

COUNTY OF MILWAUKEE
Inter-Office Communication

Date: July 19, 2010

To: Supervisor Elizabeth Coggs, Chairwoman, Committee on Finance and Audit
 Supervisor Patricia Jursik, Chairwoman, Committee on Personnel

From: Employees Benefits Workgroup

Subject: Advantages and Disadvantages of Capping the Milwaukee County Defined Benefit Pension Plan and Replacing it with a Defined Contribution Alternative. [File No. 09-391]

The County Board of Supervisors established the Employee Benefits Workgroup to evaluate employee benefits. The Workgroup is comprised of staff from the Department of Administrative Services (Fiscal, Benefits and Labor Relations), Corporation Counsel, County Board Staff and the Department of Audit. The 2010 Adopted Budget in organizational unit 1972 – Wage and Benefit Modification Account directed the Work Group to “consult with the Pension Board actuary to consider the advantages and disadvantages of capping the ERS [Milwaukee County Employees’ Retirement System] defined benefit plan and replacing it with a defined contribution alternative.”

The Workgroup met on multiple occasions, both with and without the Pension Board actuary, to discuss the potential pension change, as well as other possible changes. A report from the actuary is attached to this memo. Following is a summary of the major advantages and disadvantages of the suggested pension reform, as determined by consensus of the Workgroup.

General Considerations

There are numerous advantages and disadvantages to both defined benefit and defined contribution plans. The following discussion is not exhaustive.

Question	County Pension Plan	Defined Contribution Plan
Who bears the investment risk and cost of investing?	Borne by Plan Sponsor (County)	Borne by Individual (employee)
Does Plan Sponsor continue to pay for benefits?	Plan sponsor will continue to make contributions to keep plan fully funded, based on current wages of employee. Plan costs increase as wages increase. There is a potential for a plan liability.	Once annual contribution is made, no additional contributions by plan sponsor. No plan liability.
Is there a limit to payout of benefits?	No. Benefits continue as long as employee or spouse (if applicable) is alive.	Yes. Dollars held in trust from contributions from Plan Sponsor are limit to benefit available to employee, subject to investment gains and losses.
Is plan portable to an employee?	Employee who is not vested will not be able to receive retirement benefits. Funds continue to be held by Plan Sponsor, if employee leaves.	Employee can take vested funds with them when they leave.

Who determines when funds should be distributed?	Plan Sponsor holds retirement benefits, which are available only based on Sponsor retirement rules.	Use of funds is dependent on Federal tax laws, but is somewhat flexible.
Who bears the life expectancy risk for payout of benefits?	Risk is borne by Plan Sponsor. Greater life expectancy, higher payout of costs.	Risk is borne by employee.
Does benefit provide a retention incentive for employees?	Defined Benefit Plan provides a greater incentive to stay with plan sponsor, since years of service and increase in wages, will increase benefits.	Benefit is earned each year, and is portable to employee, so longer term employment will not increase benefits already earned by employee. A step method of employer and employee contributions, based on years of service, could provide an incentive.

- Defined benefits plans generally require mandatory participation. This tends to help ensure that an adequate retirement benefit is achieved. Provides guaranteed lifetime income to retirees. No retirees outlive a defined benefit retirement annuity. Defined contribution plans often allow employees to opt out or to make lower contributions than might be required in order to achieve an adequate retirement benefit under a defined contribution plan.
- Defined benefit plans achieve economies of scale from the pooling of the dollars being invested and allow for the retention of expert consultants to increase investment performance. Defined contribution plans require individual employees to make the necessary investment choices. Per dollar of benefit paid, it is less expensive to provide benefits through a defined benefit plan than through a defined contribution plan.
- Whether viewed as an advantage or disadvantage, the investment risk from market fluctuations is shifted to the employee under a defined contribution plan.
- Defined contribution plans do not include retirement disability or death benefit provisions. If the County wished to continue to offer retirement disability or death benefits, some separate provisions would have to be adopted, such as the use of purchased insurance coverage.
- Defined contribution plans allow portability; that is, an employee who changes employment frequently during his or her career can take the defined contribution benefit with them. There are no vesting requirements. Defined contribution plan provide more income for non-career employees. [Note: Milwaukee County offers a non-contributory 457 Deferred Compensation Plan that employees can self-fund—this plan is completely portable.]
- Under defined benefit plans, an employee who changes employment too frequently may not meet required vesting periods and may not achieve adequate retirement benefits. In this manner, a defined benefit plan encourages longevity and retention of the covered employees.

- Under a defined contribution plan, pension costs for service rendered to date are always fully funded (i.e., no unfunded liability).

Major Advantages of Potential ERS Reform Using Defined Contribution Model

From the County's perspective, the major advantage associated with capping the ERS, either for all current employees or for new hires, is long-term costs savings. The County's actuary completed an analysis of the potential savings to the County if the current Pension Plan were replaced with one of two alternative defined contribution plans.

Current Plan – All employees, except for non-represented employees, received current benefits of County Defined Benefit Plan (ERS), which provide a 2.0% multiplier and a retirement age of 60 years of age. Certain employees receive higher benefits depending on Union and hire date. Non-represented employees future benefits have been reduced to a 1.6% multiplier and any new non-represented employees would have a retirement age of 64.

Scenario 1 – New employees are transferred to a Defined Contribution Plan (DCP), where 8% of wages on an annual basis would be contributed to an employee DCP retirement account. Under this scenario, current employees would continue in the County Defined Benefit Plan (ERS). The County would continue to make contributions under the ERS plan. No changes would be made to the current benefits under the ERS plan. To reflect the closing of ERS to new hires, the Pension Board Actuary has recommended that the funding policy be revised so that the current unfunded liability be paid off by the time the ERS is projected to no longer have active members. This does result in funding at a faster pace than if the ERS were to remain open to new hires. Scenario 1 would have increased contributions in the first five years, but lower payments in later years. The County could use borrowing authority to level off any contribution variances in the early years.

Scenario 2 - All employees are transferred to a Defined Contribution Plan (DCP), where 8% of wages on an annual basis would be contributed to an employee DCP retirement account. Under this scenario, employee's benefits in the County Defined Benefit Plan (ERS) would be frozen as of the transfer date. Benefits would not increase by additional years of service, nor would changes in earnings increase benefits. The County would continue to make contributions under the ERS plan, only to pay off the unfunded liability. Similar to Scenario 1, the Pension Board actuary recommends that the current unfunded liability be paid off by the time the ERS is projected to no longer have active members. However, the ERS unfunded liability under this scenario would be low and therefore would not materially increase contributions in early years.

Scenario 3 - All employees would have future Defined Benefit Plan (ERS) benefits reduced to a 1.6% multiplier and any new employees would have a retirement age of 64. The Current Plan calculations only have these benefit reductions for non-represented employees. The County has negotiated these ERS changes with other unions including Attorneys, Trades, TEAMCO and Machinists. The changes requested by Scenario 3 were included in Org Unit 1972 budget for 2010 for the Defined Benefit Pension Plan.

The actuary calculated two alternative proposals for Scenario 1 and Scenario 2. The first alternative was for the County to pay the full 8% contribution rate for the new Defined Contribution Plan. The employee would make no contribution to the Defined Contribution Plan. The second alternative was for the County to pay half of the 8% contribution rate or 4% of wages for the new Defined Contribution Plan. The employee would pay the remaining 4% contribution rate for the Defined Contribution Plan. The combined contribution under alternative 2 would still be 8% of wages.

- As detailed in the attached actuarial analysis, capping the ERS for all current employees and replacing it with a defined contribution plan in which the County contributes 8% of wages (Scenario 2) is projected to result in savings of \$933 million with a net present value of \$260 million (see **Exhibit II** in the attached report). The same initiative, applied to new hires only, (Scenario 1) is projected to result in savings of \$557 million with a net present value of \$ 49 million.

Alternative 1 – County pays full contribution for Defined Contribution Plan: The following table provides a summary of the costs over a fifty-year period, assuming the County pays the full contribution. Scenario 3 is shown which shifts the Current ERS Defined Benefit Plan to a lower multiplier for all remaining employees and increases the retirement age to 64 for all new employees.

Description	Current – Multiplier 2.0% and retirement age 60. (in 000's)	Scenario 1 – New Employees - Close ERS Plan, Create Defined Contrib. Plan (in 000's)	Scenario 2 – All Employees - Close ERS Plan, Create Defined Contrib. Plan (in 000's)	Scenario 3 – All Employees – In ERS, lower multiplier to 1.6%, and increase retirement age to 64. (in 000's)
Present Value of Future Benefits	\$2,239,963	\$2,239,963	\$1,904,131	\$2,239,963
Remaining Liabilities	\$ 417,271	\$ 417,271	\$ 81,439	\$ 417,271
Total Contributions paid by County				
Total Contributions	3,668,700	3,111,500	2,735,000	3,099,600
Variance over Current Plan	N/A	557,200	933,700	569,100
Pcmt Savings over Current Plan	N/A	15.18%	25.45%	15.51%
Net Present Value of Total Contributions				
NPV Contributions	729,500	680,500	469,400	623,000
Variance NPV Savings over Current Plan	N/A	49,000	260,100	106,500
Pcmt Savings over Current Plan	N/A	6.71%	35.65%	14.59%
Defined Benefit Payments - County	3,668,700	743,200	144,900	3,099,600
Defined Contribution Payment - County	0	2,368,300	2,590,100	0
Defined Contribution Payment - Employee	0	0	0	0
Contributions for the first five years				
Contributions first five (5) years	185,800	291,600	154,600	159,500

- Alternative 2 – County pays 4% and employee pays 4% contribution to Defined Contribution Plan. The following table provides a summary of the costs over a fifty-year period, under the Current Plan, Scenario 1, Scenario 2 and Scenario 3 except that the County and Employee split the contributions for the Defined Contribution Plan, at 4% of wages for the County and a 4% of wages for the employee.

Description	Current – Multiplier 2.0% and retirement age 60. (in 000's)	Scenario 1 – New Employees - Close ERS Plan, Create Defined Contrib. Plan (in 000's)	Scenario 2 – All Employees - Close ERS Plan, Create Defined Contrib. Plan (in 000's)	Scenario 3 – All Employees – In ERS lower multiplier to 1.6%, and increase retirement age to 64. (in 000's)
Present Value of Future Benefits	\$2,239,963	\$2,239,963	\$1,904,131	\$2,239,963
Remaining Liabilities	\$ 417,271	\$ 417,271	\$ 81,439	\$ 417,271
Total Contributions paid by County				
Total County Contributions	3,668,700	1,927,100	1,439,900	3,099,600
Variance over Current Plan	N/A	1,741,600	2,228,800	569,100
Pcnt Savings over current plan	N/A	47.47%	60.75%	15.51%
Net Present Value of Total Contributions				
NPV Contributions	729,500	548,800	275,400	623,000
Variance NPV Savings over Current Plan	N/A	180,700	454,100	106,500
Pcnt Savings over current plan		24.77%	62.25%	14.59%
Defined Benefit Payments - County	3,668,700	743,200	144,900	3,099,600
Defined Contribution Payment - County	0	1,183,900	1,295,000	0
Defined Contribution Payment - Employee	0	1,183,900	1,295,000	0
Contributions for the first five years				
Contributions first five (5) years	185,800	281,200	103,800	159,500

A comparison of the current Defined Benefit (DB) plan and Scenarios 1 and 2, which transfer retirement benefits to a Defined Contribution (DC) plan, should also include a comparison of the projected benefits earned by retirement age. The following table shows the relative percentage of benefits that would be earned by an employee who retires at age 64 under a DC plan vs. a DB plan, based on different start dates with the County. This comparison assumes annual contributions by the County, a multiplier of 1.6% and an annual investment return of 8% for the DB plan. For the DC plan, an annual contribution rate of 8% of wages is assumed, with a 6% annual investment rate of return.

Age at Hire	DC benefits as a percentage of DB benefits
25	87 %
30	84 %
35	80 %
40	76 %
45	71 %

As shown in the table, the longer a person is employed with the County prior to retirement at age 64, the closer is the relative value of the lifetime benefits between a DC and DB plan at retirement age.

Major Disadvantages of Potential ERS Reform Using Defined Contribution Model

- There is substantial legal question whether the County could close the current plan for current members, whether represented or non-represented, as presented in Scenario 2.
- Closing the existing County Pension Plan to either new hires or all employees will require the County to administer two separate pension plans until the final pension check is issued under the defined benefit plan.
- Modifications to the existing County Pension Plan are generally subject to the collective bargaining process for the approximately 80%—85% of the County workforce that are represented. Under existing State collective bargain processes the modifications could be achieved either through a voluntary agreement or through the binding arbitration process. In order to gain a voluntary agreement, the County would likely have to offer a package of “givebacks” to employees in the form of higher wages or other considerations. It is difficult to envision a package of givebacks that would be financially, operationally and politically feasible **and** acceptable to County labor unions. In order to implement pension modifications through the binding arbitration process, the County would have to demonstrate that the change is consistent with “comparable” governmental employers. Since all public employees in the State of Wisconsin are covered by a defined benefit plan, it is unlikely that the County could win an arbitrator’s decision on this issue.
- Consistent with recommended actuarial practices, the County is currently amortizing its unfunded pension liability over a 30-year period. If the County were to close the current Pension Plan, the County’s actuary recommends that the unfunded pension liability be paid off by the time the last active member retires. The amortization of the liability will be based on the remaining cumulative wages of current active employees. Current active employees will become a fixed group that decrease in numbers over time, as will the total wages of that group. Since total wages for this group will decrease over time, amortization of the liability will be higher in the first years. This results in higher contributions over the first five years. Since the increased level of contribution required to amortize the unfunded pension liability over the next five years could not be absorbed into the County’s annual budget, the County would likely need to issue bonds to spread the payment of this liability over a longer period of time that is more closely aligned with the savings from closing the current Pension Plan.

Adopted Budget Policies

The 2010 Adopted Budget, Org. Unit 1972 contains pension reform policies. The actuary's report analyzes the savings that will be achieved from these policies.

Exhibit III in the attached analysis calculates the difference in projected contributions from application of the Org. Unit 1972 changes from non-represented employees to all employees and elected officials. The proposed change in multiplier and retirement age results in a total savings over the next 50 years of \$569 million dollars or \$106 million on a net present value basis, over the Current Plan. As can be seen, savings are achieved in every year.

In addition, the actuary notes that the current pension plan's normal cost (the cost of benefits accruing each year for the active employees is currently 8.4% of payroll. With the Org Unit 1972 changes fully implemented, the revised defined benefit plan's normal cost will be 7.2% of payroll. The Defined Contribution plan's normal cost would be 8% of payroll.

Conclusions

Under the current County Pension Plan, the County bears all costs and all risk associated with employee pensions. The actuary's analysis of the savings from shifting to a defined contribution plan illustrates the magnitude of the potential savings from sharing costs and risks with County employees.

This report is for informational purposes.

cc: County Executive Scott Walker
Milwaukee County Board of Supervisors
Tom Nardelli, Chief of Staff, County Executive's Office
Terry Cooley, Chief of Staff, County Board Chairman's Office
Jodi Mapp, Personnel Committee Clerk
Carol Mueller, Finance and Audit Committee Clerk

Attachment

July 9, 2010

Mr. Mark Grady
Employee Benefits Workgroup
901 N. 9th St.
Milwaukee, WI 53233

RE: Actuary's Review of the Financial Impact of Closing the Defined Benefit Plan

Dear Mark:

The Employee Benefits Workgroup has requested that Buck estimate the cost of closing the Employees' Retirement System under two scenarios: (1) a scenario that closes the plan for all new employees hired on or after January 1, 2011 and (2) a scenario where the plan is closed completely for all employees as of December 31, 2010 (i.e., no further accrual of benefits after that date for anyone). This letter includes our analysis.

Actuarial Analysis

There are two components to this analysis. The first component is the change in benefits and eligibilities. Under Scenario (1), benefits for those hired before January 1, 2011 remain unchanged. Those that are hired on or after January 1, 2011 received no benefits from the Retirement System. Under Scenario (2), no future benefits are accrued under the Retirement system on or after January 1, 2011. This not only impacts those that are hired on or after January 1, 2011, but also those already in the Retirement system. For those in the Retirement System as of January 1, 2011, benefits are frozen as of January 1, 2011. This means that benefits will not increase due to pay or service on or after January 1, 2011. Members will be allowed to accrue eligibility service in this analysis.

The second component is the recommendation that the funding policy be changed to reflect the closing of the retirement system. The current funding policy of the Retirement System includes amortizing unfunded actuarial accrued liability based on the source of the unfunded liability: contribution variances are amortized over 5 years, administrative expenses over 10 years and all other unfunded liability over 30 years. While the Retirement System is open to new hires, funding these liabilities over up to thirty years is reasonable because contributions will continue to be made to the Retirement System based on the payroll of future active members of the plan. When a retirement system is closed to new hires, recommended actuarial practice is that the funding policy be revised so that the unfunded liability is paid off at the moment the Retirement System is projected to no longer have active members. More specifically, for pay related plans such as the Employees' Retirement System, unfunded liability is paid off over the future projected salary of covered members.

The following exhibit details the impact of closing the Employees Retirement System under Scenarios (1) and (2).

As of January 1, 2010	Scenario (1) No New Employees	Scenario (2) No Future Accruals
Valuation Results		
1. Present Value of Future Benefits	\$ 2,239,963,671	\$ 1,904,131,538
2. Market Value of Assets	\$ 1,822,692,151	\$ 1,822,692,151
3. Liabilities remaining to be funded: (1 - 2)	\$ 417,271,520	\$ 81,439,387
4. Present Value of Future Payroll of Members remaining in the Fund	\$ 1,619,552,320	\$ 1,619,552,320
5. Contribution Rate	25.7646212 %	5.0285123 %
6. Actual Funding Contribution Calculated by Actuary	\$ 63,292,501	\$ 12,352,874

Item 1, the present value of future benefits (PVFB) is the total amount of projected benefits to be funded under the respective scenario. For comparison purposes, the actuarial accrued liability (AAL) of the Retirement System is just under \$2.1 billion as of January 1, 2010. The PVFB is larger than the AAL under Scenario (1) because Scenario (1) incorporates all projected service. The PVFB is smaller than the AAL under Scenario (2) because Scenario (2) does not include future salary increases, and similar to the AAL, does not include future service. Subtracting the market value of liabilities under Item 2, we are left with the remaining amount of liabilities to be funded in Item 3. Because the Retirement system is closed under both scenarios, we finance the liabilities remaining to be funded over the present value of future payroll in 4, to arrive at the contribution rate. The contribution rate is as a percent of pay of members in the retirement system. While the rate is designed to remain level if the assumptions are met, as payroll shrinks, the dollar amount will eventually reduce to zero. The Dollar contributions under Item 6 are for year one. It represents the projected payroll for the group multiplied by the contribution rate.

The following is a similar exhibit for OBRA. The concept is similar to that outlined for ERS in the prior paragraph.

Impact of Closing the OBRA Retirement System

As of January 1, 2010	Scenario (1)	Scenario (2)
Valuation Results		
1. Present Value of Future Benefits	\$ 6,635,018	\$ 5,068,513
2. Market Value of Assets	\$ 1,038,607	\$ 1,038,607
3. Liabilities remaining to be funded: (1 - 2)	\$ 5,596,411	\$ 4,029,906
4. Present Value of Future Payroll of Members remaining in the Fund	\$ 54,836,167	\$ 54,836,167
5. Contribution Rate	10.2056933 %	7.3489929 %
6. Actual Funding Contribution Calculated by Actuary	\$ 731,927	\$ 527,051

Exhibit I contains a projection of the contributions under the current plan and the two scenarios for ERS. Note that the Current Plan contributions are for an open group. For a reasonable comparison, the two

scenarios should be added to the plan, if any, for new hires. Exhibit II contains a projection of contributions under the current plan and the two scenarios for ERS with and 8% and 4% replacements plan. The current ERS plan is valued at 8.418% of payroll. This amount is based on the composite rate of the entire group. The normal cost for members of ERS for those in the most recently enacted provisions of the groups is slightly lower at 8.321%.

Effective with the January 1, 2010 valuation report, the valuation reflected the multiplier reduction from 2.0% to 1.6% for current members' future service and future hires total service and the normal retirement age was increased to age 64 for future hires only for non-represented employees, excluding Elected Official and Deputy Sheriffs. For Scenario 3, we have applied these provisions for all current actives of the retirement system. Exhibit III contains a projection of contributions under the current provisions and scenario 3. The normal cost for all members under exhibit three reduced from the 8.418% of payroll in the valuation to 7.154%.

Exhibit IV contains a projection of the contributions under the current plan and the two scenarios for OBRA. This exhibit is similar to Exhibit I for ERS. Note that the Current Plan contributions are for an open group. For a reasonable comparison, the two scenarios should be added to the plan, if any, for new hires. Exhibit II contains a projection of contributions under the current plan and the two scenarios for ERS with and 6% and 2% replacement plan. The current OBRA plan is valued at 1.89% of payroll. This amount is based on the composite rate of the entire group. One item to note is that the OBRA plan replacement plans do not include a component for expenses. Expenses are a fairly significant part of the current OBRA plan.

Basis for the Analysis

Unless otherwise noted in this analysis, we have based this analysis on the data, assumptions and methods used for the preliminary results of the January 1, 2010 actuarial valuation. We understand that Scenario (1) would impact all future employees of the County and that Scenario (2) would impact all current and future employees of the County. We made use of the market value of assets instead of the actuarial value of assets that would be used in the valuation. We made use of the market value of assets to give a better sense of the long term contribution rate. Use of the actuarial value of assets as of January 1, 2010 of \$1.95 billion would result in lower contribution rates in early years and higher contributions later than that shown in Item 6. We assumed that the retirement system would be closed as of January 1, 2010 instead of 2011 to simplify the analysis. One additional year of benefit accruals would increase the amount of contributions, but does not materially impact the illustration.

The undersigned is a Member of the American Academy of Actuaries and meets the Academy's Qualification Standards to issue this Statement of Actuarial Opinion.

Please call if you have any questions.

Sincerely,



Larry Langer, ASA, EA, MAAA
Principal, Consulting Actuary

LL:pl

19150/C6934RET01-Review-Amend-Plan Closure.doc

cc: Mark Grady
Marco Ruffini

Exhibit I
Employees' Retirement System of the County of Milwaukee
Projection of Contributions under Current Provisions and Alternate Scenarios 1 and 2
Scenario 1: Plan is closed to new hires
Scenario 2: Plan is closed to future accruals
(Amounts in Millions)

Year	Projected Salary for Current actives	Projected Contributions			Savings/(Cost Increase)	
		Current Provisions	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2
2010	236.4	31.3	63.3	12.4	(32.0)	18.9
2011	216.8	31.6	58.0	11.3	(26.4)	20.3
2012	200.2	37.6	53.6	10.5	(16.0)	27.1
2013	185.7	43.0	49.7	9.7	(6.7)	33.3
2014	172.8	42.3	46.3	9.0	(4.0)	33.3
2015	160.8	51.8	43.0	8.4	8.8	43.4
2016	149.5	54.6	40.0	7.8	14.6	46.8
2017	138.4	56.6	37.0	7.2	19.6	49.4
2018	128.0	58.6	34.3	6.7	24.3	51.9
2019	118.5	60.6	31.7	6.2	28.9	54.4
2020	109.7	62.7	29.4	5.7	33.3	57.0
2021	102.0	64.8	27.3	5.3	37.5	59.5
2022	94.9	67.0	25.4	5.0	41.6	62.0
2023	88.1	69.3	23.6	4.6	45.7	64.7
2024	81.6	71.6	21.8	4.3	49.8	67.3
2025	75.2	74.0	20.1	3.9	53.9	70.1
2026	68.7	76.5	18.4	3.6	58.1	72.9
2027	62.3	79.1	16.7	3.3	62.4	75.8
2028	55.9	81.8	15.0	2.9	66.8	78.9
2029	49.7	84.6	13.3	2.6	71.3	82.0
2030	44.1	87.5	11.8	2.3	75.7	85.2
2031	39.0	90.4	10.4	2.0	80.0	88.4
2032	34.1	93.5	9.1	1.8	84.4	91.7
2033	29.4	96.7	7.9	1.5	88.8	95.2
2034	25.2	52.9	6.8	1.3	46.1	51.6
2035	21.4	38.7	5.7	1.1	33.0	37.6
2036	17.8	25.3	4.8	0.9	20.5	24.4
2037	14.7	40.4	3.9	0.8	36.5	39.6
2038	12.1	44.1	3.2	0.6	40.9	43.5
2039	9.9	97.0	2.6	0.5	94.4	96.5
2040	8.0	85.7	2.1	0.4	83.6	85.3
2041	6.4	78.3	1.7	0.3	76.6	78.0
2042	5.0	68.5	1.3	0.3	67.2	68.2
2043	3.9	60.1	1.1	0.2	59.0	59.9
2044	3.0	69.3	0.8	0.2	68.5	69.1
2045	2.3	71.7	0.6	0.1	71.1	71.6
2046	1.7	74.1	0.5	0.1	73.6	74.0
2047	1.2	73.8	0.3	0.1	73.5	73.7
2048	0.9	76.3	0.2	0.0	76.1	76.3
2049	0.6	78.9	0.2	0.0	78.7	78.9
2050	0.4	81.5	0.1	0.0	81.4	81.5
2051	0.3	84.3	0.1	0.0	84.2	84.3
2052	0.2	87.2	0.1	0.0	87.1	87.2
2053	0.1	90.1	0.0	0.0	90.1	90.1
2054	0.1	93.2	0.0	0.0	93.2	93.2
2055	0.0	96.4	0.0	0.0	96.4	96.4
2056	0.0	99.6	0.0	0.0	99.6	99.6
2057	0.0	103.0	0.0	0.0	103.0	103.0
2058	0.0	106.6	0.0	0.0	106.6	106.6
2059	0.0	110.2	0.0	0.0	110.2	110.2
2060	0.0	114.0	0.0	0.0	114.0	114.0
TOTAL	2,777.0	3,668.7	743.2	144.9	2,925.5	3,523.8
NET PRESENT VALUE		729.5	417.1	81.4	312.4	648.1

Exhibit II
Employees' Retirement System of the County of Milwaukee
Projection of Contributions under Current Provisions and Alternate Scenarios 1 and 2 with 8% and 4% Replacement Plans
Scenario 1: Plan is closed to new hires
Scenario 2: Plan is closed to future accruals
(Amounts in Millions)

Year	Projected Salary for		Current Provisions	With 8% Replacement Plan				With 4% Replacement Plan			
	Current Actives	Current and Future Actives	Projected Contributions	Projected Contributions		Savings/(Cost Increase)		Projected Contributions		Savings/(Cost Increase)	
			Current Provisions	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2
2010	236.4	237.0	31.3	63.3	31.3	(32.0)	0.0	63.3	21.9	(32.0)	9.4
2011	216.8	245.3	31.6	60.3	31.0	(28.7)	0.6	59.1	21.1	(27.5)	10.5
2012	200.2	253.9	37.6	57.9	30.8	(20.3)	6.8	55.7	20.7	(18.1)	16.9
2013	185.7	262.8	43.0	55.9	30.7	(12.9)	12.3	52.8	20.2	(9.8)	22.8
2014	172.8	272.0	42.3	54.2	30.8	(11.9)	11.5	50.3	19.9	(8.0)	22.4
2015	160.8	281.5	51.8	52.7	30.9	(0.9)	20.9	47.8	19.7	4.0	32.1
2016	149.5	291.4	54.6	51.4	31.1	3.2	23.5	45.7	19.5	8.9	35.1
2017	138.4	301.6	56.6	50.1	31.4	6.5	25.2	43.5	19.3	13.1	37.3
2018	128.0	312.1	58.6	49.0	31.7	9.6	26.9	41.7	19.2	16.9	39.4
2019	118.5	323.1	60.6	48.1	32.0	12.5	28.6	39.9	19.1	20.7	41.5
2020	109.7	334.4	62.7	47.3	32.5	15.4	30.2	38.4	19.1	24.3	43.6
2021	102.0	346.1	64.8	46.8	33.0	18.0	31.8	37.1	19.1	27.7	45.7
2022	94.9	358.2	67.0	46.5	33.6	20.5	33.4	35.9	19.3	31.1	47.7
2023	88.1	370.7	69.3	46.2	34.3	23.1	35.0	34.9	19.4	34.4	49.9
2024	81.6	383.7	71.6	46.0	35.0	25.6	36.6	33.9	19.6	37.7	52.0
2025	75.2	397.1	74.0	45.9	35.7	28.1	38.3	33.0	19.8	41.0	54.2
2026	68.7	411.0	76.5	45.8	36.5	30.7	40.0	32.1	20.0	44.4	56.5
2027	62.3	425.4	79.1	45.7	37.3	33.4	41.8	31.2	20.3	47.9	58.8
2028	55.9	440.3	81.8	45.7	38.1	36.1	43.7	30.4	20.5	51.4	61.3
2029	49.7	455.7	84.6	45.8	39.1	38.8	45.5	29.5	20.8	55.1	63.8
2030	44.1	471.7	87.5	46.0	40.0	41.5	47.5	28.9	21.2	58.6	66.3
2031	39.0	488.2	90.4	46.4	41.1	44.0	49.3	28.4	21.5	62.0	68.9
2032	34.1	505.3	93.5	46.8	42.2	46.7	51.3	27.9	22.0	65.6	71.5
2033	29.4	522.9	96.7	47.4	43.4	49.3	53.3	27.6	22.4	69.1	74.3
2034	25.2	541.2	52.9	48.0	44.6	4.9	8.3	27.4	22.9	25.5	30.0
2035	21.4	560.2	38.7	48.8	45.9	(10.1)	(7.2)	27.3	23.5	11.4	15.2
2036	17.8	579.8	25.3	49.7	47.3	(24.4)	(22.0)	27.3	24.1	(2.0)	1.2
2037	14.7	600.1	40.4	50.8	48.8	(10.4)	(8.4)	27.3	24.8	13.1	15.6
2038	12.1	621.1	44.1	52.0	50.3	(7.9)	(6.2)	27.6	25.4	16.5	18.7
2039	9.9	642.8	97.0	53.3	51.9	43.7	45.1	27.9	26.2	69.1	70.8
2040	8.0	665.3	85.7	54.7	53.6	31.0	32.1	28.4	27.0	57.3	58.7
2041	6.4	688.6	78.3	56.3	55.4	22.0	22.9	29.0	27.8	49.3	50.5
2042	5.0	712.7	68.5	58.0	57.3	10.5	11.2	29.6	28.8	38.9	39.7
2043	3.9	737.7	60.1	59.7	59.2	0.4	0.9	30.5	29.7	29.6	30.4
2044	3.0	763.5	69.3	61.6	61.2	7.7	8.1	31.2	30.7	38.1	38.6
2045	2.3	790.2	71.7	63.6	63.3	8.1	8.4	32.1	31.7	39.6	40.0
2046	1.7	817.9	74.1	65.7	65.5	8.4	8.6	33.1	32.8	41.0	41.3
2047	1.2	846.5	73.8	68.0	67.8	5.8	6.0	34.1	34.0	39.7	39.8
2048	0.9	876.1	76.3	70.3	70.1	6.0	6.2	35.2	35.0	41.1	41.3
2049	0.6	906.8	78.9	72.7	72.6	6.2	6.3	36.4	36.3	42.5	42.6
2050	0.4	938.5	81.5	75.2	75.1	6.3	6.4	37.6	37.5	43.9	44.0
2051	0.3	971.4	84.3	77.8	77.7	6.5	6.6	38.9	38.9	45.4	45.4
2052	0.2	1,005.3	87.2	80.5	80.4	6.7	6.8	40.3	40.2	46.9	47.0
2053	0.1	1,040.5	90.1	83.3	83.2	6.8	6.9	41.6	41.6	48.5	48.5
2054	0.1	1,077.0	93.2	86.2	86.2	7.0	7.0	43.1	43.1	50.1	50.1
2055	0.0	1,114.6	96.4	89.2	89.2	7.2	7.2	44.6	44.6	51.8	51.8
2056	0.0	1,153.7	99.6	92.3	92.3	7.3	7.3	46.1	46.1	53.5	53.5
2057	0.0	1,194.0	103.0	95.5	95.5	7.5	7.5	47.8	47.8	55.2	55.2
2058	0.0	1,235.8	106.6	98.9	98.9	7.7	7.7	49.4	49.4	57.2	57.2
2059	0.0	1,279.1	110.2	102.3	102.3	7.9	7.9	51.2	51.2	59.0	59.0
2060	0.0	1,323.9	114.0	105.9	105.9	8.1	8.1	53.0	53.0	61.0	61.0
TOTAL	2,777.0	32,375.7	3,668.7	3,111.5	2,735.0	557.2	933.7	1,927.1	1,439.9	1,741.6	2,228.8
NET PRESENT VALUE			729.5	680.5	469.4	49.0	260.1	548.8	275.4	180.7	454.1

Exhibit III
Employees' Retirement System of the County of Milwaukee
Projection of Contributions under Current Provisions and Alternate Scenario 3
Scenario 3: Multiplier reduced from 2.0% to 1.6% for future service
Normal retirement Age increased to age 64 for future hires
(Amounts in Millions)

Year	Projected Contributions		Savings/(Cost Increase)
	Current Plan	Scenario 3	Current Plan less Scenario 3
2010	31.3	31.3	0.0
2011	31.6	25.4	6.2
2012	37.6	31.1	6.5
2013	43.0	36.3	6.7
2014	42.3	35.4	6.9
2015	51.8	44.7	7.1
2016	54.6	47.2	7.4
2017	56.6	48.9	7.7
2018	58.6	50.7	7.9
2019	60.6	52.5	8.1
2020	62.7	54.3	8.4
2021	64.8	56.1	8.7
2022	67.0	57.9	9.1
2023	69.3	59.9	9.4
2024	71.6	61.9	9.7
2025	74.0	64.0	10.0
2026	76.5	66.1	10.4
2027	79.1	68.4	10.7
2028	81.8	70.7	11.1
2029	84.6	73.0	11.6
2030	87.5	75.5	12.0
2031	90.4	78.1	12.3
2032	93.5	80.7	12.8
2033	96.7	83.4	13.3
2034	52.9	39.2	13.7
2035	38.7	24.5	14.2
2036	25.3	10.6	14.7
2037	40.4	25.2	15.2
2038	44.1	28.3	15.8
2039	97.0	80.7	16.3
2040	85.7	68.9	16.8
2041	78.3	69.3	9.0
2042	68.5	59.1	9.4
2043	60.1	50.4	9.7
2044	69.3	59.3	10.0
2045	71.7	61.3	10.4
2046	74.1	63.3	10.8
2047	73.8	63.1	10.7
2048	76.3	65.2	11.1
2049	78.9	67.4	11.5
2050	81.5	69.7	11.8
2051	84.3	72.0	12.3
2052	87.2	74.5	12.7
2053	90.1	77.0	13.1
2054	93.2	79.6	13.6
2055	96.4	82.3	14.1
2056	99.6	85.1	14.5
2057	103.0	88.0	15.0
2058	106.6	90.9	15.7
2059	110.2	94.0	16.2
2060	114.0	97.2	16.8
TOTAL	3,668.7	3,099.6	569.1
NET PRESENT VALUE	729.5	623.0	106.5

Exhibit IV
OBRA 1990 Retirement System of the County of Milwaukee
Projection of Contributions under Current Provisions and Alternate Scenarios 1 and 2
Scenario 1: Plan is closed to new hires
Scenario 2: Plan is closed to future accruals
(Amounts in Millions)

Year	Projected Salary for Current actives	Projected Contributions			Savings/(Cost Increase)	
		Current Provisions	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2
2010	6.9	0.7	0.7	0.5	0.0	0.2
2011	6.0	0.8	0.6	0.5	0.2	0.3
2012	5.5	0.9	0.6	0.4	0.3	0.5
2013	5.0	1.0	0.5	0.4	0.5	0.6
2014	4.7	1.0	0.5	0.4	0.5	0.6
2015	4.4	1.1	0.5	0.3	0.6	0.8
2016	4.1	1.2	0.4	0.3	0.8	0.9
2017	4.0	1.2	0.4	0.3	0.8	0.9
2018	3.8	1.3	0.4	0.3	0.9	1.0
2019	3.6	1.3	0.4	0.3	0.9	1.0
2020	3.5	1.3	0.4	0.3	0.9	1.0
2021	3.4	1.3	0.4	0.3	0.9	1.0
2022	3.3	1.3	0.3	0.3	1.0	1.0
2023	3.2	1.3	0.3	0.2	1.0	1.1
2024	3.2	1.3	0.3	0.2	1.0	1.1
2025	3.1	1.3	0.3	0.2	1.0	1.1
2026	3.1	1.3	0.3	0.2	1.0	1.1
2027	3.1	1.4	0.3	0.2	1.1	1.2
2028	3.1	1.4	0.3	0.2	1.1	1.2
2029	3.1	1.4	0.3	0.2	1.1	1.2
2030	3.1	1.4	0.3	0.2	1.1	1.2
2031	3.0	1.4	0.3	0.2	1.1	1.2
2032	3.0	1.4	0.3	0.2	1.1	1.2
2033	3.0	1.4	0.3	0.2	1.1	1.2
2034	3.0	1.3	0.3	0.2	1.0	1.1
2035	3.0	1.3	0.3	0.2	1.0	1.1
2036	3.1	1.3	0.3	0.2	1.0	1.1
2037	3.2	1.3	0.3	0.2	1.0	1.1
2038	3.3	1.3	0.4	0.3	0.9	1.0
2039	3.4	1.3	0.4	0.3	0.9	1.0
2040	3.3	1.3	0.4	0.3	0.9	1.0
2041	3.3	1.3	0.4	0.3	0.9	1.0
2042	3.4	1.3	0.4	0.3	0.9	1.0
2043	3.5	1.3	0.4	0.3	0.9	1.0
2044	3.6	1.3	0.4	0.3	0.9	1.0
2045	3.5	1.3	0.4	0.3	0.9	1.0
2046	3.3	1.3	0.3	0.3	1.0	1.0
2047	3.1	1.3	0.3	0.2	1.0	1.1
2048	2.7	1.4	0.3	0.2	1.1	1.2
2049	2.4	1.4	0.3	0.2	1.1	1.2
2050	2.2	1.4	0.2	0.2	1.2	1.2
2051	2.0	1.4	0.2	0.2	1.2	1.2
2052	1.8	1.4	0.2	0.1	1.2	1.3
2053	1.5	1.4	0.2	0.1	1.2	1.3
2054	1.2	1.4	0.1	0.1	1.3	1.3
2055	0.9	1.4	0.1	0.1	1.3	1.3
2056	0.6	1.5	0.1	0.0	1.4	1.5
2057	0.3	1.5	0.0	0.0	1.5	1.5
2058	0.1	1.5	0.0	0.0	1.5	1.5
2059	0.0	1.5	0.0	0.0	1.5	1.5
2060	0.0	1.5	0.0	0.0	1.5	1.5
TOTAL	153.9	66.3	16.1	11.7	50.2	54.6
NET PRESENT VALUE		14.7	5.5	4.0	9.2	10.7

Exhibit V
OBRA 1990 Retirement System of the County of Milwaukee
Projection of Contributions under Current Provisions and Alternate Scenarios 1 and 2 with 6% and 2% Replacement Plans
Scenario 1: Plan is closed to new hires
Scenario 2: Plan is closed to future accruals
(Amounts in Millions)

Year	Projected Salary for		Current Provisions	With 6% Replacement Plan				With 2% Replacement Plan			
	Current Actives	Current and Future Actives	Projected Contributions	Projected Contributions		Savings/(Cost Increase)		Projected Contributions		Savings/(Cost Increase)	
			Current Provisions	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2	Scenario 1	Scenario 2	Current Plan less Scenario 1	Current Plan less Scenario 2
2010	6.9	6.9	0.7	0.7	0.9	0.0	(0.2)	0.7	0.8	0.0	(0.1)
2011	6.0	7.1	0.8	0.7	0.9	0.1	(0.1)	0.6	0.8	0.2	0.0
2012	5.5	7.3	0.9	0.7	0.9	0.2	0.0	0.7	0.7	0.2	0.2
2013	5.0	7.5	1.0	0.7	0.8	0.3	0.2	0.6	0.7	0.4	0.3
2014	4.7	7.8	1.0	0.7	0.8	0.3	0.2	0.6	0.7	0.4	0.3
2015	4.4	8.0	1.1	0.7	0.8	0.4	0.3	0.6	0.6	0.5	0.5
2016	4.1	8.2	1.2	0.7	0.8	0.5	0.4	0.6	0.6	0.6	0.6
2017	4.0	8.5	1.2	0.7	0.8	0.5	0.4	0.6	0.6	0.6	0.6
2018	3.8	8.7	1.3	0.7	0.8	0.6	0.5	0.6	0.6	0.7	0.7
2019	3.6	9.0	1.3	0.7	0.8	0.6	0.5	0.6	0.7	0.7	0.6
2020	3.5	9.3	1.3	0.7	0.8	0.6	0.5	0.6	0.7	0.7	0.6
2021	3.4	9.6	1.3	0.7	0.8	0.6	0.5	0.6	0.7	0.7	0.6
2022	3.3	9.8	1.3	0.7	0.8	0.6	0.5	0.6	0.7	0.7	0.6
2023	3.2	10.1	1.3	0.8	0.9	0.5	0.4	0.6	0.6	0.7	0.7
2024	3.2	10.4	1.3	0.8	0.9	0.5	0.4	0.6	0.6	0.7	0.7
2025	3.1	10.8	1.3	0.8	0.9	0.5	0.4	0.6	0.6	0.7	0.7
2026	3.1	11.1	1.3	0.8	0.9	0.5	0.4	0.6	0.6	0.7	0.7
2027	3.1	11.4	1.4	0.8	0.9	0.6	0.5	0.6	0.7	0.8	0.7
2028	3.1	11.7	1.4	0.8	0.9	0.6	0.5	0.6	0.7	0.8	0.7
2029	3.1	12.1	1.4	0.9	1.0	0.5	0.4	0.7	0.7	0.7	0.7
2030	3.1	12.5	1.4	0.9	1.0	0.5	0.4	0.7	0.7	0.7	0.7
2031	3.0	12.8	1.4	0.9	1.0	0.5	0.4	0.7	0.7	0.7	0.7
2032	3.0	13.2	1.4	0.9	1.0	0.5	0.4	0.7	0.7	0.7	0.7
2033	3.0	13.6	1.4	1.0	1.0	0.4	0.4	0.7	0.7	0.7	0.7
2034	3.0	14.0	1.3	1.0	1.1	0.3	0.2	0.7	0.8	0.6	0.5
2035	3.0	14.4	1.3	1.0	1.1	0.3	0.2	0.8	0.8	0.5	0.5
2036	3.1	14.9	1.3	1.0	1.1	0.3	0.2	0.8	0.8	0.5	0.5
2037	3.2	15.3	1.3	1.1	1.2	0.2	0.1	0.8	0.8	0.5	0.5
2038	3.3	15.8	1.3	1.1	1.2	0.2	0.1	0.9	0.9	0.4	0.4
2039	3.4	16.3	1.3	1.1	1.2	0.2	0.1	0.9	1.0	0.4	0.3
2040	3.3	16.8	1.3	1.2	1.3	0.1	0.0	0.9	1.0	0.4	0.3
2041	3.3	17.3	1.3	1.2	1.3	0.1	0.0	1.0	1.0	0.3	0.3
2042	3.4	17.8	1.3	1.2	1.3	0.1	0.0	1.0	1.0	0.3	0.3
2043	3.5	18.3	1.3	1.3	1.4	0.0	(0.1)	1.0	1.0	0.3	0.3
2044	3.6	18.9	1.3	1.3	1.4	0.0	(0.1)	1.0	1.1	0.3	0.2
2045	3.5	19.4	1.3	1.3	1.4	0.0	(0.1)	1.0	1.1	0.3	0.2
2046	3.3	20.0	1.3	1.4	1.5	(0.1)	(0.2)	1.0	1.1	0.3	0.2
2047	3.1	20.6	1.3	1.4	1.5	(0.1)	(0.2)	1.0	1.0	0.3	0.3
2048	2.7	21.2	1.4	1.4	1.5	0.0	(0.1)	1.0	1.0	0.4	0.4
2049	2.4	21.9	1.4	1.4	1.5	0.0	(0.1)	1.1	1.1	0.3	0.3
2050	2.2	22.5	1.4	1.5	1.5	(0.1)	(0.1)	1.0	1.1	0.4	0.3
2051	2.0	23.2	1.4	1.5	1.5	(0.1)	(0.1)	1.0	1.1	0.4	0.3
2052	1.8	23.9	1.4	1.5	1.6	(0.1)	(0.2)	1.1	1.1	0.3	0.3
2053	1.5	24.6	1.4	1.5	1.6	(0.1)	(0.2)	1.1	1.1	0.3	0.3
2054	1.2	25.3	1.4	1.6	1.6	(0.2)	(0.2)	1.1	1.1	0.3	0.3
2055	0.9	26.1	1.4	1.6	1.6	(0.2)	(0.2)	1.1	1.1	0.3	0.3
2056	0.6	26.9	1.5	1.6	1.7	(0.1)	(0.2)	1.2	1.1	0.3	0.4
2057	0.3	27.7	1.5	1.7	1.7	(0.2)	(0.2)	1.1	1.1	0.4	0.4
2058	0.1	28.5	1.5	1.7	1.7	(0.2)	(0.2)	1.1	1.1	0.4	0.4
2059	0.0	29.4	1.5	1.8	1.8	(0.3)	(0.3)	1.2	1.2	0.3	0.3
2060	0.0	30.3	1.5	1.8	1.8	(0.3)	(0.3)	1.2	1.2	0.3	0.3
TOTAL	153.9	808.7	66.3	55.7	60.2	10.6	6.1	42.3	44.0	24.0	22.3
NET PRESENT VALUE			14.7	10.3	11.8	4.4	2.9	8.6	9.2	6.1	5.5