

**The City of Bismarck
Employees' Pension Plan**

Actuarial Valuation

January 1, 2016



Arthur J. Gallagher & Co.



Arthur J. Gallagher & Co.

The City of Bismarck Employees' Pension Plan

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THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

ACTUARIAL CERTIFICATION

January 1, 2016 to December 31, 2016

In our opinion, the following report presents fairly the actuarial position of the plan in accordance with Generally Accepted Actuarial Principles and Practices. The purpose of this report is to develop a funding recommendation. Determinations for other purposes may be different; the results in this report should not be used for other purposes.

Our Actuarial Valuation has been completed with reliance upon participant and financial information provided to us by the City of Bismarck. We have reviewed the data provided to us for general reasonableness but did not audit the data. The accuracy of the information in this report is dependent on the quality and completeness of the data provided to us. Each assumption not specified by statute or regulations is reasonable taking into account the experience of the Plan, Plan-specific features, the purpose of the measurement and reasonable expectations.

The actuarial assumptions used in this report were selected by the City of Bismarck, in consultation with Gallagher Benefit Services, Inc. Based on a review of historic experience, Plan-specific features, and anticipated future outlook, the actuarial assumptions not specified by statute or regulation, each and in the aggregate, are reasonably related to the experience of the Plan and reflect a reasonable estimate of anticipated experience under the Plan.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. Due to the limited scope of this engagement, we did not complete an analysis of the potential range of such future measurements.

To the best of our knowledge, the information contained in this report is complete, accurate and in accordance with generally accepted actuarial principles as recommended by the American Academy of Actuaries. The actuary is an Enrolled Actuary and is qualified to render the actuarial opinion contained in this report.



Benjamin M. Holle, EA
Enrollment Number 14-07400

3/31/2016

Date



Jesse K. Millner, EA, ASA
Enrollment Number 14-08190

3/31/2016

Date

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

COMMENTARY

In this report we present the results of the January 1, 2016 Actuarial Valuation of the City of Bismarck Employees' Pension Plan. There were no changes in actuarial assumptions or plan provisions since the January 1, 2015 report.

Annual Recommended Contribution

We recommend that the City contribution be at least equal to the annual recommended contribution developed under the Entry Age Normal actuarial cost method. On this basis, a contribution of \$2,016,747 (7.9% of covered payroll) is recommended for the 2016 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 2016 on this basis is \$2,660,460.

Contribution Requirements

The valuation results are shown on page 3 in a comparison between 2015 and 2016. The 2015 calculation, developed in the first column, shows an UAAL of \$966,992 and, with an actual City payment of \$2,314,892 in 2015 and expected payment of \$2,660,460 in 2016 plus future contributions of 10.4% of covered payroll, an amortization period of 1 year.

The calculation for 2016 shows an UAAL of \$9,190,764 and, with an expected City payment of \$2,660,460 for 2016, an amortization period of 10 years.

Reasons for the increased UAAL include a loss on plan assets (2015 return of 1.1% vs. 7.5% assumption) and a loss due to compensation increases higher than expected (11.0% average increase vs. 4.0% - 5.0% assumed).

Funding Ratio

Plan assets cover 115% of the Present Value of Accumulated Plan Benefits. More detail is contained on page 20. Last year plan assets covered 125% of the Present Value of Accumulated Plan Benefits. The Present Value of Accumulated Plan benefits is the value of benefits based only on salaries and service as of the valuation date and does not reflect the value of any future benefit accruals.

GASB No. 67 and No. 68

Gallagher will provide the required information for GASB No. 67 and No. 68 separately.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

SUMMARY OF RESULTS

	1/1/15	1/1/16	Percent Change
1. Number of Participants			
(a) Active	431	455	5.6%
(b) Terminated vested	58	59	1.7%
(c) Retired	<u>173</u>	<u>188</u>	8.7%
(d) Total Participants = (a)+(b)+(c)	662	702	6.0%
2. Annual covered salaries for Participants under the assumed retirement age	\$ 21,850,884	\$ 25,581,345	17.1%
3. Actuarial Accrued Liability			
(a) Active Participants	\$ 47,990,942	\$ 53,745,329	12.0%
(b) Terminated vested Participants	3,106,200	2,611,920	(15.9%)
(c) Retired Participants	<u>31,144,175</u>	<u>34,418,964</u>	10.5%
(d) Total Actuarial Accrued Liability = (a)+(b)+(c)	\$ 82,241,317	\$ 90,776,213	10.4%
4. Actuarial Value of Assets	\$ <u>81,274,325</u>	\$ <u>81,585,449</u>	0.4%
5. Unfunded Actuarial Accrued Liability = (3)(d)-(4)	\$ 966,992	\$ 9,190,764	850.4%
6. Actual 2015/Expected 2016 annual financial support by City	\$ 2,314,892	\$ 2,660,460	14.9%
7. Annual Recommended Contribution	\$ 1,205,086	\$ 2,016,747	67.4%
8. Amortization period at expected level of funding	1 year ¹	10 years ²	900.0%

¹ Amortization period based on City Contributions of \$2,314,892 in 2015, \$2,660,460 in 2016, and increasing due to total salary growth at the rate of 3.0% annually thereafter.

² Amortization period based on \$2,660,460 contribution for 2016, and increasing due to total salary growth at the rate of 3.0% annually thereafter.

Input Information



Arthur J. Gallagher & Co.

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 1st through December 31st (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

	1/1/15	1/1/16	Percent Change
Active Participants			
▪ Number of Participants			
– Fully vested	271	260	(4.1%)
– Non-vested	<u>160</u>	<u>195</u>	21.9%
– Total	431	455	5.6%
▪ Average age	46.9	46.8	(0.2%)
▪ Average service	12.0	11.4	(5.0%)
▪ Average salary	\$ 48,509	\$ 53,782	10.9%
Terminated Vested Participants			
▪ Number of Participants	58	59	1.7%
▪ Average age	47.8	47.7	(0.2%)
▪ Average years since termination	5.1	5.4	5.9%
▪ Average monthly benefit at Normal Retirement	\$ 788.20	\$ 713.85	(9.4%)
Retired Participants			
▪ Number of Participants	173	188	8.7%
▪ Average age	72.5	72.7	0.3%
▪ Average years since retirement	9.7	9.5	(2.1%)
▪ Average monthly benefit	\$ 1,634.92	\$ 1,667.77	2.0%

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 3 Participant Reconciliation

The following information provides the reconciliation from January 1, 2015 to January 1, 2016 of Plan Participants.

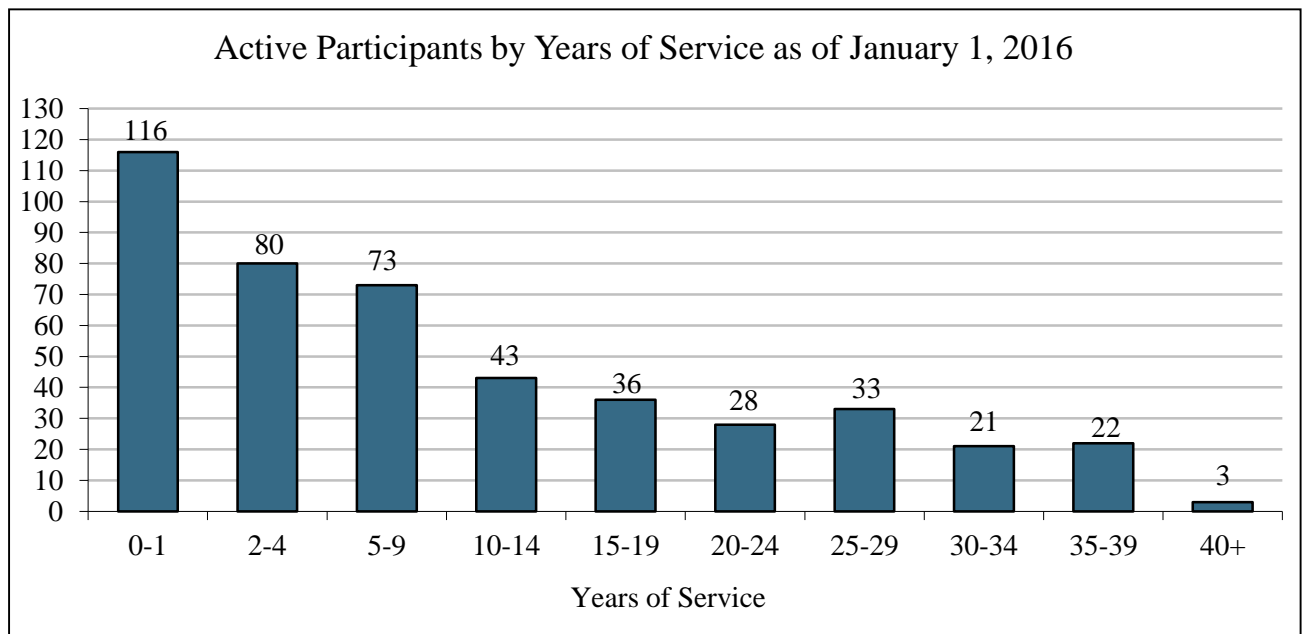
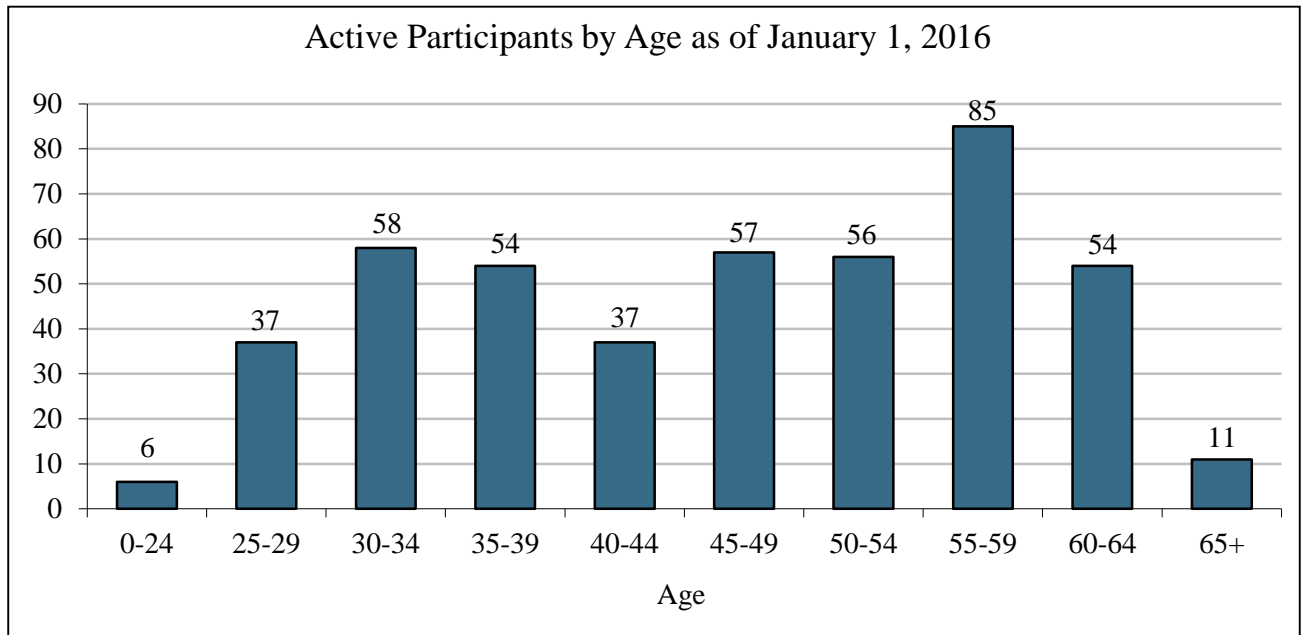
	Active	Terminated Vested	Retired	Disabled	Beneficiary	Total
1/1/2015 Participants	431	58	143	0	30	662
New Participants	77	-	-	-	-	77
Rehired	3	-	-	-	-	3
Terminated vested	(5)	5	-	-	-	-
Terminated non-vested	(39)	-	-	-	-	(39)
Retired	(12)	(4)	16	-	-	-
Disabled	-	-	-	-	-	-
Died with beneficiary	-	-	(5)	-	5	-
Died without beneficiary	-	-	-	-	(1)	(1)
Benefit stopped	-	-	-	-	-	-
Paid-out lump sum	-	-	-	-	-	-
Data corrections	-	-	-	-	-	-
1/1/2016 Participants	455	59	154	0	34	702

During 2015, the total Participant count increased by 40 due to 77 new Participants and 3 Participants that were rehired offset by 39 Participants that terminated employment and received a return of their employee contributions and 1 Participant death with no beneficiary. There were 16 Participants that retired, 5 Participants that moved from active to terminated vested status and 5 Participant deaths during 2015 with immediate benefits to a beneficiary.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

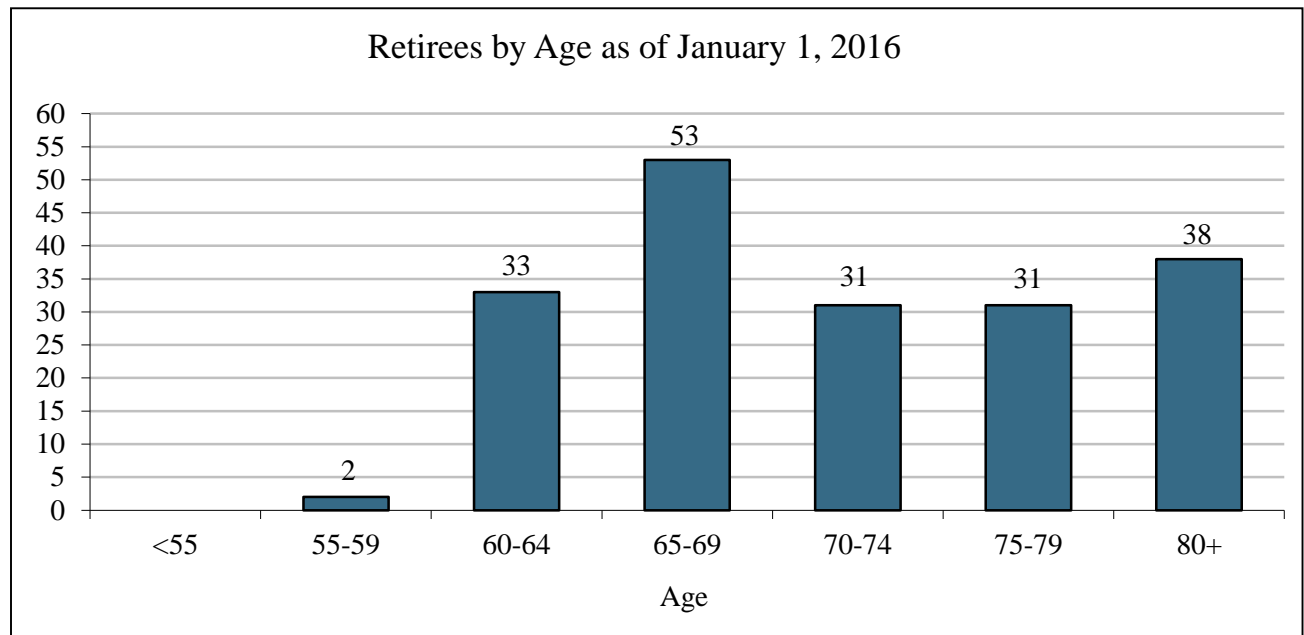
EXHIBIT 4

Active Participant Data

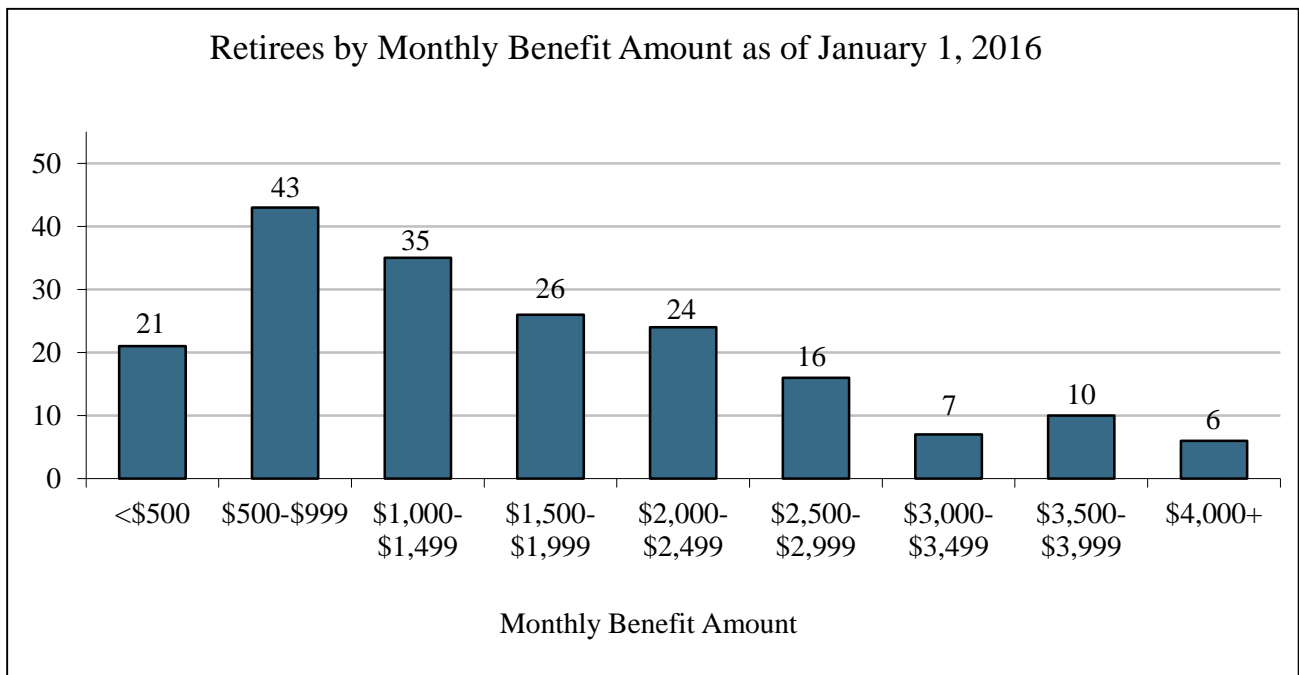


THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

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

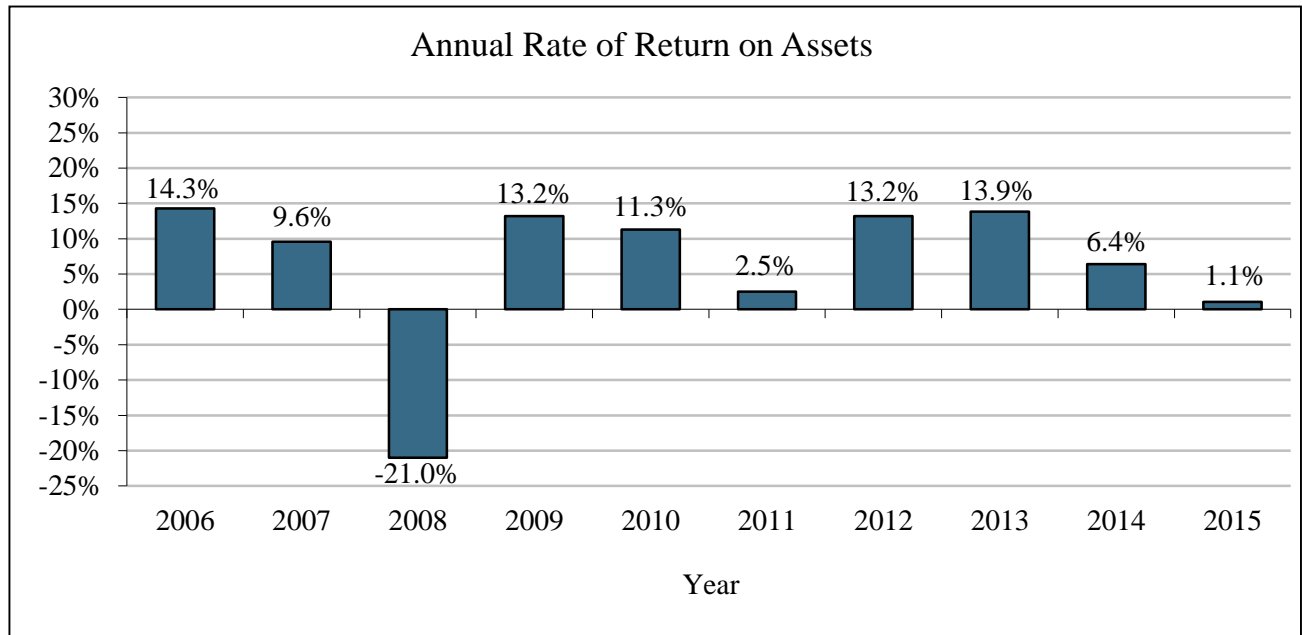
EXHIBIT 6 Reconciliation of Assets

1. Beginning Balance as of January 1, 2015			\$	81,274,325
2. Revenue				
(a) Employer's Contribution				
(i) Park & Rec. Contribution	\$	243,218		
(ii) Department Contribution		<u>2,071,674</u>		
(iii) Total City Contribution	\$	2,314,892		
(b) Employee's Contribution		1,216,077		
(c) Investment Income (Loss)		<u>867,726</u>		
(d) Total Revenue			\$	4,398,695
3. Expenditure				
(a) Pension Benefit Payments	\$	3,578,515		
(b) Professional & Legal Fees		747		
(c) Management Consulting		24,600		
(d) Administration Fees		47,526		
(e) Investment Expense		279,904		
(f) Security Lending Expense		788		
(g) Pension Refund		154,259		
(h) Postage		<u>1,232</u>		
(i) Total Expenditure			\$	<u>4,087,571</u>
4. Net Income (Loss)			\$	<u>311,124</u>
5. Ending Balance as of December 31, 2015			\$	<u>81,585,449</u>

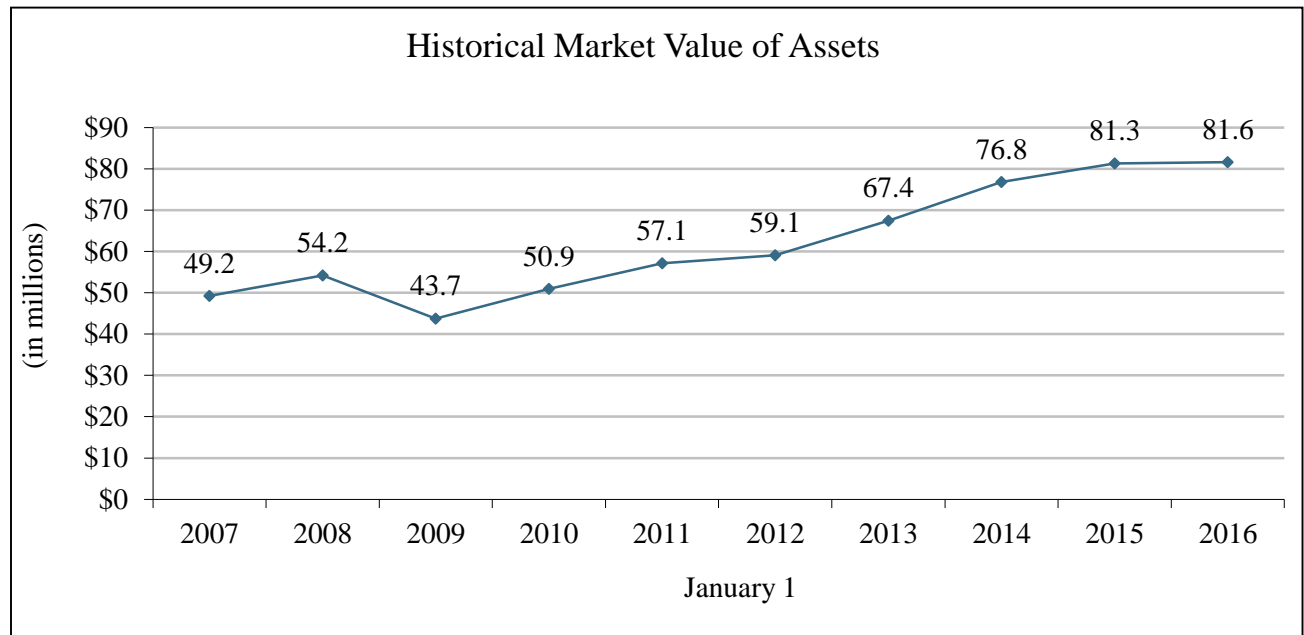
Total assets increased \$311,124 during 2015. This increase was from net cash flow (total contributions less expenditures) of (\$556,602), and an investment income of \$867,726. Some components were rounded up or down to ensure that the totals would add correctly. The net rate of return after expenses was 1.1%.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 7 Historical Asset Information



Rates of return are determined after expenses.



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

Contribution Information



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THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 9

Development of Unfunded Actuarial Accrued Liability

	1/1/16
1. Actuarial Accrued Liability	
(a) Participants receiving benefits	\$ 34,418,964
(b) Terminated vested Participants	2,611,920
(c) Active Participants	<u>53,745,329</u>
(d) Total Participants = (a)+(b)+(c)	\$ 90,776,213
2. Adjustment for cost of living adjustments	0
3. Adjustment for assumption changes	<u>0</u>
4. Actuarial Accrued Liability after adjustments = (1)(d)+(2)+(3), not less than zero	\$ 90,776,213
5. Actuarial Value of Assets	<u>81,585,449</u>
6. Unfunded Actuarial Accrued Liability as of January 1, 2016 = (4)-(5)	\$ 9,190,764

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 23 years remaining in the amortization period. The resulting amortization payment is a component of the recommended 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 recommended 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, 2015		\$ 82,241,317
Expected changes		
▪ Normal cost	\$ 2,190,985	
▪ Interest at 7.5%	6,332,423	
▪ Cost of living adjustment	0	
▪ Benefit payments with interest to year end	<u>(3,872,753)</u>	
▪ Total expected changes		\$ <u>4,650,655</u>
Expected Actuarial Liability as of January 1, 2016		\$ 86,891,972
Actual Actuarial Liability as of January 1, 2016		<u>90,776,213</u>
Actuarial Liability (gain) or loss		\$ 3,884,241

Breakdown of Actuarial Liability (gain) or loss by source

▪ Participant experience different than assumed for death, retirement, termination, disability and other amounts		\$ 639,875
▪ Inactive mortality		50,862
▪ Salary increases other than expected		3,193,504
▪ New entrants		0
▪ Assumption changes		<u>N/A</u>
Actuarial Liability (gain) or loss		\$ 3,884,241

Development of Asset (Gain) or Loss

Market Value of Assets as of January 1, 2015		\$ 81,274,325
▪ Interest at 7.5%		6,095,574
▪ Actual contributions with interest to year-end		3,663,380
▪ Actual benefit payments with interest to year-end		(3,872,753)
▪ Actual expenses with interest to year-end		<u>(368,102)</u>
Expected value of assets as of January 1, 2016		\$ 86,792,424
Actual value of assets as of January 1, 2016		<u>81,585,449</u>
Asset (gain) or loss		\$ 5,206,975

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 2015, an actuarial liability loss of \$3,884,241 and an asset loss of \$5,206,975 resulted in an increase in UAAL of \$9,091,216 more than expected.

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
2016	\$ 9,190,764	\$ 620,583	\$ 9,212,945
2017	9,212,945	639,200	9,216,775
2018	9,216,775	658,377	9,200,278
2019	9,200,278	678,128	9,161,312
2020	9,161,312	698,472	9,097,553
2021	9,097,553	719,426	9,006,487
2022	9,006,487	741,009	8,885,389
2023	8,885,389	763,239	8,731,312
2024	8,731,312	786,136	8,541,064
2025	8,541,064	809,720	8,311,195
2026	8,311,195	834,012	8,037,972
2027	8,037,972	859,032	7,717,360
2028	7,717,360	884,803	7,344,999
2029	7,344,999	911,347	6,916,176
2030	6,916,176	938,687	6,425,800
2031	6,425,800	966,848	5,868,373
2032	5,868,373	995,854	5,237,959
2033	5,237,959	1,025,729	4,528,147
2034	4,528,147	1,056,501	3,732,019
2035	3,732,019	1,088,196	2,842,110
2036	2,842,110	1,120,842	1,850,363
2037	1,850,363	1,154,467	748,088
2038	748,088	748,088	0

The Annual Amortization Payment is determined by amortizing the Unfunded Actuarial Accrued Liability (UAAL) over 23 years as a level percentage of total payroll. Total payroll is assumed to increase at 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. Please see Exhibit 13 for more details.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 12

Development of Annual Recommended Contribution

Annual Recommended Contribution (Dollar Amounts)

	2015	2016
1. Total Normal Cost	\$ 2,190,985	\$ 2,602,337
2. Expected employee contribution	<u>(1,092,544)</u>	<u>(1,279,067)</u>
3. City Normal Cost	\$ 1,098,441	\$ 1,323,270
4. Amortization of Unfunded Actuarial Accrued Liability	<u>63,088</u>	<u>620,583</u>
5. Total annual recommended contribution	\$ 1,161,529	\$ 1,943,853
6. Interest to mid-year at 7.5%	<u>43,557</u>	<u>72,894</u>
7. Recommended contribution, mid-year = (5)+(6)	\$ 1,205,086	\$ 2,016,747

Annual Recommended Contribution (As a Percent of Payroll)

	2015	2016
1. Total Normal Cost	10.0%	10.2%
2. Expected employee contribution	<u>(5.0%)</u>	<u>(5.0%)</u>
3. City Normal Cost	5.0%	5.2%
4. Amortization of Unfunded Actuarial Accrued Liability	<u>0.3%</u>	<u>2.4%</u>
5. Total annual recommended contribution	5.3%	7.6%
6. Interest to mid-year at 7.5%	<u>0.2%</u>	<u>0.3%</u>
7. Recommended contribution, mid-year = (5)+(6)	5.5%	7.9%

Percent of Payroll results are based on total expected covered payroll of \$21,850,884 in 2015 and \$25,581,345 in 2016. The expected city contribution of 10.4% of covered payroll is more than the 2016 annual recommended contribution of 7.9%.

THE CITY OF BISMARCK EMPLOYEES' PENSION PLAN

EXHIBIT 13

10.4% of Payroll Funding Amortization Schedule

Year	Unfunded Liability B.O.Y.	Amortization Payment E.O.Y.	Unfunded Liability E.O.Y.
2016	\$ 9,190,764	\$ 1,287,076	\$ 8,592,995
2017	8,592,995	1,325,689	7,911,781
2018	7,911,781	1,365,459	7,139,705
2019	7,139,705	1,406,423	6,268,760
2020	6,268,760	1,448,616	5,290,301
2021	5,290,301	1,492,074	4,194,999
2022	4,194,999	1,536,837	2,972,788
2023	2,972,788	1,582,942	1,612,805
2024	1,612,805	1,630,430	103,336
2025	103,336	111,086	0

The City commission has approved that the City contribution will be 10.4% of salary. The expected contribution for 2016 on this basis is \$2,660,460. 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 10 years.

Accounting Information



Arthur J. Gallagher & Co.

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 recommended 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)

	1/1/15	1/1/16
Vested accrued benefits		
▪ Participants currently receiving payments	\$ 31,144,175	\$ 34,418,964
▪ Other Participants	<u>33,780,391</u>	<u>36,077,983</u>
Total vested accrued benefits	\$ 64,924,566	\$ 70,496,947
Non-vested accrued benefits	<u>144,023</u>	<u>250,387</u>
Total accrued benefits	\$ 65,068,589	\$ 70,747,334

Statement of Changes in Accumulated Plan Benefits

Beginning value, January 1, 2015	\$	65,068,589
Increases (Decreases)		
▪ Cost of living adjustment	\$	0
▪ Change in actuarial assumptions		0
▪ Benefits accumulated and (gain)/loss		4,668,823
▪ Increase for interest due to decrease in discount period		4,742,696
▪ Benefits paid		<u>(3,732,774)</u>
▪ Net increase (decrease)	\$	5,678,745
Ending Value, January 1, 2016	\$	70,747,334

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, 2016, the Market Value of Assets was \$81,585,449. The table below outlines the funding ratios.

Funding Ratio (Assets/PVAB)	
Vested accrued benefits	116%
Total accrued benefits	115%