

The City of Bismarck
Employees' Pension Plan

Actuarial Valuation

January 1, 2012 (Revised to
Reflect Experience Study
Recommendations)



Gallagher Benefit Services, Inc.

Branch Headquarters
3600 American Blvd. West, Suite 500, Minneapolis, MN 55431
952.356.3840 | 800.754.9867 (toll-free) |
www.gallagherbenefits.com/minneapolis



The City of Bismarck Employees' Pension Plan

Table of Contents

Actuarial Certification	1
Commentary	2
Summary of Results	3
<u>Exhibits</u>	
Input Information	
1. Summary of Plan Provisions	4
2. Census Summary and Reconciliation	7
3. Participant Reconciliation	8
4. Active Participant Data	9
5. Retired Participant Data	10
6. Reconciliation of Assets	11
7. Historical Asset Information	12
8. Actuarial Assumptions and Cost Methods	13
Contribution Information	
9. Development of Unfunded Actuarial Accrued Liability	15
10. Development of Actuarial (Gain)/Loss	16
11. Recommended Amortization Schedule	17
12. Development of Annual Required Contribution	18
13. 10.4% of Payroll Funding Amortization Schedule	19
Accounting Information	
14. Statement of Accumulated Plan Benefits	20
15. Governmental Accounting Standards Board (GASB) Statement No. 25	21
16. Governmental Accounting Standards Board (GASB) Statement No. 27	22

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

ACTUARIAL CERTIFICATION

January 1, 2012 to December 31, 2012

In our opinion, the following report presents fairly the January 1, 2012 Actuarial Valuation of The City of Bismarck Employees' Pension Plan in accordance with Generally Accepted Actuarial Principles and Practices.

Our Actuarial Valuation has been conducted with reliance upon Participant information and financial information provided to us by the City of Bismarck. The accuracy of the information in this report is dependent on the quality and completeness of the information provided to us. We have reviewed the information provided to us for general reasonableness. The valuation was performed on the basis of the Participant data, Plan Provisions, actuarial assumptions, and actuarial methods stated in this report.

The actuarial assumptions used in this report were selected by the City of Bismarck, with the agreement of Gallagher Benefit Services, Inc. The assumptions were modified effective January 1, 2012 to reflect the results of an Experience Study for the period from January 1, 2005 through December 31, 2011. In our opinion, the actuarial assumptions used (a) each, and in the aggregate, are reasonably related to the experience of the plan and to reasonable expectations, and (b) in the aggregate, represent our best estimate of anticipated experience under the plan.

To the best of our knowledge, the information contained in this report is complete and accurate.



Douglas A. Anderson, EA, ASA, MAAA
Enrollment Number 11-05012

10-25-2012

Date



Benjamin M. Holle, EA
Enrollment Number 11-07400

10-25-2012

Date



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

COMMENTARY

In this report we present the results of the January 1, 2012 Actuarial Valuation of the City of Bismarck Employees' Pension Plan. This report reflects updated termination and retirement rate assumptions effective January 1, 2012.

Annual Required Contribution

We recommend that the City contribution be at least equal to the Annual Required Contribution developed under the Entry Age Normal actuarial cost method. On this basis, a contribution of \$1,423,866 (7.6% of covered payroll) is recommended for the 2012 plan year. The calculation of this contribution is illustrated in Exhibit 12.

Expected City Contribution

The City commission has approved that the City contribution will be 10.4% of salary. The expected contribution for 2012 on this basis is \$1,952,744 (10.4% of payroll).

Contribution Requirements

The valuation results are shown on page 3 in a comparison between 2011 and 2012. The 2011 calculation, developed in the first column, shows an UAAL of \$11,511,392 and, with an actual City payment of \$2,076,309 in 2011 and expected payment of \$1,952,744 in 2012 plus future contributions of 10.4% of covered payroll, an amortization period of 37 years.

The calculation for 2012 shows an UAAL of \$8,210,537 and, with a City payment of \$1,952,744 for 2012, an amortization period of 11 years.

Funding Ratio

On a plan assumptions basis, plan assets cover 117% of the Present Value of Accumulated Plan Benefits. More detail is contained on page 20. Last year plan assets covered 105% of the Present Value of Accumulated Plan Benefits.

GASB No. 25 and No. 27

Information required by Statements No. 25 and No. 27 of the Governmental Accounting Standards Board is summarized on pages 21 and 22.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

SUMMARY OF RESULTS

	1/1/11	1/1/12	Percent Change
1. Number of Participants			
(a) Active	396	393	(0.8%)
(b) Terminated vested	35	39	11.4%
(c) Retired	<u>130</u>	<u>139</u>	6.9%
(d) Total Participants	561	571	1.8%
2. Annual covered salaries for Participants under the assumed retirement age	\$ 17,408,878	\$ 18,776,386	7.9%
3. Actuarial Accrued Liability			
(a) Active Participants	\$ 48,921,423	\$ 44,737,707	(8.6%)
(b) Terminated vested Participants	1,759,162	2,567,712	46.0%
(c) Retired Participants	<u>17,985,482</u>	<u>20,008,750</u>	11.2%
(d) Total Actuarial Accrued Liability = (a)+(b)+(c)	\$ 68,666,067	\$ 67,314,169	(2.0%)
4. Actuarial Value of Assets	\$ <u>57,154,675</u>	\$ <u>59,103,632</u>	3.4%
5. Unfunded Actuarial Accrued Liability = (3)(d)-(4)	\$ 11,511,392	\$ 8,210,537	(28.7%)
6. Actual 2011/Expected 2012 annual financial support by City	\$ 2,076,309	\$ 1,952,744	(6.0%)
7. Annual Required Contribution	\$ 1,904,777	\$ 1,423,866	(25.2%)
8. Amortization period at expected level of funding	37 years ¹	11 years ²	(70.3%)

¹ Amortization period based on City Contributions of \$2,076,309 in 2011, \$1,952,744 in 2012, and increasing due to total salary growth at the rate of 3.0% annually thereafter.

² Amortization period based on \$1,952,744 contribution for 2012, and increasing due to total salary growth at the rate of 3.0% annually thereafter.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 1 Summary of Plan Provisions

The following summary has been prepared for valuation purposes only. It outlines the Provisions found in Chapter 9-07 (City Employees' Pension) necessary to perform the Actuarial Valuation, as interpreted by Gallagher Benefit Services Inc.

Definitions

Actuarial Equivalence Factors:	In calculating the actuarial equivalence of one form of benefit to another, the interest rate to be used shall be 7.0% and the mortality table to be used shall be the "applicable mortality table" as defined by Section 417(e)(3) of the Code (9-07-10).
Average Basic Monthly Compensation:	The average of the monthly base compensation of a Participant over the highest 36 month period of employment. Monthly base compensation excludes overtime, bonuses, severance payments, and other remuneration in excess of base compensation (9-07-15(1)).
Effective Date of the Plan:	January 1, 1966.
Early Retirement Date:	Participants who have completed 60 consecutive months of contributing service and have attained age 50 are eligible for a monthly pension benefit (9-07-15(2)).
Membership Fee:	Every full-time employee of the City of Bismarck except police officers and fire fighters shall be assessed and required to pay an amount of 5.0% of their basic salary (9-07-01).
Normal Form of Benefit:	Married Participants receive a Joint & Two-Thirds to Survivor annuity. Single Participants receive a Life Only annuity.
Normal Retirement Date:	Participants who have attained age 62 are eligible for a monthly pension benefit (9-07-15(1)).
Plan Year:	January 1 st through December 31 st (9-07-08).
Recognized Service:	Full and fractional years of contributing service during which the employee contributed to the fund (9-07-23). Military service will be included as part of the period of service with the City provided that the period does not exceed 5 years and the employee pays into the fund 5.0% of the lesser of the last full year's salary paid by the City or military salary for each year of military service (9-07-05).



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 1 (Continued) Summary of Plan Provisions

Plan Provisions

Eligibility: Every full-time employee, other than members of the Police Department who are sworn officers, members of the firefighter's relief association, and employees who perform fire suppression duties. (9-07-11).

Normal Retirement Benefit: Participants serving until the Normal Retirement Date are eligible for a monthly pension benefit computed by multiplying his or her highest 36 months of Average Basic Monthly Compensation times 1.75% times his or her number of full and fractional years of Recognized Service prior to January 1, 2005 plus 2.25% times his or her number of full and fractional years of Recognized Service after December 31, 2004. (9-07-15(1)).

Early Retirement Benefit: The monthly pension benefit shall be equal to the Normal Retirement Benefit actuarially reduced for payments commencing prior to age 62 (9-07-15(2)). The reduction factors are as follows:

Age	Factor	Age	Factor
50	.4287	57	.6841
51	.4567	58	.7353
52	.4870	59	.7918
53	.5199	60	.8542
54	.5557	61	.9233
55	.5947	62	1.000
56	.6373		

Termination Benefit: After 60 consecutive months of contributing service and termination of employment, a Participant may elect a deferred retirement benefit to commence at an elected age 50 to 62. The Participant's deferred benefit shall equal the Normal Retirement Benefit (based on service and compensation to the date of termination) actuarially reduced for early commencement (9-07-15(3)).



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 1 (Continued) Summary of Plan Provisions

Death Benefit:

The surviving spouse (while unmarried) receives 2/3 of the actuarially reduced pension to which the Participant would have been entitled, but not less than \$65 per month provided the Participant served at least 60 consecutive months of contributing service (9-07-15(4)).

The surviving spouse has the option to elect a refund of contributions in lieu of the above-mentioned benefit (9-07-15(5)).

If there is no surviving spouse, the Participant's contributions are paid to the Participant's estate (9-07-15(6)).

Refund of Contributions:

Any Participant who has contributed to the plan and terminates employment before being entitled to a pension shall be entitled to a refund of all contributions made by him to the pension system with accumulated interest. Interest of 5% per year will be credited on such contributions made after July 1, 1972. Interest of 2.5% per year will be credited on such contributions made prior to July 1, 1972.

Any Participant electing a refund of contributions forfeits all rights to any other form of benefit under this plan (9-07-14).

Cost of Living Adjustments:

Persons receiving pension payments shall be eligible for cost of living adjustments in an amount determined by the Board of Trustees. The adjustment may not exceed the lesser of the City employees' salary adjustment or 3% (9-07-16).



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 2 Census Summary and Reconciliation

	1/1/11	1/1/12	Percent Change
Active Participants			
▪ Number of Participants			
– Fully vested	267	270	1.1%
– Non-vested	<u>129</u>	<u>123</u>	(4.7%)
– Total	396	393	(0.8%)
▪ Average age	47.9	48.0	0.2%
▪ Average service	13.6	13.7	0.7%
▪ Average salary	\$ 45,633	\$ 45,750	0.3%
Terminated Vested Participants			
▪ Number of Participants	35	39	11.4%
▪ Average age	51.2	51.7	1.0%
▪ Average years since termination	6.4	5.9	(7.8%)
▪ Average monthly benefit at Normal Retirement	\$ 707.97	\$ 861.55	21.7%
Retired Participants			
▪ Number of Participants	130	139	6.9%
▪ Average age	74.0	73.8	(0.3%)
▪ Average years since retirement	10.9	10.9	0.0%
▪ Average monthly benefit	\$ 1,321.86	\$ 1,359.70	2.9%

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 3 Participant Reconciliation

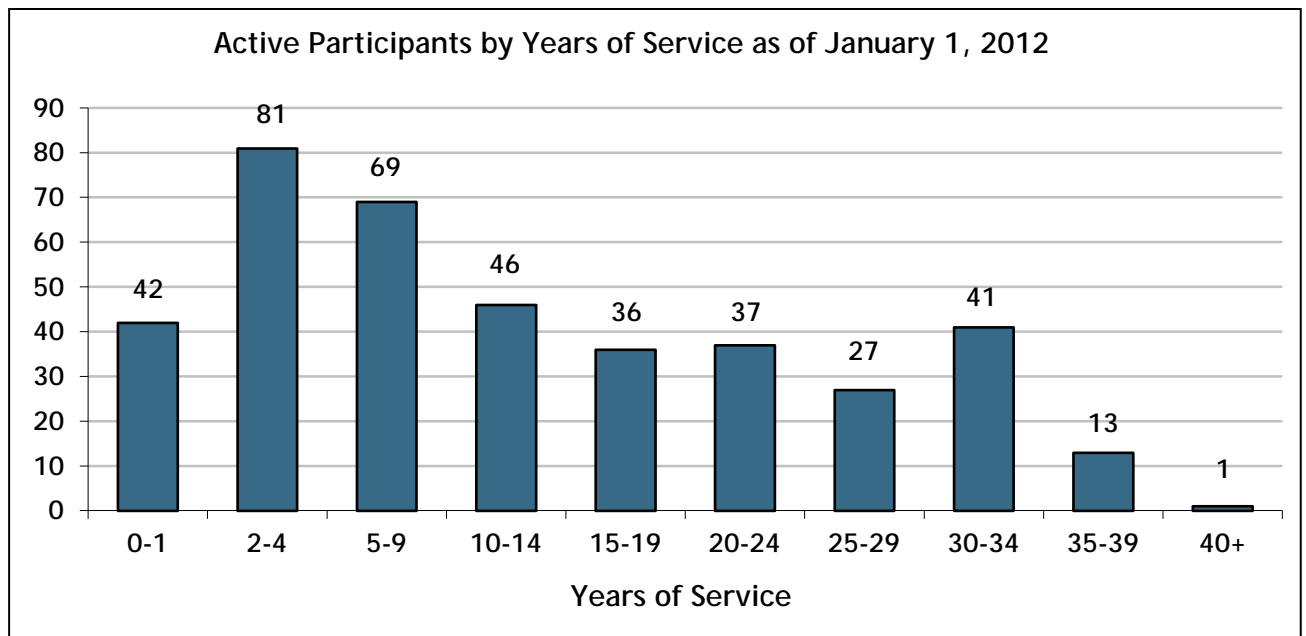
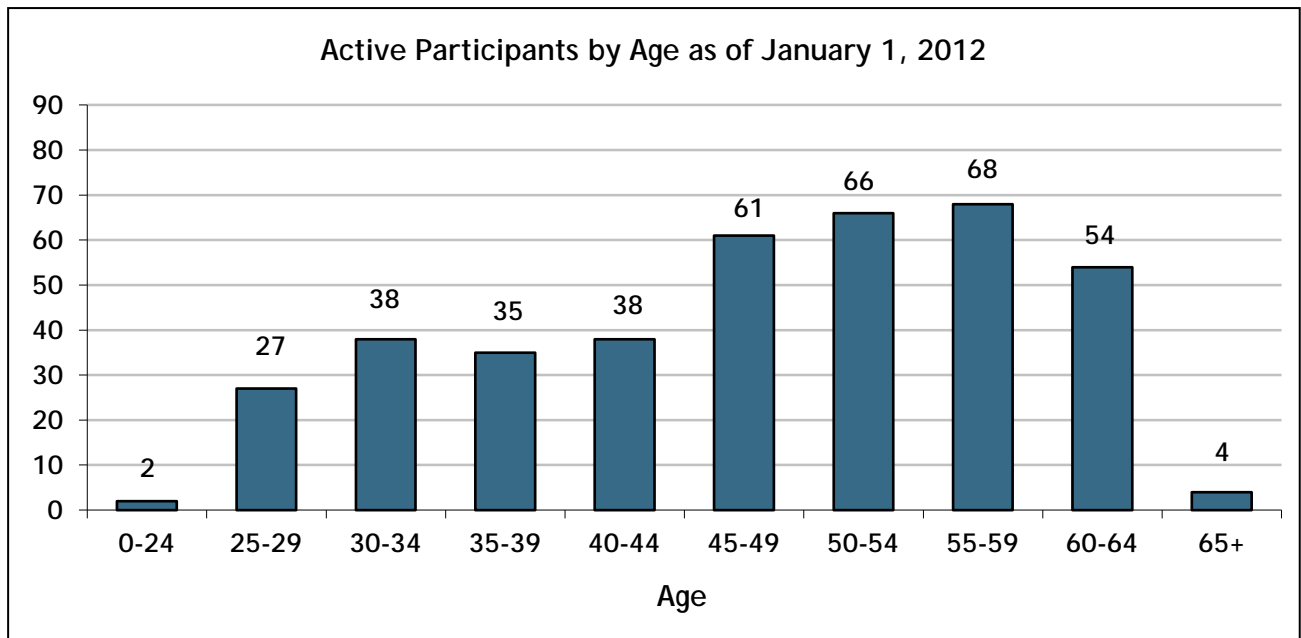
The following information provides the reconciliation from January 1, 2011 to January 1, 2012 of Plan Participants.

	Active	Terminated Vested	Retired	Disabled	Beneficiary	Total
1/1/2011 Participants	396	35	98	0	32	561
New Participants	28	-	-	-	-	28
Rehired	1	-	-	-	-	1
Terminated vested	(7)	7	-	-	-	0
Terminated non-vested	(13)	-	-	-	-	(13)
Retired	(9)	(3)	12	-	-	0
Disabled	-	-	-	-	-	0
Died with beneficiary	(1)	1	(4)	-	4	0
Died without beneficiary	-	-	(1)	-	(2)	(3)
Benefit stopped	-	-	-	-	-	0
Paid-out lump sum	(1)	(1)	-	-	-	(2)
Data corrections	(1)	-	-	-	-	(1)
1/1/2012 Participants	393	39	105	0	34	571

During 2011 the total Participant count increased by 10 due to 28 new Participants and 1 rehire offset by 1 data correction, 14 Participants that terminated employment and received a return of their employee contributions, 3 Participant deaths without a beneficiary and 1 previously terminated Participant that received a return of contributions. There were 12 Participants that retired, and 8 Participants that moved from active to terminated vested status (including the death of an active participant with a deferred vested Beneficiary) during the year. There were 4 Participant deaths during 2011 with immediate benefits to a beneficiary.

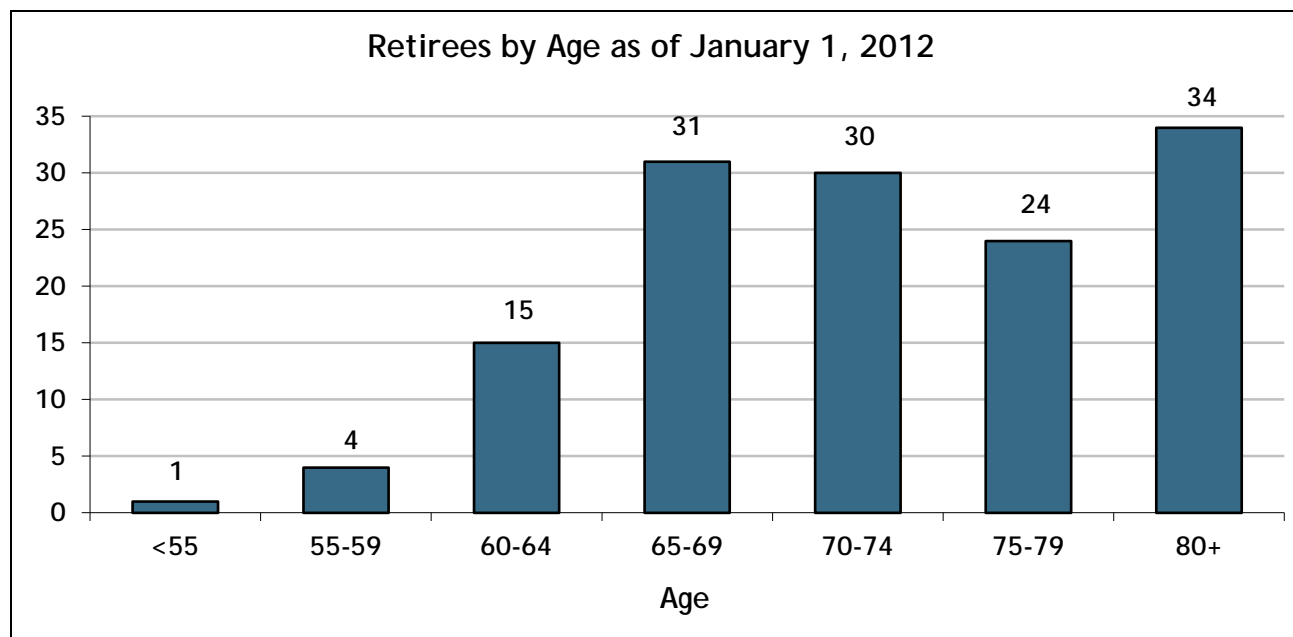
THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 4 Active Participant Data

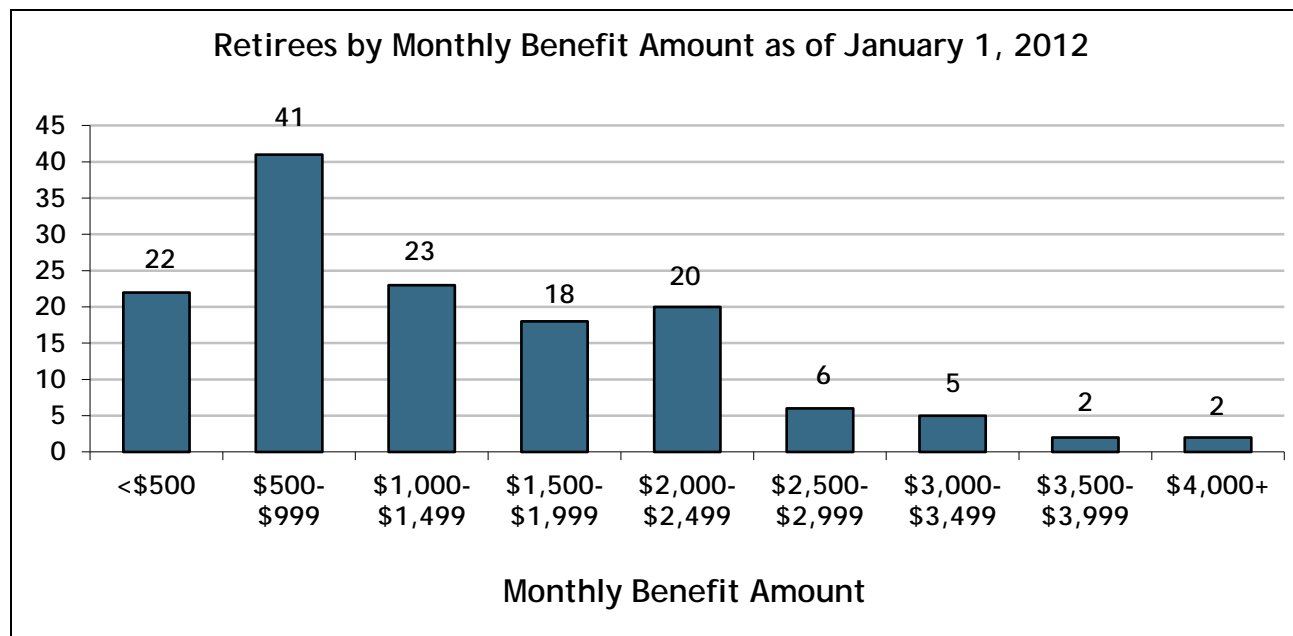


THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 5
Retired Participant Data



Retirees include those on service retirement, disability retirement and beneficiaries with survivor benefits.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

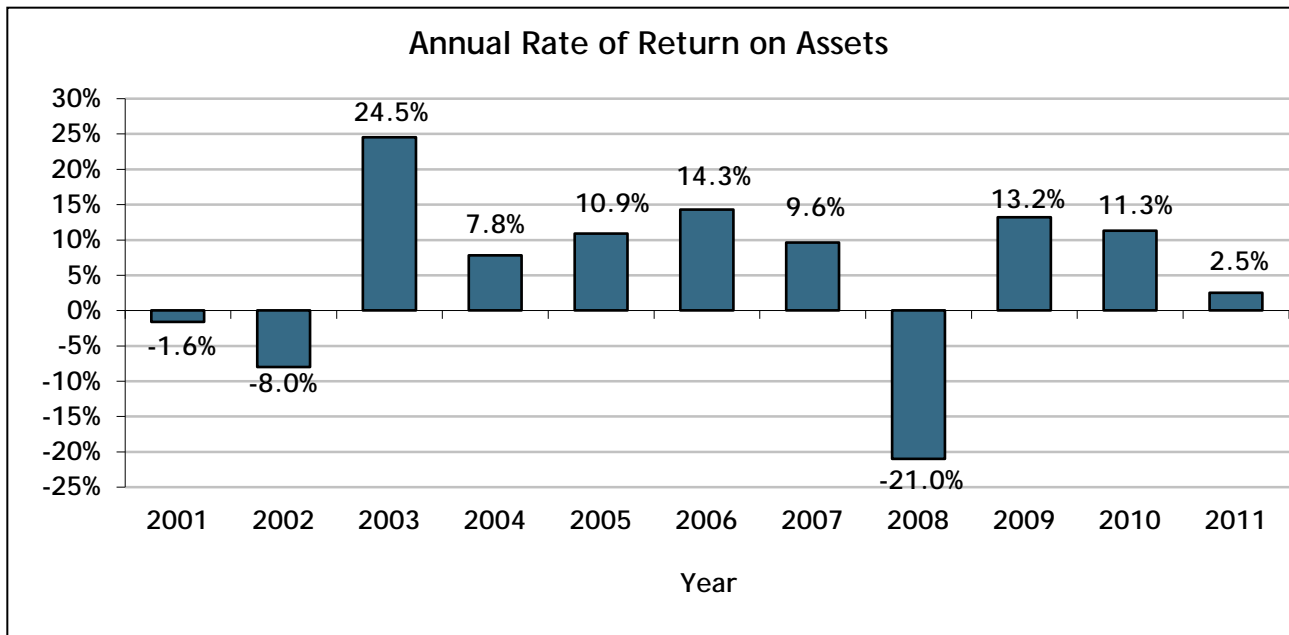
EXHIBIT 6 Reconciliation of Assets

1. Beginning Balance as of January 1, 2011		\$	57,154,709
2. Revenue			
(a) Employer's Contribution			
(i) General Property Tax	\$	930,735	
(ii) Mobile Home Tax		11,540	
(iii) Homestead Credit		4,787	
(iv) Disabled Veteran Credit		3,482	
(v) State Payment in Lieu of Tax		135,839	
(vi) Park & Rec. Contribution		221,704	
(vii) Department Contribution	\$	<u>768,222</u>	
(viii) Total City Contribution		2,076,309	
(b) Employee's Contribution		927,338	
(c) Investment Income (Loss)		<u>1,438,824</u>	
(d) Total Revenue			\$ 4,442,471
3. Expenditure			
(a) Pension Benefit Payments	\$	2,120,312	
(b) Professional & Legal Fees		2,449	
(c) Management Consulting		17,450	
(d) Administration Fees		24,433	
(e) Investment Expense		219,840	
(f) Pension Refund		108,302	
(g) Postage		<u>762</u>	
(h) Total Expenditure			\$ <u>2,493,548</u>
4. Net Income (Loss)			\$ <u>1,948,923</u>
5. Ending Balance as of December 31, 2011			\$ <u>59,103,632</u>

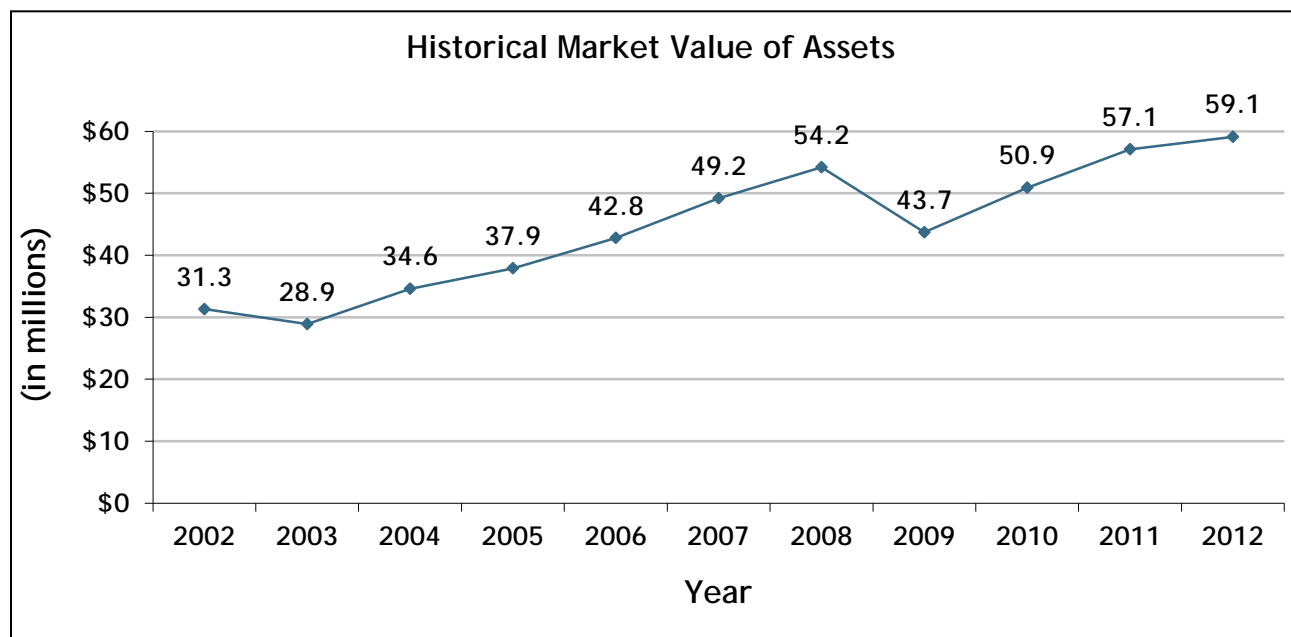
Total assets increased \$1,948,923 during 2011. This increase was from net cash flow (total contributions less expenditures) of \$510,099, and an investment income of \$1,438,824. Some components were rounded up or down to ensure that the totals would add correctly. The net rate of return after expenses was 2.5%.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 7
Historical Asset Information



Rates of return are determined after expenses. Calculations prior to 2004 exclude the employee accumulation fund (Kemper Account).



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 8 Actuarial Assumptions and Cost Methods

Economic Assumptions

Investment Return: The Fund is assumed to earn 7.5% per year after expenses.

Salary Scale: Active Participant Salaries are assumed to increase at rates according to the following table:

Years of Service	Rate
0-9	5.0%
10+	4.0%

Inflation: The amortization of the Unfunded Actuarial Accrued Liability is determined as a level percent of payroll using a 3% total payroll growth assumption.

Demographic Assumptions

Retirement: Active Participant retirement rates are based on plan experience between 1/1/05 and 12/31/11 (See Illustrations on Page 14).

Mortality: Mortality rates are based on the 1994 Group Annuity Mortality Table (See Illustrations on Page 14).

Disability: None.

Withdrawal: Active Participant termination rates are based on plan experience between 1/1/05 and 12/31/11 (See Illustrations on Page 14).

Spouse Age: Male Participants are assumed to be 3 years older than female spouses. Female Participants are assumed to be 3 years younger than male spouses.

Marriage Rate: 85% of Participants are assumed to be married.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 8 (Continued) Actuarial Assumptions and Cost Methods

Cost Methods

Form of Benefit: Married Participants receive their benefit in the form of a Joint and Two Thirds to Survivor annuity. Single Participants receive their benefit in the form of a Life Only annuity.

Actuarial Asset Value: The Actuarial Value of Assets is equal to the Market Value of Assets reserved for employee pension benefits.

Expenses: Plan expenses are paid from plan assets.

Funding Method: The contribution requirement is determined using the Entry Age Normal actuarial cost method.

Illustrations

Age	Rate of Mortality (per 1,000)	
	Male	Female
25	0.66	0.29
30	0.80	0.35
35	0.85	0.48
40	1.07	0.71
45	1.58	0.97
50	2.58	1.43
55	4.43	2.29

Age	Rate of Disability (per 1,000)	
	Male	Female
25	0.00	0.00
30	0.00	0.00
35	0.00	0.00
40	0.00	0.00
45	0.00	0.00
50	0.00	0.00
55	0.00	0.00

Age	Rate of Withdrawal (per 1,000)	
	Male	Female
20-24	80	200
25-29	80	150
30-34	80	150
35-39	80	80
40-44	25	80
45-49	20	60
50-54	10	30
55+	0	0

Age	Rate of Retirement (per 1,000)	
	Male	Female
62-65	200	200
66	400	400
67	600	600
68	800	800
69+	1,000	1,000

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 9

Development of Unfunded Actuarial Accrued Liability

	1/1/12
1. Actuarial Accrued Liability	
(a) Participants receiving benefits	\$ 20,008,750
(b) Terminated vested Participants	2,567,712
(c) Active Participants	<u>49,606,045</u>
(d) Total Participants = (a)+(b)+(c)	\$ 72,182,507
2. Adjustment for cost of living adjustments	0
3. Adjustment for assumption changes	<u>(4,868,338)</u>
4. Actuarial Accrued Liability after adjustments = (1)(d)+(2)+(3), not less than zero	\$ 67,314,169
5. Actuarial Value of Assets	<u>59,103,632</u>
6. Unfunded Actuarial Accrued Liability as of January 1, 2012 = (4)-(5)	\$ 8,210,537

Under the Entry Age Normal actuarial cost method, the Unfunded Actuarial Accrued Liability is recalculated each year. The Actuarial Accrued Liability is valued using participant data, plan provisions and assumptions as of the valuation date. Past demographic or economic experience different than assumed is called an actuarial gain or loss and is reflected in the Unfunded Actuarial Accrued Liability. A breakdown of actuarial gains and losses from the past year is shown on the next page.

The Unfunded Actuarial Accrued Liability is amortized over a fixed period of time. The amortization period was reset at 30 years as of January 1, 2009. Therefore, there are 27 years remaining in the amortization period. The resulting amortization payment is a component of the Annual Required Contribution.

The Unfunded Actuarial Accrued Liability is scheduled to be reduced to \$0 over the amortization period. However, this schedule is met only if all assumptions are met and the actual employer contribution equals the Annual Required Contribution each year. If assumptions are not met, an actuarial gain or loss will either decrease or increase the UAAL. Also, if the employer contribution exceeds the recommended contribution, the UAAL will be reduced more rapidly. Alternatively, if the employer contribution is less than the recommended contribution, the UAAL will reduce more slowly or even increase.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 10

Development of Actuarial (Gain)/Loss

Development of Liability (Gain) or Loss

Actual Actuarial Liability as of January 1, 2011		\$ 68,666,067
Expected changes		
▪ Normal cost	\$ 2,016,014	
▪ Interest at 7.5%	5,301,156	
▪ Benefit payments with interest to year end	<u>(2,312,188)</u>	
▪ Total expected changes		\$ <u>5,004,982</u>
Expected Actuarial Liability as of January 1, 2012		\$ 73,671,049
Actual Actuarial Liability as of January 1, 2012		<u>72,182,507</u>
Actuarial Liability (gain) or loss		\$ <u>(1,488,542)</u>

Breakdown of Actuarial Liability (gain) or loss by source

▪ Participant experience different than assumed for death, retirement, termination, disability and other amounts		\$ 240,873
▪ Inactive mortality		(877,394)
▪ Salary increases other than expected		(855,388)
▪ New entrants		3,367
▪ Assumption changes		N/A
▪ Cost of living adjustment		<u>N/A</u>
Actuarial Liability (gain) or loss		\$ <u>(1,488,542)</u>

Development of Asset (Gain) or Loss

Market Value of Assets as of January 1, 2011		\$ 57,154,709
▪ Interest at 7.5%		4,286,603
▪ Actual contributions with interest to year-end		3,116,284
▪ Actual benefit payments with interest to year-end		(2,312,188)
▪ Actual expenses with interest to year-end		<u>(274,868)</u>
Expected value of assets as of January 1, 2012		\$ 61,970,540
Actual value of assets as of January 1, 2012		<u>59,103,632</u>
Asset (gain) or loss		\$ <u>2,866,908</u>

A (gain)/loss occurs when actual demographic or economic experience is different from the valuation assumptions. For example, if salary increases are greater (lower) than expected the liability will go up (down). During 2011, an actuarial liability gain of \$1,488,542 and an asset loss of \$2,866,908 resulted in an increase in UAAL of \$1,378,366 less than expected. These calculations are based on results prior to making the assumption changes.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 11

Recommended Amortization Schedule

Year	Unfunded Liability at Beginning of Year	Annual Amortization Payment	Unfunded Liability at End of Year
2012	\$ 8,210,537	\$ 501,889	\$ 8,286,797
2013	8,286,797	516,945	8,352,590
2014	8,352,590	532,454	8,406,647
2015	8,406,647	548,427	8,447,586
2016	8,447,586	564,880	8,473,909
2017	8,473,909	581,827	8,483,989
2018	8,483,989	599,281	8,476,060
2019	8,476,060	617,260	8,448,211
2020	8,448,211	635,778	8,398,365
2021	8,398,365	654,851	8,324,278
2022	8,324,278	674,496	8,223,515
2023	8,223,515	694,731	8,093,443
2024	8,093,443	715,573	7,931,210
2025	7,931,210	737,040	7,733,732
2026	7,733,732	759,152	7,497,674
2027	7,497,674	781,926	7,219,429
2028	7,219,429	805,384	6,895,098
2029	6,895,098	829,546	6,520,469
2030	6,520,469	854,432	6,090,990
2031	6,090,990	880,065	5,601,744
2032	5,601,744	906,467	5,047,424
2033	5,047,424	933,661	4,422,295
2034	4,422,295	961,671	3,720,171
2035	3,720,171	990,521	2,934,374
2036	2,934,374	1,020,236	2,057,698
2037	2,057,698	1,050,843	1,082,369
2038	1,082,369	1,082,369	0

The Annual Amortization Payment is determined by amortizing the Unfunded Actuarial Accrued Liability (UAAL) over 27 years as a level percentage of total payroll. Total payroll is assumed to increase at 3% per year. Therefore, the UAAL of \$8,210,537 as of January 1, 2012 is scheduled to be fully amortized over a 27-year period with payments increasing from \$501,889 in 2012 by 3% per year.

This schedule is in accordance with Governmental Accounting Standards Board No. 27 guidelines. The City commission has approved that the City contribution will be 10.4% of salary.

The annual City contribution of 10.4% of salary will be enough to amortize the UAAL over 11 years. Please see Exhibit 13 for more details.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 12

Development of Annual Required Contribution

Annual Required Contribution (Dollar Amounts)

	2011	2012
1. Total Normal Cost	\$ 2,016,014	\$ 1,809,331
2. Expected employee contribution	<u>(870,444)</u>	<u>(938,819)</u>
3. City Normal Cost	\$ 1,145,570	\$ 870,512
4. Amortization of Unfunded Actuarial Accrued Liability	<u>690,360</u>	<u>501,889</u>
5. Total Annual Required Contribution	\$ 1,835,930	\$ 1,372,401
6. Interest to mid-year at 7.5%	<u>68,847</u>	<u>51,465</u>
7. Recommended contribution, mid-year = (5)+(6)	\$ 1,904,777	\$ 1,423,866

Annual Required Contribution (As a Percent of Payroll)

	2011	2012
1. Total Normal Cost	11.6%	9.6%
2. Expected employee contribution	<u>(5.0%)</u>	<u>(5.0%)</u>
3. City Normal Cost	6.6%	4.6%
4. Amortization of Unfunded Actuarial Accrued Liability	<u>3.9%</u>	<u>2.7%</u>
5. Total Annual Required Contribution	10.5%	7.3%
6. Interest to mid-year at 7.5%	<u>0.4%</u>	<u>0.3%</u>
7. Recommended contribution, mid-year = (5)+(6)	10.9%	7.6%

Percent of Payroll results are based on total expected covered payroll of \$17,408,878 in 2011 and \$18,776,386 in 2012. The expected city contribution of 10.4% of covered payroll is more than the 2012 Annual Required Contribution of 7.6%.



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 13
10.4% of Payroll Funding Amortization Schedule

Year	Unfunded Liability at Beginning of Year	End of Year Annual Amortization Payment	Unfunded Liability at End of Year
2012	\$ 8,210,537	\$ 1,053,006	\$ 7,773,321
2013	7,773,321	1,084,596	7,271,724
2014	7,271,724	1,117,134	6,699,970
2015	6,699,970	1,150,648	6,051,819
2016	6,051,819	1,185,167	5,320,538
2017	5,320,538	1,220,723	4,498,856
2018	4,498,856	1,257,344	3,578,926
2019	3,578,926	1,295,065	2,552,281
2020	2,552,281	1,333,916	1,409,786
2021	1,409,786	1,373,934	141,586
2022	141,586	141,586	0

The City commission has approved that the City contribution will be 10.4% of salary. The expected contribution for 2012 on this basis is \$1,952,744. The Annual Amortization Payment shown above represents the total expected City contribution available to reduce the UAAL at the end of that year after a reduction for payment of the annual City normal cost.

As shown above, a City contribution of 10.4% of salary per year will amortize the UAAL over 11 years.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 14

Statement of Accumulated Plan Benefits

A measure of the degree of progress made in funding any plan is a comparison between the Accumulated Benefit Liability and the assets accumulated to date. The Accumulated Benefit Liability measures the present value of future benefit payments. However, benefit payments are based only on service and salaries earned as of the valuation date. This liability amount is less than the Actuarial Accrued Liability used to determine the Annual Required Contribution, because the AAL anticipates future salary increases for active participants. The liabilities are determined using the regular valuation assumptions. The table below shows the actuarial present value of the Accumulated Benefit Liability.

Actuarial Present Value of Accumulated Plan Benefits (PVAB)

	1/1/11	1/1/12
Vested accrued benefits		
▪ Participants currently receiving payments	\$ 17,985,482	\$ 20,008,750
▪ Other Participants	<u>36,104,025</u>	<u>30,489,934</u>
Total vested accrued benefits	\$ <u>54,089,507</u>	\$ <u>50,498,684</u>
Non-vested accrued benefits	<u>209,656</u>	<u>74,200</u>
Total accrued benefits	\$ 54,299,163	\$ 50,572,884

Statement of Changes in Accumulated Plan Benefits

Beginning value, January 1, 2011	\$	54,299,163
Increases (Decreases)		
▪ Cost of living adjustment	\$	0
▪ Change in actuarial assumptions		(8,038,548)
▪ Benefits accumulated and (gain)/loss		2,550,509
▪ Increase for interest due to decrease in discount period		3,990,375
▪ Benefits paid		<u>(2,228,615)</u>
▪ Net increase (decrease)	\$	<u>(3,726,279)</u>
Ending Value, January 1, 2012	\$	50,572,884

The ratio of assets to the above liabilities (known as the Funding Ratio) represents the degree to which Accumulated Benefit liability has been funded. As of January 1, 2012, the Market Value of Assets was \$59,103,632. The table below outlines the funding ratios.

Funding Ratio (Assets/PVAB)	
Vested accrued benefits	117%
Total accrued benefits	117%



THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 15

GASB Statement No. 25

Statement No. 25 requires disclosure of supplementary information in the form of two schedules, the Schedule of Funding Progress and the Schedule of Employer Contributions. The schedules are shown below.

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Liability (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b - a) / c]
1/1/2002	31,269,380	34,499,048	3,229,668	90.6%	11,114,003	29.1%
1/1/2003	28,324,967	32,464,523	4,139,556	87.2%	11,806,729	35.1%
1/1/2004	34,646,791	39,088,399	4,441,608	88.6%	12,441,844	35.7%
1/1/2005	37,922,220	42,856,344	4,934,124	88.5%	12,765,077	38.7%
1/1/2006	42,836,388	48,871,708	6,035,320	87.7%	13,106,843	46.0%
1/1/2007	49,153,640	50,825,581	1,671,941	96.7%	13,892,759	12.0%
1/1/2008	54,224,695	55,307,884	1,083,189	98.0%	14,901,848	7.3%
1/1/2009	43,690,842	59,315,384	15,624,542	73.7%	15,932,987	98.1%
1/1/2010	50,883,840	64,117,376	13,233,536	79.4%	17,134,528	77.2%
1/1/2011	57,154,675	68,666,067	11,511,392	83.2%	17,408,878	66.1%
1/1/2012	59,103,632	67,314,169	8,210,537	87.8%	18,776,386	43.7%

Schedule of Employer Contributions

Year Ended	Annual Required Contribution (a)	Employer Contribution (b)	Percentage Contributed (b / a)
12/31/2002	746,951	449,657	60.2%
12/31/2003	1,531,586	906,670	59.2%
12/31/2004	1,267,143	1,678,601	132.5%
12/31/2005	1,414,021	2,113,743	149.5%
12/31/2006	1,233,248	2,147,360	174.1%
12/31/2007	1,068,130	2,182,902	204.4%
12/31/2008	1,090,182	2,542,707	233.2%
12/31/2009	2,010,653	2,649,359	131.8%
12/31/2010	1,958,692	1,862,086	95.1%
12/31/2011	1,904,777	2,076,309	109.0%
12/31/2012	1,423,866	-	-

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 16

GASB Statement No. 27

The GASB Statement No. 27 annual pension expense is defined as the Annual Required Contribution (ARC) plus one year's interest on the Net Pension Obligation (NPO) offset by an adjustment to the Annual Required Contribution (ARC). The NPO is defined as the cumulative difference, including interest, for the years prior to the transition date between (a) the employer's required contributions in accordance with the plan's actuarially determined funding requirements and (b) the contributions made by the employer in relation to the required contributions. The adjustment to the Annual Required Contribution is necessary to amortize past contribution deficiencies or excess contributions of the employer.

	2011 Plan Year	2012 Plan Year
Annual Required Contribution (ARC)	\$ 1,835,930	\$ 1,372,401
Interest on Net Pension Obligation (asset)	(352,732)	(376,061)
Adjustment to Annual Required Contribution - Beginning of Year NPO amortized as a level percent of pay over a closed 30 year period beginning 1/1/2009 ¹	<u>282,054</u>	<u>306,502</u>
Annual Pension Cost	\$ 1,765,252	\$ 1,302,842
Contributions Made	<u>2,076,309</u>	<u>*</u>
Increase (decrease) in Net Pension Obligation (asset)	\$ (311,057)	\$ *
Net Pension Obligation (asset) beginning of year	<u>(4,703,095)</u>	<u>(5,014,152)</u>
Net Pension Obligation (asset) end of year	\$ (5,014,152)	\$ *

¹The 2011 Amortization Factor is 16.67. The 2012 Amortization Factor is 16.36.

* To be determined at end of year.

The Net Pension Obligation at transition (January 1, 2007) is the cumulative difference, including interest, between (a) the employer's required contributions in accordance with the plan's actuarially determined funding requirements and (b) the contributions made by the employer in relation to the required contributions. The cumulative difference was based on plan records dating back to January 1, 2001. Since the Unfunded Actuarial Accrued Liability as of that date was \$0, all actuarially determined required contributions prior to that date are assumed to have been made.

