on book value, decreased from \$6,316,856 to \$6,153,663 as of December 31, 2010.

The funded status of the plan decreased from 84.4% on December 31, 2009 to 81.7% on December 31, 2010. The decrease was generated principally by the decrease in the actuarial value of assets, the liability loss and by the decrease in City contributions.

The amortization payment has increased from \$144,226 last year, to \$182,793 this year.

December 31, 2010 Actuarial Valuation

Introduction and Actuarial Certification

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.

Respectfully submitted,

Sandra Bruns

Sandra L. Bruns, FSA Consulting Actuary

April 2011

L/D/C/R: 4/GN/SB/MM

Mark Meyer/GN

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Mark D. Meyer, JD, FSA Consulting Actuary

December 31, 2010 Actuarial Valuation

Summary of Results

<u>A. Membership data*</u> 1. Liability duration	December 31, 2009	December 31, 2010
 a. Average annuity factor b. Average life expectancy c. Benefit life expectancy 2. Number of members 	12.1 11.3 20.7	11.6 10.5 19.6
a. Retirees b. Survivng spouses c. Total	10 <u>3</u> 13	10 <u>3</u> 13
<u>B. Amortization payments</u> 1. Unfunded actuarial accrued liability 2. Amortization payment	\$1,166,706 144,226	\$1,374,748 182,793
<i>C. Value of plan assets</i> 1. Market value 2. Actuarial value (for calculating contributions) 3. Investment return on actuarial value of assets	<u>December 31, 2009</u> \$6,972,356 6,316,856 17.84%	December 31, 2010 \$7,421,193 6,153,663 5.15%
<i>E. Benefit liabilities</i> 1. Present value of future benefits 2. Actuarial accrued liability	7,483,562 7,483,562	7,528,411 7,528,411
<i>F. Funded status</i> 1. Actuarial value of assets as a percent of liabilities 2. Market value of assets as a percent of liabilities	84.4% 93.2%	81.7% 98.6%

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

December 31, 2010 Actuarial Valuation

Actuarial Value of Assets

<u>A. Unrealized gain</u>

Year Ending	Market	Book	Unrealized Gain
December 31:	<u>Value</u>	<u>Value</u>	(Market - Book)
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
2010	7,421,193	5,519,898	1,901,295

B. Actuarial value of assets

1. Book value

2. One-third of unrealized gain

3. Actuarial value (1. + 2.)

December 31, 2009	December 31, 2010
5,989,106	5,519,898
<u>327,750</u>	633,765
6,316,856	6,153,663

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December 31, 2010 Actuarial Valuation

Summary of Member Data

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	December 31, 2009	December 31, 2010
<u>A. Retirees</u>		
1. Age & service	10	10
2. Total annual benefits	\$498,525	\$521,029
3. Average annual benefit	\$49,853	\$52,103
4. Average age	70.2	71.2
5. Average annuity factor	13.2	12.7
<u>B. Beneficiaries</u>		
1. Surviving spouses	3	3
2. Total annual benefits	\$92,811	\$97,000
3. Average annual benefit	\$30,937	\$32,333
4. Average age	79.3	80.3
5. Average annuity factor	8.4	8.0
<u>C. Total number of members (A.1. + B.1.)</u>	13	13

December 31, 2010 Actuarial Valuation

Summary of Changes in Membership

	Retirees	Beneficiaries	<u>Total</u>
<u>A. Number of members on December 31, 2009</u>	10	3	13
<u>B. Changes in membership</u>			
1. Deaths	0	0	0
2. Corrections	<u>0</u>	<u>0</u>	<u>0</u>
3. Total changes	0	0	0
C. Number of members on December 31, 2010	10	3	13

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December 31, 2010 Actuarial Valuation

Funding Basis

Actuarial Values Used to Determine Contribution

December 31, 2009 December 31, 2010.

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<u>A. Actuarial present value of projected benefits (the value of all future benefits</u> <u>to be paid to the current group of members)</u>

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1. Active members	\$0	\$0
2. Vested terminated members	0	0
3. Retired members	6,707,531	6,755,367
4. Spouses and children receiving benefits	776,031	773,044
5. Disabled members receiving benefits	<u>0</u>	<u>0</u>
6. Total present value of projected benefits	7,483,562	7,528,411
<u>B. Actuarial accrued liability (the cost allocated to all prior yea</u>	<u>rs)</u>	
1. Active members	\$0	\$0
2. Vested terminated members	0	0
3. Retired members	6,707,531	6,755,367
Spouses and children receiving benefits	776,031	773,044
5. Disabled members receiving benefits	<u>0</u>	<u>0</u>
6. Total actuarial accrued liability	7,483,562	7,528,411
C. Unfunded actuarial accrued liability		
1. Total actuarial accrued liability (B.6.)	\$7,483,562	\$7,528,411
2. Actuarial value of assets	6,316,856	6,153,663
3. Unfunded actuarial accrued liability (1 2.)	1,166,706	1,374,748
4. Funded status (2. / 3.)	84.4%	81.7%
<u>D. Development of municipal contribution payable:</u>	2011	<u>2012</u>
1. Unfunded actuarial accrued liability (UAL) (C.3.)	\$1,166,706	\$1,374,748
2. Amortization payment to fund plan by 12/31/2011 (see page 8)	144,226	182,793
3. Expected administrative expense	25,165	<u>25,971</u>
4. Municipal contribution $(2. + 3.)$	169,391	208,764
E. Key economic assumptions		
1. Funding interest rate	5.00%	5.00%
2. Annual benefit increase	3.50%	3.50%

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

December 31, 2010 Actuarial Valuation

Present Value of Amortization Payments

<u>H.F.1383 - Exter</u> Payment	nsion to 2020 Amortization Payment	Present Value December 31, 2010	Amortization Based on Valuation <u>Dec 31:</u>
Date	Payment	December 51, 2010	<u>Dec 31.</u>
12/31/2011	\$144,226	\$137,358	2009
12/31/2012	182,793	165,799	2010
12/31/2013	182,793	157,903	2010
12/31/2014	182,793	150,384	2010
12/31/2015	182,793	143,223	2010
12/31/2016	182,793	136,403	2010
12/31/2017	182,793	129,908	2010
12/31/2018	182,793	123,721	2010
12/31/2019	182,793	117,830	2010
12/31/2020	182,793	112,219	2010
	Total	1,374,748	

Interest for present value:

5.0%

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December 31, 2010 Actuarial Valuation

Changes in the Unfunded Actuarial Accrued Liability

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<u>A. Liability gain or loss for the year ending on December 31, 2010</u>	
1. Expected actuarial accrued liability (AAL)	
a. AAL as of December 31, 2009	\$7,483,562
b. Normal cost as of December 31, 2009 (excluding expenses)	0
c. Interest to December 31, 2010 on the AAL and normal cost	374,178
d. Expected benefit payments for the year (excluding post-retirement benefits)	(591,336)
e. Interest on benefit payments (1/2 year)	<u>(14,783)</u>
f. Expected AAL on December 31, 2010 (sum of a. through e.)	7,251,621
2. Actual AAL on December 31, 2010	
a. Before any assumption or plan changes	7,455,393
b. After unit value changes	7,528,411
c. After assumption and unit value changes	7,528,411
d. After plan changes	7,528,411
3. Liability (gain) or loss	
a. Due to plan experience different from that expected (2.a 1.f.)	203,772
b. Due to change in unit value (2.b 2.a.)	73,018
c. Due to changes in actuarial assumptions (2.c 2.b.)	0
d. Due to plan changes (2.d 2.c.)	<u>0</u>
e. Total (a. + b. + c. + d.)	276,790
 <u>B. Asset gain or loss for the year ending on December 31, 2010</u> 1. Expected actuarial value of assets a. Actuarial value of assets on December 31, 2009 b. Actual benefit payments and expenses for the year (including post-ret benefits) c. Contributions for the year 	6,316,856 (616,429) 140,155
d. Expected return on assets	<u>303,936</u>
e. Expected actuarial value of assets on December 31, 2010 (sum of a. through d.)	6,144,518
2. Actual actuarial value of assets on December 31, 2010	6,153,663
3. Asset (gain) or loss (1e 2.)	(9,145)
	(-/)
<u>C. Changes in the unfunded AAL</u>	
1. Expected unfunded AAL on December 31, 2010	1,107,103
2. Changes	· · · · · · · · · · · · · · · · · · ·
a. Actuarial (gain) or loss other than change in unit value	194,627
b. Change in unit value different from expected	73,018
c. Changes in actuarial methods and assumptions	, 0
d. Total change	267,645
3. Unfunded AAL on December 31, 2010	1,374,748

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December 31, 2010 Actuarial Valuation

Statement of Plan Net Assets - Market Value

	December 31, 2009	December 31, 2010
<u>A. Assets</u>	303,888	214,148
1. Cash 2. Short term investments	000,000	<u>0</u>
3. Total	303,888	214,148
5. Total	505,000	21 1/2 10
B. Receivables		
1. Accrued interest	772	0
2. Distributions	0	0
3. Accrued contributions	<u>0</u>	<u>0</u> 0
4. Total	772	0
		_
<u>C. Accounts payable</u>	0	0
<u>D. Investments, at fair value</u>	0	0
1. Money market	0	0
2. Mutual funds	0	0
 Asset and mortgage backed securities Municipal Bonds 	0	0
5. Unit trusts	0	0
6. Corporate bonds	0	ů 0
7. Government securities	0	0
8. GNMA mortgage certificate	0	0
9. Limited partnerships	1,208	0
10. Investments through City of Fairmont Trust Fund	99,387	0
11. Minnesota State Board of Investments	<u>6,567,101</u>	<u>7,207,045</u>
12. Total	6,667,696	7,207,045
D. Net assets for pension benefits (A. + B. + C.)	6,972,356	7,421,193

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December 31, 2010 Actuarial Valuation

Statement of Changes in Plan Net Assets

	December 31, 2009	December 31, 2010
<u>A. Additions</u>		
1. Contributions		
a. Employer	346,393	140,155
b. Plan members	<u>0</u>	<u>0</u>
c. Total	346,393	140,155
2. Investment income (net of expense)		
a. Interest and dividends	96,419	3,563
b. Partnership income	137	0
c. Realized gain/(loss)	(803,497)	1,779
d. Change in unrealized appreciation/(depreciation)	1,773,423	919,769
e. Miscellaneous income	<u>16</u>	<u>0</u>
f. Total	1,066,498	925,111
3. Transfers in	<u>U</u> 1 412 001	1 0CE DCC
4. Total additions	1,412,891	1,065,266
B. Deductions		
1. Service pensions	468,520	591,336
2. Survivors pensions	115,750	0
3. Distributions to members	11,918	0
4. Professional services	10,620	11,535
5. Salaries	12,352	11,412
6. Other expenses	1,342	2,146
7. Transfers out	<u>0</u>	<u>0</u>
8. Total deductions	620,502	616,429
<u>C. Net increase</u>	792,389	448,837
<u>D. Adjustments</u>	O	0
D. Aujustinents	0	0
<u>E. Net assets held in special fund</u>		
1. Beginning of year	6,179,967	6,972,356
2. End of year	6,972,356	7,421,193
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<u>F. Investment return</u>		
1. Market value of assets	17.65%	13.74%
2. Actuarial value of assets	17.84%	5.15%

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December 31, 2010 Actuarial Valuation

Accounting Basis

Schedule of Funding Progress

(Dollar amounts in thousands)

As of <u>December 31:</u>	Actuarial Value of <u>Assets</u>	Actuarial Accrued <u>Liability (AAL)</u>	Unfunded AAL <u>(UAAL)</u>	Funded <u>Ratio</u>	Covered <u>Payroll</u>	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	228.6%
1999	7,113	7,174	61	99.1%	163	37.4%
2000	7,170	7,245	75	99.0%	118	63.6%
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%	-	-
2010	6,154	7,528	1,374	81.7%	-	-

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December 31, 2010 Actuarial Valuation

Accounting Basis

Schedule of Employer Contributions

Year Ended	Annual Employer
December 31:	Contributions
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
2010	140,155

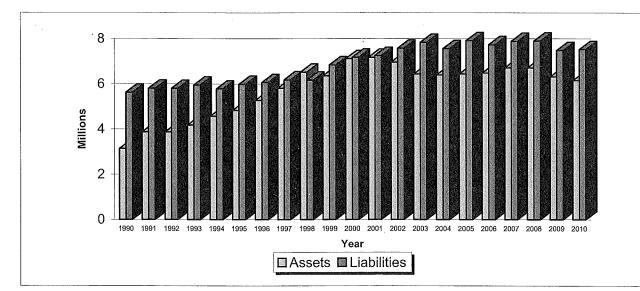
December 31, 2010 Actuarial Valuation

Historical Tables

Historical Funding Ratio Schedule

(Dollar amounts in thousands)

	Actuarial	Actuarial	
As of	Accrued	Value of	Percent
December 31:	Liability	<u>Assets</u>	<u>Funded</u>
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	85.0%
2009	7,484	6,317	84.4%
2010	7,528	6,154	81.7%



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December 31, 2010 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	-	336,725
2006	-	328,444
2007	-	322,710
2008	-	111,366
2009	_ `	144,226
2010	-	182,793

December 31, 2010 Actuarial Valuation

Historical Tables

Comparative Schedule of Active Members

	Number of					
Valuation	Active	Valuation		Averages		_
December 31:	<u>Members</u>	<u>Payroll</u>	Age	<u>Service</u>	Pay	% Increase
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	-	-	-	-	-
2010	0	-	- ·	-	-	-

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December 31, 2010 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>tó Rolls</u>	from Rolls	<u>Date</u>	<u>Benefits</u>	<u>of Benefits</u>
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
2010	0	0	13	618,029	7,528,411

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Actuarial Assumptions and Methods

1. Mortality	The UP-1984 Mortality Table set forward 2 years for males and set back 3 years for females.
2. Withdrawal, disability, retirement age	As of December 31, 1999, there are no active members, and the plan is closed to new members.
3. Interest Rate	5% compounded annually.
4. Cost-of-living adjustment	3.5% annually. Benefits for members retiring as lieutenants remain level until they equal the benefits of a first class patrolman.
5. 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. 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.

6. Amortization period

Fixed date amortization of December 31, 2020

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December 31, 2010 Actuarial Valuation

Summary of Plan Provisions

- 1. Normal Retirement 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.
- 3. Surviving Spouse's Benefit 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.
- 4. Surviving Children's Benefit 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.