



North Dakota Public Employees Retirement System

2007 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, Law Enforcement without prior Main service have negative contribution margins.
- The funded ratio at actuarial value is above 100% for Judges, National Guard and Job Service but below 100% at actuarial value 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 Main plan is over 100% funded at market value.
- The market value exceeds the actuarial value by \$388 million.

HIGHLIGHTS (continued)

- There were no changes in the actuarial assumptions.
- Other than the investment experience gain, there were no other significant gains or losses.
- The overall funded position has improved since 2006.

2007 Actuarial Valuation - Main System

	2007	2006	Change
Total Number of Active Members	18,299	17,887	2.3% increase
Average Age of Active Members	47.0 years	46.8 years	increase
Average Annual Salary	\$31,169	\$29,998	3.9% increase
Total Payroll	\$570 million	\$537 million	6.1% increase

2007 Actuarial Valuation - Judges

	2007	2006	Change
Total Number of Active Members	47	47	No change
Average Age of Active Members	55.0 years	55.1 years	decrease
Average Annual Salary	\$103,700	\$99,500	4.2% increase
Total Payroll	\$4.9 million	\$4.7 million	4.2% increase

2007 Actuarial Valuation - National Guard

	2007	2006	Change
Total Number of Active Members	40	41	1 member decrease
Average Age of Active Members	34.1 years	33.1 years	increase
Average Annual Salary	\$36,983	\$33,451	10.6% increase
Total Payroll	\$1,479,300	\$1,371,485	7.9% increase

2007 Actuarial Valuation - Law Enforcement with prior Main service

	2007	2006	Change
Total Number of Active Members	138	113	22.1% increase
Average Age of Active Members	41.6 years	42.7 years	decrease
Average Annual Salary	\$35,292	\$35,168	0.4% increase
Total Payroll	\$4.9 million	\$4.0 million	22.5% increase

2007 Actuarial Valuation - Law Enforcement without prior Main service

	2007	2006	Change
Total Number of Active Members	28	14	14 member increase
Average Age of Active Members	36.7 years	36.0 years	increase
Average Annual Salary	\$25,327	\$29,264	13.5% decrease
Total Payroll	\$709,167	\$409,698	73.1% increase

2007 Actuarial Valuation - PERS and HPRS

- Assets, at Market Value, total \$1.94 billion
(19.6% rate of return)
- Assets, at Actuarial Value, total \$1.55 billion
(80% of Market Value)
- Rate of return on Actuarial Value was 15.8%
(7.8% higher than the 8.00% assumed). The return on Market
Value was 19.63%.
- 10 year average rate of return on an actuarial
value basis equals 8.79% (8.89% on market value).

Main System - 2006 to 2007

Employer Cost Rate, 2006	6.90%
Employer Cost Rate, 2007	6.08%
Total Change in Contribution Rate	(0.82)%
Statutory Rate, 2007	4.12%
Contribution Margin, 2007	(1.96)%

Judges - 2006 to 2007

Employer Cost Rate, 2006	12.36%
Plan Experience	(3.24)%
Effect of maintaining 20-year amortization	0.19%
Change in Actuarial Assumptions	<u>0.00%</u>
Employer Cost Rate, 2007	9.31%
Statutory Rate, 2007	14.52%
Contribution Margin	5.21%

National Guard - 2006 to 2007

Employer Cost Rate, 2006	4.02%
Plan Experience	(0.50)%
Effect of maintaining 20-year amortization	0.01%
Change in Actuarial Assumptions	<u>0.00%</u>
Employer Cost Rate, 2007	3.53%
Employer Rate, 2007	6.50%
Contribution Margin	2.97%

Law Enforcement with prior Main service - 2006 to 2007

Employer Cost Rate, 2006	12.07%
Plan Experience	0.61%
Effect of maintaining 20-year amortization	(0.29)%
Change in Actuarial Assumptions	<u>0.00%</u>
Employer Cost Rate, 2007	12.39%
Employer Rate, 2007	8.31%
Contribution Margin	(4.08)%

Contribution margin will be updated following an analysis of transfers from the Main plan.

Law Enforcement without prior Main service - 2006 to 2007

Employer Cost Rate, 2006	7.43%
Plan Experience	1.12%
Effect of maintaining 20-year amortization	(0.05)%
Change in Actuarial Assumptions	<u>0.00%</u>
Employer Cost Rate, 2007	8.50%
Employer Rate, 2007	6.43%
Contribution Margin	(2.07)%

Main - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1998	\$710	\$788	111%
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%

2007 market value funded ratio is 117%

Judges - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1998	\$9	\$12	130%
1999	10	14	134%
2000	12	16	136%
2001	14	18	130%
2002	16	19	122%
2003	17	20	115%
2004	18	21	113%
2005	20	22	109%
2006	22	23	105%
2007	23	27	118%

2007 market value funded ratio is 145%

National Guard - Funded Ratio

<u>Year</u>	<u>Actuarial Accrued Liabilities (millions)</u>	<u>Actuarial Value of Assets (millions)</u>	<u>Funded Ratio</u>
1998	\$1.34	\$1.51	113%
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%

2007 market value funded ratio is 136%

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%

2007 market value funded ratio is 53%

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	\$10,430	\$11,388	109%
2005	\$86,899	\$42,018	48%
2006	\$123,034	\$73,167	59%
2007	\$367,263	\$127,450	35%

2007 market value funded ratio is 43%

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>
1998	\$720	\$801	111%
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%

2007 market value funded ratio is 117%

2007 Actuarial Valuation - Retiree Health Insurance Credit Fund

	2007	2006	Change
Total Number of Active Members	18,929	18,465	2.5% increase
Average Age of Active Members	46.8 years	46.7 years	increase
Average Annual Salary	\$31,848	\$30,761	3.5% increase
Total Payroll	\$603 million	\$568 million	6.2% increase

Retiree Health Insurance Credit Fund

- Assets, at Market Value, total \$45.3 million
- Assets, at Actuarial Value, total \$38.9 million
(85.9% of Market Value)
- Market Value rate of return was 15.91%
- Actuarial Value rate of return was 10.44%,
2.44% more than the 8.00% investment return
assumption

Retiree Health Insurance Credit Fund 2006 to 2007

Employer Cost Rate, 2006	1.00%
Plan Experience	(0.05)%
Assumption Changes	<u>0.00%</u>
Employer Cost Rate, 2007	0.95%
Statutory Rate, 2007	1.00%
Contribution Margin	0.05%

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>
1998	\$54.7	\$16.3	29.7%
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%

2007 market value funded ratio is 53%

2007 Actuarial Valuation - Highway Patrol Retirement System

	2007	2006	Change
Total Number of Active Members	133	127	6 member increase
Average Age of Active Members	37.2 years	37.7 years	decrease
Average Annual Salary	\$46,082	\$44,789	2.9% increase
Total Payroll	\$6.13 million	\$5.69 million	7.7% increase

Highway Patrol Retirement System 2006 to 2007

Employer Cost Rate, 2006	19.03%
Plan Experience	(3.81)%
Effect of maintaining 20-year amortization	(0.14)%
Change in Actuarial Assumptions	<u>0.00%</u>
Employer Cost Rate, 2007	15.08%
Statutory Rate, 2007	16.70%
Contribution Margin	1.62%

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>
1998	\$28.9	\$28.1	97%
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%

2007 market value funded ratio is 117%

2007 Actuarial Valuation - Job Service

- Frozen plan; declining membership
- Salary increases higher than expected (5.5% vs. 5.0% assumed)
- Gains this year from ad-hoc adjustment (3.3% vs. 5.0% assumed)
- Gains from investment return (12.1% vs. 7.5% assumed)

2007 Actuarial Valuation - Job Service

	2007	2006	Change
Total Number of Active Members	40	44	4 member decrease
Average Age of Active Members	55.5 years	55.1 years	increase
Average Annual Salary	\$46,079	\$43,697	5.5% increase
Total Payroll	\$1.8M	\$1.9M	4.1% 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	\$57	\$71	125%
2001	59	71	121%
2002	60	68	113%
2003	61	66	109%
2004	62	68	109%
2005	63	69	109%
2006	70	71	101%
2007	72	76	106%

2007 market value funded ratio is 132%