GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

(ATTACHMENT 2)   ACTION ON CHANGES IN THE ACTUARIAL ASSUMPTIONS FOR
THE MILWAUKEE BOARD OF SCHOOL DIRECTORS SUPPLEMENTAL
EARLY RETIREMENT PLAN FOR TEACHERS

MILWAUKEE BOARD OF SCHOOL DIRECTORS
SUPPLEMENTAL EARLY RETIREMENT PLAN FOR
TEACHERS
2011 EXPERIENCE REVIEW
FOR THE YEARS JULY 1, 2006, TO JULY 1, 2011

February 28, 2012

Ms. Christine Toth
Director-Insurance and Risk Management
Service Division
Milwaukee Public Schools
Administration Building
5225 West Vliet Street
P.O. Box 2181
Milwaukee, WI 53201-2181

Subject: Experience Review for the Years July 1, 2006, through July 1, 2011

Dear Ms. Toth:

At your request, we have performed a review of the actuarial assumptions used to value the Milwaukee Board of School Directors Supplemental Early Retirement Plan for Teachers (the Plan). The primary purpose of the study is to determine the continued appropriateness of the current actuarial assumptions by comparing actual experience to expected experience. Our study was based on census information for the period from July 1, 2006, to July 1, 2011, as provided by the Plan Staff. Results are measured as of July 1, 2011; however, the recommended assumption changes are effective for the valuation as of July 1, 2012.

Our study includes a review of the experience associated with the following actuarial assumptions:

- Investment Return
- Salary Increases
- Mortality
- Withdrawal
- Retirement
- Disability

Section I contains a summary of the actuarial assumption review. The results of this analysis are set forth in Section II of this report.

The results of the experience study and recommended assumptions set forth in this report are based on the data described above, and upon the provisions of the Plan as of the most recent valuation date, July 1, 2011. This assumption review is based on data provided by the Plan for the annual actuarial valuations. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Based on these items, we certify these results to be true and correct.

The experience study results set forth in this report are based on the data described above, actuarial techniques and methods described in later sections of this report, and upon the provisions of the Plan as of the valuation date. Based on these items, we certify these results to be true and correct.

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.

The undersigned actuaries are members of the American Academy of Actuaries, are independent of the plan sponsor and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

This report should not be relied on for any purpose other than the purpose stated.
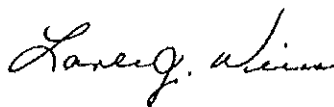
Respectfully submitted,

Gabriel, Roeder, Smith & Company

Respectfully yours,

Alex Rivera, F.S.A., M.A.A.A.
Senior Consultant

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TABLE OF CONTENTS

Section	Items	Page

SECTION I
SUMMARY

Background

For any pension plan, actuarial assumptions are selected that are intended to provide reasonable estimates of future expected events, such as retirement, turnover, and mortality. These assumptions, along with an actuarial cost method, the employee census data, and the plan's provisions are used to determine the actuarial liabilities and overall actuarially determined funding requirements for the plan. The true cost of the plan over time will be the actual benefit payments and expenses required by the plan's provisions for the participant group under the plan, less the actual investment return of plan assets. To the extent the actual experience deviates from the assumptions, experience gains and losses will occur. These gains (losses) then serve to reduce (increase) future actuarially determined contributions and increase (reduce) the funded ratio. The actuarial assumptions should be individually reasonable as well as consistent in the aggregate, and should be reviewed periodically to ensure that they remain appropriate. The actuarial cost method, for plan sponsors that use actuarially sound funding policies, automatically adjusts contributions over time for differences between what is assumed and the true experience under the plan.

The Actuarial Standards Board ("ASB") provides guidance on measuring the costs of financing a retirement program through the following Actuarial Standards of Practices (ASOP):

(1) ASOP No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*

(2) ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*

(3) ASOP No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*

(4) ASOP No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*

The recommendations provided in this report are consistent with the preceding actuarial standards of practice. (An exposure draft with proposed revisions to ASOP No. 27 was released in January 2012; however, the conclusions provided in this report would not change if the exposure draft was used.) The assumed investment return recommendation was based on the building block approach, which generally includes the following steps:

(1) Determine the best estimate of real returns for each broad class of assets

(2) Compute an average real return range based on the plan's asset allocation and the characteristics of each asset class

(3) Combine the average real return range with the inflation expected range

(4) Use stochastic simulation to model an explicit range of best estimate returns and likelihood of achieving those returns

(5) Select an appropriate return within the range of results

However, the building block approach assumes that the contribution policy can support the asset allocation and liquidity requirements recognized in the simulation of projected assets. If future contributions are not expected to support the simulated portfolio of assets, an alternative methodology such as the cash flow approach, may need to be used.

Under the cash flow approach, the best estimate range of returns is generally based on the following steps:

(1) Project the plan's expected benefit and expenses
(2) Identify a high quality bond portfolio with similar cash flow characteristics as the plan's projected expected benefits and expenses
(3) Estimate the average rate of return underlying the replicating bond portfolio
(4) Establish a risk adjusted range of incremental returns in excess of the replicating bond portfolio return that recognizes:
    a. uncertainties in the projected benefits and expenses,
    b. expected returns on future contributions,
    c. reinvestment of interest and principal payments not fully needed to pay current benefits,
    d. any mismatches between the expected benefit disbursement stream and the high quality bond portfolio's interest and principal payment stream, and
    e. current and expected future plan investments in equities or other asset classes other than high-quality bonds

Assumptions Reviewed

The actuarial assumptions are usually divided into two categories:

- Economic assumptions, which include:
  - Assumed rate of price inflation (as measured by the change in the Consumer Price Index for all urban consumers)
    - Underlies all economic assumptions
  - Assumed long-term rate of return on investments
    - Rate at which projected benefits are discounted to present value
    - Basis for money purchase annuity factors
  - General wage increases
    - Reflects inflationary forces on increases in pay for all members
  - Rate of payroll growth
    - Reflects expectation of growth in total payroll and affects level percent of pay statutory contribution

The economic assumptions are generally chosen on the basis of the actuary's analysis and expectations as to the effect of future economic conditions on the operation of the plan, with input from Staff, the Board, and other investment advisors.

- Demographic assumptions, which include the following:
  - Mortality
  - Retirement
  - Withdrawal (other termination of employment)
  - Disability

Demographic assumptions are generally based on the plan's own experience, taking into account emerging trends. Rates of salary increase due to promotion and longevity are also related to the plan's experience.

The accuracy and extent of the data is an important consideration in assessing demographic experience. The accuracy of the data for this study was reasonable, but a significant amount of data is needed to develop a credible mortality table. For this reason, we do not generally give full credibility to the recent mortality experience of the plan, but instead we also consider general mortality experience among a wider universe of pension plans and retirement systems.

- Other methods and assumptions include the following:
  - Actuarial cost method
  - Amortization method
  - Asset smoothing method
  - Dependent assumptions
  - Pay increase and decrement timing assumptions

Key Findings and Recommendations

Gabriel, Roeder, Smith & Company ("GRS") has performed an experience study of the Milwaukee Board of School Directors Supplemental Early Retirement Plan for Teachers (the Plan) for the period from July 1, 2006, to July 1, 2011. The primary purpose of the study was to compare the demographic and economic experience with expected experience from the actuarial assumptions used in the valuations. Our study was based on the information used to perform the annual actuarial valuations for the period from July 1, 2006, to July 1, 2011.

Following is a summary of our key findings and recommendations:

- **Price inflation:** We recommend lowering the rate of price inflation from 3.00 percent to 2.80 percent.

- **Investment return:** We recommend lowering the 8.0 percent investment return assumption, net of investment expenses, compounded annually, to 7.5 percent and monitoring it for continued reasonability in the future. This reflects an underlying inflation assumption of 2.80 percent.

- **Salary increase:** We reviewed salary experience for the period from July 1, 2006, to July 1, 2011. We determined salary increases between valuations and calculated average annual salary increases. We considered the current salary scales in the most recent bargaining agreement, along with the staff and board's expectation of near term salary increases, and we recommend a modification to the current salary increase assumption.

- **Normal retirement rates:** We reviewed retirement experience for the period from July 1, 2006, to July 1, 2011. We recommend a modification to the current age and service based retirement rate assumption. We also recommend applying higher retirement rates in plan years beginning July 1, 2012 and July 1, 2013 to reflect the potential for accelerated retirements due to the reduction of postretirement healthcare benefits.

- **Turnover rates:** We reviewed termination experience for the period from July 1, 2006, to July 1, 2011. We recommend a slight change to the age based termination rates.

- **Mortality rates:** We recommend changing from the 1994 Group Annuity Mortality table, sex distinct, to the Wisconsin Projected Experience Table – 2005 for women and 90 percent of the Wisconsin Projected Experience Table – 2005 for men for post-retirement death. We also

recommend setting pre-retirement mortality rates to 80 percent of post-retirement rates.

- **Disability rates:** We recommend updating the disability rates to be the blended rates for males and females from the rates used in the most recent Wisconsin Retirement System valuation.

- **Cost Method:** We recommend maintaining the current actuarial cost method which is the Entry Age Normal Cost method.

- **Amortization Method:** We recommend maintaining the current amortization method as follows: the loss at July 1, 2006, due to the valuation of deferred vested temporary benefits is amortized over a 15-year closed period commencing July 1, 2006, on a level dollar basis. Unfunded liabilities not attributable to the loss due to valuation of deferred vested temporary benefits are amortized using a 25-year closed period, level-dollar amortization commencing July 1, 2007.

- **Asset Smoothing Method:** We recommend no change to the current asset smoothing method, which is reducing (increasing) the market value of assets for the current and three succeeding years, by a portion of the gain/(loss) in market value during the prior year. The portion shall be 80 percent in the current year, 60 percent in the first succeeding year, 40 percent in the second succeeding year and 20 percent in the third succeeding year.

- **Dependent assumptions:** We recommend maintaining the current assumption on marital status and the assumption that males are three years older than their spouses. No dependent assumptions are made for current retirees as actual eligible spouse and dependent data is provided.

- **Decrement Timing:** We recommend decrement timing to occur at the end of the year for retirement and at mid-year for all other decrements.

The impact of adopting the recommended assumptions is summarized in the tables below.

	Unfunded Actuarial Accrued Liability	Normal Cost	Recommended Contribution	Contribution Percent
Valuation Results at June 30, 2011 (Before Assumption Changes)	$ 126,159,006	$ 3,950,833	$ 15,797,043	4.737%
Increase (decrease) in cost due to:				
Discount Rate Change	$ 11,820,464	$ 477,076	$ 1,143,527	0.343%
Salary Scale Assumption Change	(15,760)	(275,152)	(276,560)	-0.083%
No Pay Increase for FYE 6/30/2014 and 6/30/2015	(4,737,021)	-	(423,156)	-0.127%
Mortality Assumptions	4,501,622	92,980	495,109	0.148%
Other Demographic Assumptions	(5,136,650)	(494,386)	(953,242)	-0.286%
Total	$ 6,432,655	$ (199,482)	$ (14,322)	-0.004%
Impact Results at June 30, 2011	$ 132,591,661	$ 3,751,351	$ 15,782,721	4.733%
Increase (decrease) in cost under High Retirement Assumption [a]	$ 5,437,925	$ -	$ 485,768	0.146%
Impact Results at June 30, 2011 under High Retirement Assumption	$ 138,029,586	$ 3,751,351	$ 16,268,489	4.878%

[a] See page 15 for the basis of the "High Retirement Assumption" and the acceleration of retirement.

MILWAUKEE BOARD OF SCHOOL DIRECTORS
SUPPLEMENTAL EARLY RETIREMENT PLAN FOR TEACHERS
EXPERIENCE REVIEW SUMMARY

July 1, 2011	Baseline Valuation Results	Experience Study Results [1]	Change
Plan			
Liabilities			
Actuarial Accrued Liability:			
Active Members	$ 86,639,746	$ 84,066,886	$ (2,572,860)
Retirees and Beneficiaries	124,092,571	131,339,927	7,247,356
Deferred Vested	25,611,457	27,369,616	1,758,159
TOTAL	$ 236,343,774	$ 242,776,429	$ 6,432,655
Actuarial Value of Assets at Valuation Date	$ 110,184,768	$ 110,184,768	$ -
Unfunded (Overfunded) Actuarial Accrued Liability	$ 126,159,006	$ 132,591,661	$ 6,432,655
Funded Position of Plan's Actuarial Accrued Liability	46.6 %	45.4 %	(1.2)%
Recommended			
Annual Contribution			
Requirements			
Annual Normal Cost as of Valuation Date	$ 3,950,833	$ 3,751,351	$ (199,481)
Amortization of Unfunded Actuarial Accrued Liability at Valuation Date [2]	11,846,210	12,031,370	185,160
Total Recommended Annual Contribution for the Current Plan Year	$ 15,797,043	$ 15,782,721	$ (14,321)
Total Payroll	$ 333,480,907	$ 333,480,907	$ -
Recommended Annual Contribution (As a percentage of pay)	4.737%	4.733%	-0.004%

[1] *Includes impact of accelerated retirements in plan years beginning 7/1/2011 and 7/1/2012, and no salary increase in plan years beginning 7/1/2013 and 7/1/2014.*

[2] *The additional deferred vested temporary liability of $5,164,172 as of July 1, 2006, is being amortized on a level dollar basis over a 15-year closed period. As of July 1, 2011, the remaining liability is $4,048,379, and the annual amortization payment is $548,644 using an interest rate of 7.50 percent and $558,637 using an interest rate of 8.00 percent. All other liabilities are amortized on a level dollar basis over a 25-year closed period commencing on July 1, 2007.*

SECTION II
EXPERIENCE ANALYSIS RESULTS

Economic assumptions reflect the effects of economic forces on the projections of retirement benefits payable from the plan and in the discounting of those benefits to present value.

These assumptions are based, at their core, on the assumed level of price inflation. Each economic assumption is then developed from expected spreads over price inflation. Since price inflation is relatively volatile and is subject to a number of influences not based on recent history, these assumptions are less reliably based solely on recent past experience than are the demographic assumptions.

The key economic assumptions are:

1. Assumed Rate of Inflation – The rate of price inflation (as measured by the Consumer Price Index for all Urban consumers) which underlies the remainder of the economic assumptions.
2. Assumed Rate of Investment Return - The rate at which projected future benefits under the system are discounted to present value.
3. Rate of General Annual Pay Increases - This reflects inflationary forces on increases in pay for individual members.

Inflation

Inflation is defined as the annual increase in the Consumer Price Index (CPI), which underlies all of the other economic assumptions in the valuation process. It not only impacts investment return, but also salary increase rates, and the payroll growth assumption. The current annual inflation assumption is 3.0 percent.

Over the six-year period from June 2005 through June 2011, the CPI-U has increased at an average annual rate of 2.54 percent. However, the assumed inflation rate is only weakly tied to past results.

The following table shows the average inflation over various periods, ending June 2011.

Fiscal Year	Annual Increase in CPI-U
2005-06	4.33%
2006-07	2.69%
2007-08	5.02%
2008-09	-1.43%
2009-10	1.05%
2010-11	3.56%
3 - Year Average	1.06%
5 - Year Average	2.18%
10 - Year Average	2.42%
20 - Year Average	2.57%
25 - Year Average	2.95%
30 - Year Average	3.10%
40 - Year Average	4.43%
50 - Year Average	4.17%

The graph below shows the average inflation over 5-year periods over the last 50 years:
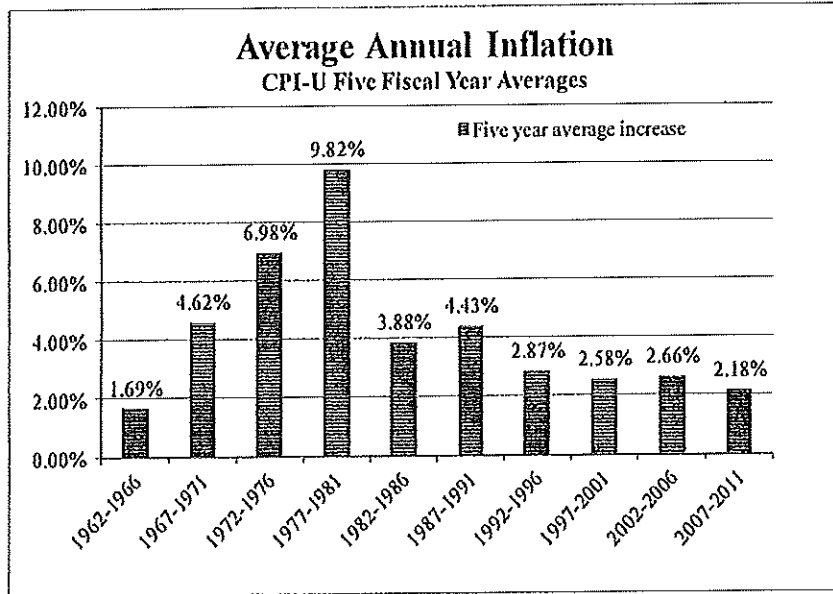
We surveyed the inflation assumption used by investment consulting firms. In our sample of nine firms, the inflation assumption ranged from 2.00 percent to 3.25 percent, with an average of 2.56 percent.

In the Social Security Administration's 2011 Trustees Report, the Office of the Chief Actuary is projecting a long-term average annual inflation rate of 2.80 percent under the intermediate cost assumption. (The inflation assumption is 1.80 percent and 3.80 percent respectively in the low cost and high cost projection scenarios.)

Therefore, we believe a reasonable long-term inflation assumption will likely fall in the range of 2.00 percent to 3.20 percent, although we recognize that inflation may fall outside this range over the next few years. We are recommending an inflation assumption of 2.80 percent.

Investment Return
ASOP 27

Actuaries are required to comply with Actuarial Standard of Practice No. 27 (ASOP 27) in setting economic assumptions for retirement plans, including the assumed investment return rate.

In a public retirement system like the Plan, it is ultimately the Board's responsibility to approve the actuarial assumptions used in the actuarial valuations. It is the actuary's duty to provide the Board with information needed to make those decisions and to make recommendations to the Board. Although the Board is the ultimate decision-making body, we are still bound by ASOP 27 in providing advice or recommendations to the Board.

The current standard requires the actuary to identify the components of each assumption, to evaluate relevant data, and to set a best-estimate range. Then the actuary selects a point within this best-estimate range. Alternatively, the actuary may simply set the assumption without specifying a best-estimate range. All economic assumptions are required to be individually reasonable and consistent in the aggregate.

The best-estimate range is "the narrowest range within which the actuary reasonably anticipates that the actual results, compounded over the measurement period, are more likely than not to fall." That is, there is a 50 percent likelihood that the compound rate of return will fall within the best estimate range. This is equivalent to establishing a confidence interval that ranges from the 25th to 75th percentile.

Please note that the provisions of ASOP 27 are currently being reviewed and may be revised. The revised standard is expected to be adopted by 2012. Since the revised standard is still pending, we have used the current provisions of ASOP 27. The proposed revisions to ASOP 27 are not expected to materially impact the recommendations contained in this report. Should the revised version of ASOP 27 become available before the next experience study, the economic assumptions may need to be reviewed.

Real Return

The allocation of assets within the universe of investment options will significantly impact the overall performance. Therefore, it is meaningful to identify the range of expected returns based on the fund's targeted allocation of investments and an overall set of capital market assumptions.

Following is a table with the Plan's current asset allocation:

Asset Category	Current Asset Allocation
US Equity	33.0%
International Equity	24.0%
Fixed Income	27.0%
Real Estate	4.0%
Alternative Investment	10.0%
Cash	2.0%
Total	100.0%

We reviewed capital market assumptions developed and published by nine independent investment consulting firms. These investment consulting firms periodically issue reports that describe their capital market assumptions, that is, their estimates of expected returns, volatility, and correlations among the different asset classes. While some of these assumptions may be based upon historical analysis, most of these firms also incorporate forward looking adjustments to better reflect near-term and long-term expectations. The estimates for core investments (i.e. fixed income, equities, and real estate) are generally based on anticipated returns produced by passive index funds.

Given the plan's current target asset allocation and the capital market assumptions from the investment consultants, the development of the average nominal return, net of investment expenses, is provided in the following table:

Investment Consultant	Investment Consultant Expected Nominal Return	Investment Consultant Inflation Assumption	Expected Real Return* (3)−(4)	Actuary Inflation Assumption	Expected Nominal Return (4)+(5)	Actuary Investment Expense Assumption	Expected Nominal Return Net of Expenses (6)-(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	6.54%	3.00%	3.54%	2.80%	6.34%	0.20%	6.14%
2	7.90%	3.25%	4.65%	2.80%	7.45%	0.20%	7.25%
3	7.11%	2.02%	5.09%	2.80%	7.89%	0.20%	7.69%
4	7.78%	2.50%	5.28%	2.80%	8.08%	0.20%	7.88%
5	8.05%	2.75%	5.30%	2.80%	8.10%	0.20%	7.90%
6	7.85%	2.50%	5.35%	2.80%	8.15%	0.20%	7.95%
7	8.06%	2.50%	5.56%	2.80%	8.36%	0.20%	8.16%
8	7.84%	2.00%	5.84%	2.80%	8.64%	0.20%	8.44%
9	8.91%	2.75%	6.16%	2.80%	8.96%	0.20%	8.76%
Average	7.78%	2.59%	5.20%	2.80%	6.00%	0.20%	7.80%

Based on each firm's assumptions, we estimated the expected real return of the Plan's portfolio (col. (4)). Next, based on the actuary's recommended inflation and investment expense assumption, we estimated the nominal return net of investment expenses (col. (8)). As the table shows, the average one-year nominal return (net of expenses) of the nine firms is 7.80 percent, which is 0.2 percentage points less than the current assumption of 8.0 percent.

In addition to examining the expected one-year return, it is important to review anticipated volatility of the investment portfolio and understand the range of long-term net return that could be expected to be produced by the investment portfolio. Therefore, the following table provides the 25th, 50th, and 75th percentiles of the 20-year geometric average of the expected nominal return, net of expenses, as well as the probability of exceeding selected assumptions.

Investment Consultant	Distribution of 20-Year Average Geometric Net Nominal Return			Probability of exceeding 7.50%	Probability of exceeding 8.00%
	25th	50th	75th		
(1)	(2)	(3)	(4)	(5)	(6)
1	3.40%	5.33%	7.29%	22.80%	18.02%
2	5.02%	6.67%	8.34%	36.78%	29.49%
3	4.73%	6.78%	8.87%	40.75%	34.63%
4	5.59%	7.27%	8.99%	46.44%	38.71%
5	5.26%	7.14%	9.06%	44.94%	38.07%
6	5.37%	7.22%	9.10%	45.95%	38.91%
7	5.87%	7.55%	9.26%	50.85%	42.95%
8	7.29%	8.24%	9.21%	69.94%	56.78%
9	5.94%	7.92%	9.95%	55.69%	48.98%
Average	5.39%	7.13%	8.90%	46.02%	38.50%

As the analysis shows, there is a 50 percent likelihood that the 20-year average net real return will be between 5.39 percent and 8.90 percent. This becomes the best-estimate range under ASOP 27. Furthermore, the average results of all nine firms indicate there is about a 46 percent chance that the plan will produce an average return that exceeds 7.50 percent over the next 20 years, and only a 39 percent chance that the return will exceed 8.00 percent. As the analysis shows, based on average forecasts of all consultants (with a 2.80 percent inflation assumption), it is unlikely to achieve the current interest rate assumption of 8.00 percent, while a interest rate assumption of 7.50 percent can be supported.

Recommendation

Based on our analysis of the expected investment return and the current target asset allocation, we recommend lowering the long-term investment return assumption from 8.00 percent to 7.50 percent. Based on the current statutory funding policy and the liquidity strain it may cause, we recommend that the assumed investment return be reviewed before the next experience review if warranted. Any significant changes in the target asset allocation made by the Plan may warrant an additional review of the rate of return assumption. Moreover, if the revised version of ASOP 27 becomes available before the next experience study, the economic assumptions may need to be reviewed

Salary Increase

The components that determine the total salary increase are wage inflation, merit and longevity increases and promotion increases. We recommend a change to the merit and longevity and promotion increase portion of the salary increase assumption to better reflect actual experience.

As discussed with the Board staff, we assumed no wage, step, or lane increases in fiscal years ending June 30, 2014 and June 30, 2015.

Table and Graph I compare the salary experience, current assumptions and recommended assumptions by years of service for each of the following:

- Table I – Salary Experience by Service
- Graph I – Salary Experience by Service

Table I

MILWAUKEE BOARD OF SCHOOL DIRECTORS
SUPPLEMENTAL EARLY RETIREMENT PLAN FOR TEACHERS
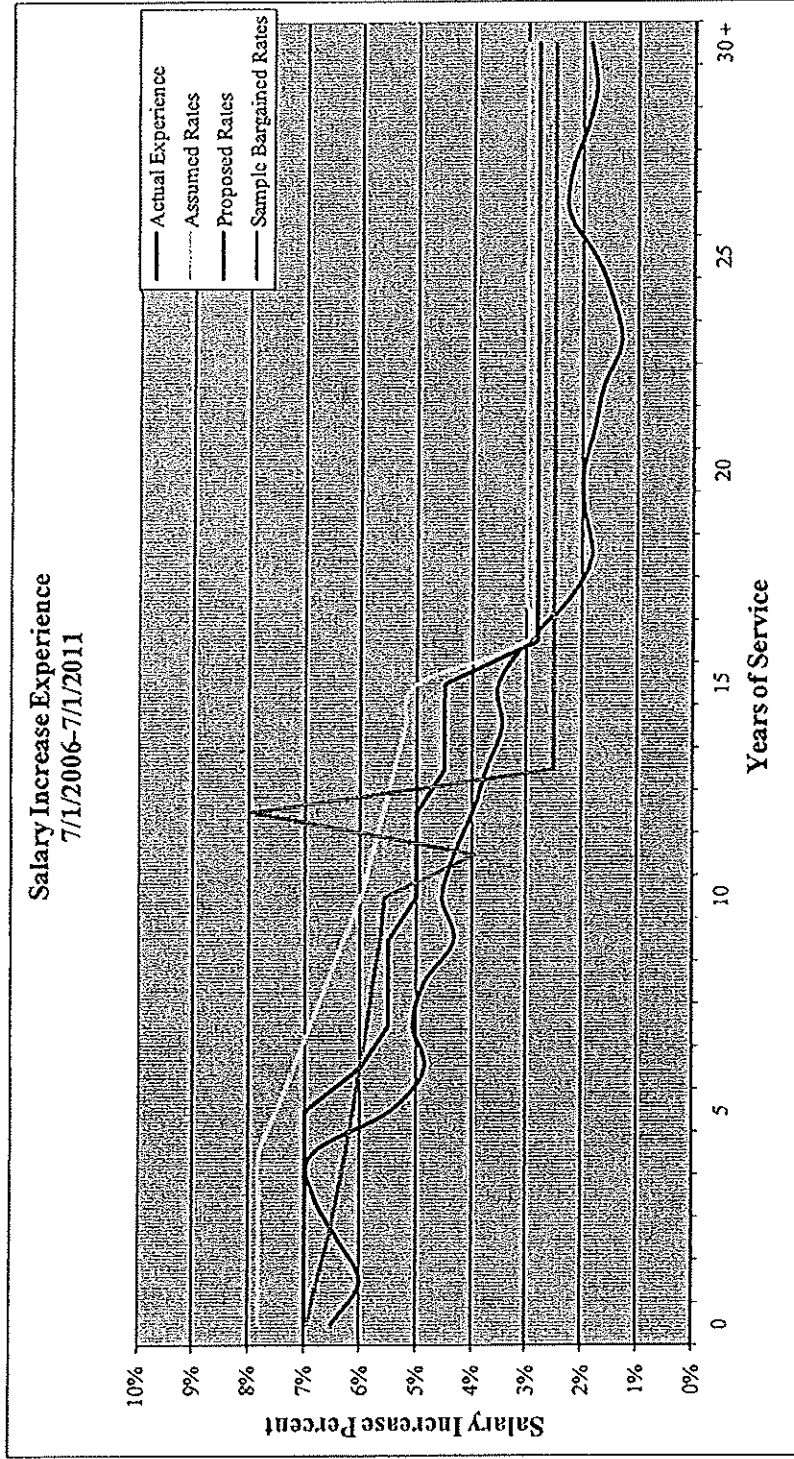### EXPERIENCE ANALYSIS

Wage Inflation Increase

Current:	3.00% Annually
Proposed:	2.80% Annually

Service	Exposures	Total Annual Salary Increase [a]			Sample Bargain Rates
		Current	Proposed	Actual	
0	552	7.80%	7.00%	6.50%	6.94%
1	1,479	7.80	7.00	6.00	6.75
2	1,458	7.80	7.00	6.39	6.57
3	1,669	7.80	7.00	6.82	6.41
4	1,705	7.80	7.00	6.86	6.26
5	1,848	7.50	7.00	5.46	6.13
6	2,067	7.20	6.00	4.85	6.00
7	2,055	6.90	5.50	5.05	5.88
8	1,815	6.60	5.50	4.86	5.78
9	1,614	6.30	5.50	4.31	5.67
10	1,241	6.00	5.00	4.53	5.58
11	1,148	5.80	5.00	4.31	3.94
12	945	5.60	5.00	3.98	7.94
13	995	5.40	4.50	3.73	2.50
14	962	5.20	4.50	3.43	2.50
15	953	5.00	4.50	3.50	2.50
16	957	3.00	2.80	2.98	2.50
17	889	3.00	2.80	2.22	2.50
18	913	3.00	2.80	1.81	2.50
19	802	3.00	2.80	1.94	2.50
20	755	3.00	2.80	1.97	2.50
21	626	3.00	2.80	1.77	2.50
22	589	3.00	2.80	1.61	2.50
23	510	3.00	2.80	1.29	2.50
24	426	3.00	2.80	1.44	2.50
25	394	3.00	2.80	1.74	2.50
26	293	3.00	2.80	2.24	2.50
27	299	3.00	2.80	2.21	2.50
28	301	3.00	2.80	1.93	2.50
29	265	3.00	2.80	1.75	2.50
30 +	986	3.00	2.80	1.85	2.50

[a] *Salary increase applicable to fiscal years beginning after July 1, 2015. No wage, step, or lane increases were assumed for fiscal years ending June 30, 2014 and June 30, 2015.*

Graph I

MILWAUKEE BOARD OF SCHOOL DIRECTORS SUPPLEMENTAL EARLY RETIREMENT PLAN FOR TEACHERS
EXPERIENCE ANALYSIS

Salary Increase Experience
7/1/2006-7/1/2011

The following pages present the analysis of the demographic assumptions. These assumptions include assumed rates of mortality among active and retired members, retirement patterns, and turnover patterns. These patterns generally take the form of tables of rates of incidence based on age and/or years of service.

Absent any significant changes in benefit provisions, these assumptions generally exhibit reasonable consistency over periods of time. As a result, each demographic assumption is normally reviewed by relating actual experience to that assumed over the recent past.

The analysis of demographic experience is conducted for each assumption using a measure known as the "Actual to Expected (A/E) Ratio." The A/E Ratio is simply the ratio of the actual number of occurrences of the event to which the assumption applies (e.g., deaths or retirements) to the number expected to occur in accordance with the assumption. An A/E Ratio of 1.00 indicates that the assumption precisely predicted the number of occurrences. An A/E Ratio exceeding 1.00 indicates that the assumption underestimated actual experience. Conversely, an A/E Ratio lower than 1.00 indicates that the assumption overestimated actual experience.

These are statistical analyses. As a result, there are several considerations we must keep in mind as we analyze these ratios:

1. An actuarial assumption is designed to reflect average experience over long periods of time (30 - 50 years). As a result:
   a. A deviation between actual experience and that expected from our assumptions for one or two years does not necessarily mean that the assumption should be changed.
   b. A change in actuarial assumption should result if the experience indicates a consistent pattern which is different from that assumed over a period of years.
2. The larger the amount of data available, the more reliable the statistics used in the analysis. As a result:
   a. Events that occur with great frequency (e.g., general employment turnover) are more credibly predictable than those occurring less frequently (e.g., active member death).
   b. In all cases, data covering the entire study period produce more credible results than data for a single year.
   c. Year by year experience is helpful only in identifying trends and determining whether the five-year data is truly reflective of the entire period.

This analysis is based on the valuation data for the five-year period from July 1, 2006, to July 1, 2011.