



North Dakota Public Employees Retirement System

2008 Actuarial Valuation

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HIGHLIGHTS

- The Judges, National Guard, Highway Patrol and Retiree Health Insurance Credit Fund have positive contribution margins. Main, Law Enforcement with prior Main service and Law Enforcement without prior Main service have negative contribution margins.
- The funded ratio is above 100% for Judges, National Guard and Job Service but below 100% for Main, Retiree Health Insurance Credit Fund, Law Enforcement with prior Main service, Law Enforcement without prior Main service, and the Highway Patrol Fund.
- The ratio of the actuarial value of assets to the market value of assets for PERS and HPRS combined has increased from 80% to 91%. The market value exceeds the actuarial value by \$156 million.

HIGHLIGHTS (continued)

- On an actuarial value basis, there was a small investment gain due to recognition of larger than expected appreciation from prior years.
- Salary increases varied by plan, but were generally larger than expected. This results in an actuarial loss for most of the plans.
- For Main and Judges, the employer normal cost is in excess of the statutory rate. The Judges plan benefits from an actuarial surplus, which causes an amortization credit resulting in a positive margin. The Main plan, however, has an Unfunded Actuarial Accrued Liability (UAAL), so contributions are not enough to pay down the UAAL, or even pay any interest on it. The UAAL is expected to grow under the current funding policy.
- There were no changes in the actuarial assumptions.

2008 Actuarial Valuation - Main System

	2008	2007	Change
Total Number of Active Members	19,042	18,299	4.1% increase
Average Age of Active Members	47.0 years	47.0 years	No change
Average Annual Salary	\$32,959	\$31,169	5.7% increase
Total Payroll	\$628 million	\$570 million	10.0% increase

2008 Actuarial Valuation - Judges

	2008	2007	Change
Total Number of Active Members	47	47	No change
Average Age of Active Members	56.0 years	55.0 years	increase
Average Annual Salary	\$111,427	\$103,683	7.5% increase
Total Payroll	\$5,237,000	\$4,873,000	7.5% increase

2008 Actuarial Valuation - National Guard

	2008	2007	Change
Total Number of Active Members	41	40	2.5% increase
Average Age of Active Members	34.0 years	34.1 years	decrease
Average Annual Salary	\$47,919	\$36,983	29.6% increase
Total Payroll	\$1,965,000	\$1,479,000	32.8% increase

2008 Actuarial Valuation - Law Enforcement with prior Main service

	2008	2007	Change
Total Number of Active Members	136	138	1.5% decrease
Average Age of Active Members	41.6 years	41.6 years	No change
Average Annual Salary	\$37,188	\$35,292	5.4% increase
Total Payroll	\$5,058,000	\$4,870,000	3.8% increase

2008 Actuarial Valuation - Law Enforcement without prior Main service

	2008	2007	Change
Total Number of Active Members	30	28	7.1% increase
Average Age of Active Members	34.1 years	36.7 years	decrease
Average Annual Salary	\$27,472	\$25,327	8.5% increase
Total Payroll	\$824,000	\$709,000	16.2% increase

2008 Actuarial Valuation - PERS and HPRS

- Assets, at Market Value, total \$1.82 billion
(-5.2% rate of return)
- Assets, at Actuarial Value, total \$1.66 billion
(91% of Market Value)
- Rate of return on Actuarial Value was 8.5%
(0.5% higher than the 8.00% assumed)
- 10 year average rate of return on an actuarial
value basis equals 8.25%

Main System - 2007 to 2008

Employer Cost Rate, 2007	6.08%
Plan Experience	0.11%
Contribution Loss	0.12%
Effect of maintaining 20-year amortization	<u>(0.05)%</u>
Employer Cost Rate, 2008	6.26%
Statutory Rate, 2008	4.12%
Contribution Margin	(2.14)%

Judges - 2007 to 2008

Employer Cost Rate, 2007	9.31%
Plan Experience	(0.22)%
Contribution Gain	(0.29)%
Effect of maintaining 20-year amortization	<u>0.19%</u>
Employer Cost Rate, 2008	8.99%
Statutory Rate, 2008	14.52%
Contribution Margin	5.53%

National Guard - 2007 to 2008

Employer Cost Rate, 2007	3.53%
Plan Experience	(0.13)%
Effect of maintaining 20-year amortization	<u>0.04%</u>
Employer Cost Rate, 2008	3.44%
Statutory Rate, 2008	6.50%
Contribution Margin	3.06%

Law Enforcement with prior Main service - 2007 to 2008

Employer Cost Rate, 2007	12.39%
Plan Experience	0.94%
Asset Transfer of \$3.3 Million	(4.14)%
Effect of maintaining 20-year amortization	<u>(0.15)%</u>
Employer Cost Rate, 2008	9.04%
Statutory Rate, 2008	8.31%
Contribution Margin	(0.73)%

Law Enforcement without prior Main service - 2007 to 2008

Employer Cost Rate, 2007	8.50%
Plan Experience	(1.29)%
Effect of maintaining 20-year amortization	<u>(0.06)%</u>
Employer Cost Rate, 2008	7.15%
Statutory Rate, 2008	6.43%
Contribution Margin	(0.72)%

Main - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$831	\$901	109%
2000	879	1,010	115%
2001	994	1,096	110%
2002	1,087	1,130	104%
2003	1,170	1,145	98%
2004	1,251	1,172	94%
2005	1,333	1,210	91%
2006	1,450	1,286	89%
2007	1,576	1,470	93%
2008	1,700	1,571	92%

Judges - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$10.4	\$13.9	134%
2000	11.8	16.1	136%
2001	13.9	17.9	130%
2002	15.5	19.0	122%
2003	17.3	19.8	115%
2004	18.4	20.8	113%
2005	19.8	21.7	109%
2006	21.7	23.3	105%
2007	23.1	26.8	116%
2008	24.7	28.8	117%

National Guard - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$1.61	\$1.81	112%
2000	0.85	1.16	135%
2001	1.02	1.27	125%
2002	0.94	1.31	139%
2003	1.05	1.32	126%
2004	1.15	1.38	120%
2005	1.36	1.46	108%
2006	1.56	1.58	101%
2007	1.73	1.89	109%
2008	1.80	2.05	114%

Law Enforcement with prior Main service

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
2004	\$2.43	\$2.11	87%
2005	6.40	2.62	41%
2006	7.00	3.12	45%
2007	9.28	3.97	43%
2008	10.56	7.59	72%

Law Enforcement without prior Main service

<u>Year</u>	<u>Actuarial Accrued Liabilities</u>	<u>Actuarial Value of Assets</u>	<u>Funded Ratio</u>
2004	\$10,000	\$11,000	109%
2005	87,000	42,000	48%
2006	123,000	73,000	59%
2007	367,000	127,000	35%
2008	368,000	175,000	48%

Main, Judges, National Guard and Law Enforcement - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$843	\$917	109%
2000	892	1,027	115%
2001	1,009	1,115	111%
2002	1,103	1,150	104%
2003	1,189	1,166	98%
2004	1,273	1,197	94%
2005	1,361	1,236	91%
2006	1,480	1,315	89%
2007	1,610	1,503	93%
2008	1,738	1,610	93%

2008 Actuarial Valuation - Retiree Health Insurance Credit Fund

	2008	2007	Change
Total Number of Active Members	19,659	18,929	3.9% increase
Average Age of Active Members	46.8 years	46.8 years	No change
Average Annual Salary	\$33,617	\$31,848	5.6% increase
Total Payroll	\$661 million	\$603 million	9.6% increase

Retiree Health Insurance Credit Fund

- Assets, at Market Value, total \$40.4 million
- Assets, at Actuarial Value, total \$42.5 million (105.2% of Market Value)
- Market Value rate of return was -14.04%
- Actuarial Value rate of return was 5.16%, 2.84% less than the 8.00% investment return assumption

Retiree Health Insurance Credit Fund 2007 to 2008

Employer Cost Rate, 2007	0.95%
Plan Experience	<u>(0.07)%</u>
Employer Cost Rate, 2008	0.88%
Statutory Rate, 2008	1.00%
Contribution Margin	0.12%

Retiree Health Insurance Credit Fund - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$57.6	\$19.4	33.7%
2000	61.9	22.6	36.5%
2001	65.5	24.8	37.8%
2002	69.0	26.4	38.3%
2003	72.0	27.5	38.2%
2004	74.6	28.9	38.8%
2005	78.1	30.9	39.6%
2006	82.6	34.0	41.2%
2007	85.3	38.9	45.6%
2008	87.6	42.5	48.6%

2008 Actuarial Valuation - Highway Patrol Retirement System

	2008	2007	Change
Total Number of Active Members	130	133	2.3% decrease
Average Age of Active Members	37.0 years	37.2 years	decrease
Average Annual Salary	\$50,066	\$46,082	8.6% increase
Total Payroll	\$6,509,000	\$6,129,000	6.2% increase

Highway Patrol Retirement System 2007 to 2008

Employer Cost Rate, 2007	15.08%
Plan Experience	1.00%
Contribution Gain	(0.17)%
Effect of maintaining 20-year amortization	<u>(0.15)%</u>
Employer Cost Rate, 2008	15.76%
Statutory Rate, 2008	16.70%
Contribution Margin	0.94%

Highway Patrol Retirement System - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1999	\$32.2	\$32.0	99%
2000	34.0	35.9	105%
2001	38.1	38.8	102%
2002	40.5	39.5	97%
2003	42.4	39.6	93%
2004	44.5	40.0	90%
2005	46.3	40.7	88%
2006	49.1	42.8	87%
2007	51.5	48.2	93%
2008	54.6	50.8	93%

2008 Actuarial Valuation - Job Service

- Frozen plan; declining membership
- Gain this year from salary increases (4.0% vs. 5.0% assumed)
- Gain this year from COLA (2.2% vs. 5.0% assumed)
- Loss from investment return (6.4% vs. 7.5% assumed)

2008 Actuarial Valuation - Job Service

	2008	2007	Change
Total Number of Active Members	38	40	5.0% decrease
Average Age of Active Members	56.4 years	55.5 years	increase
Average Annual Salary	\$46,385	\$46,079	0.7% increase
Total Payroll	\$1,763,000	\$1,843,000	4.4% decrease

Job Service - Funded Ratio

<u>Year</u>	<u>Present Value of Projected Benefits (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
2000	\$56.6	\$71.0	125%
2001	58.7	70.8	121%
2002	59.9	67.6	113%
2003	60.7	66.0	109%
2004	61.8	67.5	109%
2005	63.3	69.3	109%
2006	70.0	70.6	101%
2007	71.7	75.7	106%
2008	71.8	77.0	107%