# ACTUARIAL ANALYSIS OF RETIREE HEALTH BENEFITS 

 NOVATO UNIFIED SCHOOL DISTRICT AS OF JULY 1, 2010For Fiscal Years Ending June 30, 2011 and 2012

Prepared by:
Steven T. Itelson
Fellow, Society of Actuaries
Member, American Academy of Actuaries

JULY 12, 2011

# STEVEN T. ITELSON, F.S.A. <br> CONSULTING ACTUARY <br> 1309 Diamond Street <br> San Francisco, CA 94131 <br> (415) 648-8589 <br> email: itelson@comcast.net 

July 12, 2011

Novato Unified School District 1015 Seventh Street
Novato, CA 94945
Enclosed is my actuarial valuation of the retiree health program for District employees as of July 1,2010 . The report is based on assumptions stated in the appendix, and on data provided by the District's staff, which I have limited ability to verify. Summaries of the data are included in appendices.

The valuation results are also based on my understanding of the existing benefit design, which is summarized in Appendix F. Only the benefits paid by the District are included in the valuation.

On the basis of the foregoing, I certify that, to the best of my knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted principles and practices which are consistent with the applicable standards of practice of the Actuarial Standards Board. I am fully qualified to do this valuation based on standards of the Governmental Accounting Standards Board and the American Academy of Actuaries.

Sincerely,

Steven T. Itelson
Fellow, Society of Actuaries
Member, American Academy of Actuaries

Encl.

## CONTENTS

SUMMARY ..... 1
INTRODUCTION ..... 3
ACCOUNTING STANDARDS ..... 4
VALUATION RESULTS ..... 5
EXPERIENCE REVIEW ..... 8
PARTICIPANT DATA ..... 9
APPENDICES
A. TERMINOLOGY ..... 10
B. ACTUARIAL ASSUMPTIONS - Classified ..... 12
C. ACTUARIAL ASSUMPTIONS - Certificated ..... 15
D. EMPLOYEE CENSUSES ..... 18
E. RETIREE CENSUS ..... 22
F. PLAN SUMMARY ..... 23

## SUMMARY OF ACTUARIAL ANALYSIS OF RETIREE HEALTH PROGRAM

Novato Unified School District provides health insurance benefits to certain retirees. Certificated and Management/Confidential employees who retire after age 55 with 10 years of service receive $\$ 200$ monthly. Classified employees need 15 years of service for the same benefit. Those with five or more years of District employment get a prorated amount, as do those who retire from less than full-time employment. District payment ends at age 65. Appendix F gives summaries of the provisions of the program by representation unit.

The Governmental Accounting Standards Board (GASB) published Statement Number 45 in 2004. GASB 45 sets rules for computing expenses for retiree health and welfare benefits. Expense (called Annual OPEB Cost or AOC) is determined similarly to the way it is for pensions. Working employees accrue a prorated share of the financial present value of the retiree benefits each year. This valuation is done to comply with GASB 45.

The District's expense on the GASB 45 basis for 2010-11 is $\$ 100,835$. This represents $0.24 \%$ of covered payroll of $\$ 41,909,100$. This amount is more than the expected benefits for the year 2010-11. The Actuarial Accrued Liability (AAL) is $\$ 823,300$. The AAL is $0 \%$ funded since there are no reserves. The Unfunded Actuarial Accrued Liability is the same $\$ 823,300$ which is $1.96 \%$ of payroll. These amounts will be disclosed on District financial statements.

There were changes in the PERS actuarial assumptions since the prior valuation of your plan. The effects of those changes were an increase in the AAL of $\$ 24,200$ and an increase of $\$ 3,400$ in the AOC.

There were 27 retirees and 497 employees included in this valuation. Employer-paid benefits are expected to be about $\$ 90,000$ this year. The projection shows the number
of retirees fluctuating between about 25 and 50 over time, with total benefits ranging from under \$70,000 to over \$100,000.

This actuarial valuation uses the rates of mortality, retirement, disability, and other withdrawal used by PERS and STRS in the valuations of your pension plans. However, the probabilities of termination have been multiplied by 2.0 at all age/service combinations for all representation units. Other assumptions used include 5\% investment return and $3.5 \%$ annual growth in payroll. The $\$ 200$ monthly benefit has not been assumed to increase in the future.

## INTRODUCTION

This report gives the results of actuarial valuations of the District's Post-Employment Benefits Other than Pensions (OPEB).

No legal or accounting requirement to accrue expenses for a retiree health benefit plan using traditional pension methods existed until 2004, when the GASB issued Statements 43 and 45 for such rules in public agencies. GASB 43 requires actuarial reporting by the retiree health benefit trust fund, if there is one. GASB 45 requires that an employer's expense be determined using actuarial methods so that costs accrue over the employees' working lifetimes. More discussion of these accounting considerations is given in the next section and Appendix A (page 10).

This report summarizes the valuation of District's retiree health program to comply with GASB 45. The actuarial calculations are summarized in the Valuation Results section (page 5). The experience review section (page 8) gives the comparison of what was predicted to what occurred over the period between valuations. The participant data section summarizes information on employees and retirees (page 9).

Appendix A (page 10) is a glossary of actuarial terms used in this report. The actuarial assumptions and methods are shown in detail in Appendices B (page 12) and C (page 15). They include rates of retiree mortality and rates at which the employees leave the work-force for retirement, death, and other turnover. The "standard" PERS and STRS probabilities of termination have been used. PERS and STRS have changed assumptions since the District's last valuation.

Appendices $D$ (page 18) and $E$ (page 22) are distributions of the eligible employees and retirees. Appendix $F$ (page 23) is a summary of benefit provisions. Only the retiree health benefits paid by District are included in the actuarial projections and the summary.

## ACCOUNTING STANDARDS

Accounting rules for public employers are promulgated by the Governmental Accounting Standards Board (GASB). GASB Statement No. 45 on employer expense for post-employment benefits other than pensions (OPEB) was published in June 2004. GASB 45 sets the Annual OPEB Cost (AOC) as the expense.

The accounting rules require the AOC to be computed using one of six actuarial cost methods; the Projected Unit Credit method was used in this valuation. Actuarial methods allocate costs to time periods, with the Normal Cost being the portion of present value allocated to the current year and Actuarial Accrued Liability (AAL) the portion allocated to the past. The Annual Required Contribution (ARC) is the Normal Cost plus amortization of Unfunded AAL (UAAL, or the AAL less assets) over 30 years. The amortization is done as a level percentage of increasing payroll. This expense will be expressed in dollars and as a percentage of covered payroll. See Appendix A (page 10) for a glossary.

If an agency does not contribute the full ARC to a trust fund, the excess of ARC over contributions (including benefits paid) is to be shown in financial statements as a Net OPEB Obligation (NOO). After the first year, the Annual OPEB Cost consists of the ARC plus adjustments for interest and amortization of the NOO. Since the District's contributions have exceed the GASB 45 expense, the NOO is negative - it is an asset.

Public employers with more than 200 participants (employed plus retired) are required to have actuarial studies every two years to determine this expense. In the nonvaluation years, the same percentage of wages as the prior valuation will be used for the ARC. All post-employment benefits other than pensions, such as retiree dental, vision and life insurance plans, are included. These rules should be discussed with the District's auditors.

## VALUATION RESULTS

The District made no contributions to a Trust for years 2008-09 and 2009-10. Benefits paid of $\$ 121,000$ for 2009-10 and $\$ 196,000$ for the prior year are considered contributions for GASB 45. The expenses for these two years were $\$ 104,000$ and $\$ 107,308$. The difference of $\$(105,700)$ is the Net OPEB Obligation (NOO) shown in financial statements as of June 30, 2010. Since it is negative, the NOO is actually a balance sheet asset. Covered payroll is $\$ 41,909,100$ for 2010-11

The Annual OPEB Cost for the year beginning July 1, 2010 is $\$ 100,835$. This includes Normal Cost of $\$ 64,400$ plus $\$ 37,100$ to amortize the UAAL plus interest of $\$(5,285)$ on the NOO less $\$(4,620)$ for amortization of the NOO. The total of $\$ 100,835$ is $0.24 \%$ of covered payroll; this is the Annual OPEB Cost for 2011-12. As of July 1, 2010 the UAAL is $\$ 823,300$, which is $1.96 \%$ of covered payroll. The AAL is $0 \%$ funded. These results are items for disclosure under GASB Statement 45.

The results are as follows as of July 1, 2010:

| Present Value Future Benefits |  |  |
| :--- | ---: | ---: |
| $\quad$ Current Employees | $1,114,400$ |  |
| Current Retirees | 138,200 |  |
| $\quad$ Total |  | $1,252,600$ |
| Actuarial Accrued Liability | 685,100 |  |
| $\quad$ Current Employees | 138,200 |  |
| Current Retirees |  | 823,300 |
| Total | 0 |  |
| Assets |  | 823,300 |
| Unfunded AAL | 37,100 |  |
| Amortization of Unfunded AAL |  | 64,400 |
| Normal Cost for Year | 101,500 |  |
| Total ARC end of year | -665 |  |
| Adjustments to ARC | 100,835 |  |
| Annual OPEB Cost |  |  |

Overall experience has been favorable since the last actuarial study. There were only 12 retirees with benefits during the past two years; about 40 were expected. This was a source of actuarial gain. The UAAL has decreased from $\$ 940,000$ to $\$ 823,300$. The
expense (AOC) has decreased from $\$ 104,000$ determined in the prior actuarial valuation.

The attached Table 1 is the 15 -year projection of number of retirees, benefit payments and District expense. This projection presumes continuation of the pay-as-you-go financing method. The District will pay monthly benefits and show a Net OPEB Obligation (NOO) on yearend financial statements. At this time the NOO is negative $\$ 105,685$ (a credit). The expense includes amortizing the NOO. The ARC is projected to rise $3.5 \%$ per year, the same rate at which covered payroll is assumed to rise.

The change in PERS assumptions had minor impact on Novato Unified expense. The new assumptions of greater longevity have minimal impact on your program because very little mortality occurs between retirement and age 65. The change in PERS assumptions raised the AOC by $\$ 3,400$; it is $\$ 98,100$ using the same assumptions as in 2008. The assumption change raised the AAL from $\$ 799,100$ to the $\$ 823,300$ shown on the prior page.

The number of retirees decreases over this projection because no future employees are included. There are also many employees near or at the eligible retirement ages who are projected to retire soon. The Table includes 27 current retirees plus 17 expected to retire with benefits in 2010-11. Annual benefits are projected to be $\$ 89,000$ in 2010-11 and $\$ 106,000$ the following year. As projected, the benefits will decrease to less than the expense and the NOO will become positive, exceeding $\$ 500,000$ in 2024. All projections are re-done with biennial valuations.

This valuation using 5\% interest is appropriate if the District will not fund the ARC, or will fund using an investment mix with minimal equity exposure.

Although the projections are shown for 15 years, they will be revised based on future actuarial valuations. These will be at least biennial per GASB requirements.

TABLE 1
Retiree Health Program for Novato Unified School District NOO is Net OPEB Obligation

| Fiscal Yr <br> Begin | Number <br> Retirees | Annual <br> Benefits | Annual <br> OPEB Cost | NOO <br> Year End |
| :---: | :---: | ---: | ---: | ---: |
| 2010 | 44 | 89,000 | 106,000 | $-89,000$ |
| 2011 | 50 | 106,000 | 110,000 | $-85,000$ |
| 2012 | 48 | 102,000 | 114,000 | $-73,000$ |
| 2013 | 46 | 101,000 | 118,000 | $-56,000$ |
| 2014 | 47 | 101,000 | 122,000 | $-35,000$ |
| 2015 | 48 | 104,000 | 127,000 | $-12,000$ |
| 2016 | 41 | 92,000 | 131,000 | 27,000 |
| 2017 | 38 | 82,000 | 135,000 | 80,000 |
| 2018 | 36 | 78,000 | 140,000 | 142,000 |
| 2019 | 35 | 78,000 | 144,000 | 208,000 |
| 2020 | 36 | 81,000 | 147,000 | 274,000 |
| 2021 | 35 | 79,000 | 150,000 | 345,000 |
| 2022 | 33 | 76,000 | 153,000 | 422,000 |
| 2023 | 33 | 79,000 | 155,000 | 498,000 |
| 2024 | 28 | 66,000 | 156,000 | 588,000 |

## EXPERIENCE REVIEW

The purpose of an experience review is to compare what happened to what was predicted. In the District's plan, the benefits are not related to premiums and there are no invested assets. Therefore there is no discussion of premium increase or investment performance.

Between the 2008 and 2010 valuations, there were no employee deaths or disability retirements. The actuarial assumptions predicted one death and two disability retirements. Using two times the PERS and STRS assumptions, 80 terminations are projected for the two years, including 57 for Certificated, 18 from Classified, and five from the Management group. The actual number terminating was 74, with 49 from the Certificated unit, 19 from Classified, and six from Management. The differences are not statistically significant. The current valuation is done using 200\% of the PERS and STRS probabilities of termination.

The assumptions projected 40 service retirements for two years, including three from Management, 15 from Classified, and 22 from Certificated. The number of actual new retires receiving benefits was only 12. The number retiring who were not eligible for District benefits or who declined them was not noted.

There were no retiree deaths reported between valuations, and less than one was expected using the assumptions. Since benefits cease by age 65, both observed and actual deaths will remain low and differences between experience and assumptions will not be statistically significant.

## PARTICIPANT DATA

## Active Employees

A census of 497 active employees eligible for benefits as of July 1, 2010 was provided by the District. The average age is 48.4 and average service is 9.6 years. Distributions of these employees by age and service are in Appendix D. The application of the decrement rates in Appendices B (PERS members) and C (STRS members) projects the following for these current employees:

|  | Certificated <br> Non-Mgmt | Classified <br> Non-Mgmt | Management | Total |
| :--- | :---: | :---: | :---: | :---: |
| Service Retire | 195 | 121 | 24 | 340 |
| Disability Retire | 5 | 3 | 1 | 9 |
| Death | 5 | 4 | 1 | 10 |
| Other termination | 112 | 20 | 6 | 138 |
| Total | 317 | 148 | 32 | 497 |

Many employees are projected to retire after age 65 and will therefore receive no retiree health benefits. The total number of retirees receiving benefits year-by-year is given in Table 1 in the Valuation Results section, where current retirees are included.

## Retirees

A distribution of the 27 retirees by age and representation unit is given in Appendix $E$.
The average age of current retirees is 62.6. The average monthly benefit was $\$ 196$ as of July 1, 2010.

## Appendix A

## ACTUARIAL TERMINOLOGY

NORMAL COST represents the cost of the portion of an employee's benefit deemed to be earned in the current year. In pension plans such as the District's, a benefit is earned during each year of service. It is, therefore, relatively easy to visualize the Normal Cost as being the cost for each participant of the benefit earned in the current year. In a program such as a post-retirement health insurance plan, this cost cannot be easily related to a benefit formula. The Projected Unit Credit actuarial cost method has been used here. The Normal Cost is calculated so that the total value of a participant's benefit would be accrued in equal units over his total service to the expected retirement date. Thus, if an employee's total projected service to retirement was 30 years, $1 / 30$ th of the present value of the expected post-retirement benefits would be the Normal Cost. This would be the total annual cost over the long term if (1) the Normal Costs attributable to the past had been funded fully, and (2) experience matched what was assumed in all areas including investment return, premium increase, retirement, turnover, etc.

ACTUARIAL ACCRUED LIABILITY (AAL) for employees can be defined retrospectively or prospectively. It is the accumulation of past Normal Costs from date of hire to the valuation date for all current employees. Alternatively, it is the present value of all future benefits less the present value of future Normal Cost payments. For example, for an employee who would have 30 years of service at retirement and has worked 15 years already, it is $15 / 30$ of the present value of expected post-retirement benefits. For retirees, the AAL equals the present value of future benefits. There are no future Normal Costs after retirement.

UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) is the Actuarial Accrued Liability minus the actuarial value of plan assets. The UAAL is the present value of benefits attributed to the past which have not yet been funded. Amortization of the UAAL is a component of the District's expense.


#### Abstract

AMORTIZATION PAYMENT The Unfunded Actuarial Accrued Liability is amortized over 30 years beginning with fiscal year 2008-09. There are 28 years remaining on this schedule as of July 1, 2010. Payments are set to rise $3.5 \%$ annually, which makes them level in relation to expected covered payroll.


ANNUAL REQUIRED CONTRIBUTION (ARC) consists of the Normal Cost plus the amortization of UAAL. It is the expense assigned to the current year, if the ARC has been paid each year since implementation of GASB 45. In years when an actuarial valuation is not done, the ARC is set to be the same percentage of that year's covered payroll as had been computed in the prior valuation. The ARC includes the benefits paid to current retirees.

NET OPEB OBLIGATION (NOO) occurs when an agency does not contribute the ARC to a trust fund. It equals the District contribution minus the Annual OPEB Cost. This represents the contribution shortfall - how much less than the ARC has been contributed since GASB 45 implementation. The District's contribution is the paid benefits and it has exceeded the GASB 45 expense for two years. Then the NOO is an asset not a liability and it is negative. As of June 30, 2010, the NOO was $\$(105,685)$.

ANNUAL OPEB COST (AOC) is the expense, for accounting purposes, to show on financial statements. It equals the ARC plus interest on the NOO minus the amortization of that NOO, using the same 28-year amortization as discussed above.

PAY-AS-YOU-GO is a way of financing benefits but it is not a funding method because no assets are accumulated. The cost allocated to each year is the actual benefits paid.

## Appendix B

## Actuarial Assumptions for Classified Employees

Actuarial Method: Projected Unit Credit
Investment return: 5.0\% per year
General inflation: 3.5\% per year
Covered payroll increases: 3.5\% per year
Rates of death and disability for active employees
California PERS rates for School Employers from 2010 Experience Study.

|  |  |  | Males <br> Rate (\%) |  |
| :---: | :---: | :---: | :---: | :---: |
| Age | Death | Disability | Females <br> Rate (\%) |  |
| 25 | .05 | .01 | .03 | .01 |
| 30 | .05 | .02 | .04 | .01 |
| 35 | .07 | .06 | .05 | .04 |
| 40 | .09 | .14 | .06 | .09 |
| 45 | .12 | .28 | .09 | .17 |
| 50 | .18 | .44 | .13 | .30 |
| 55 | .26 | .49 | .18 | .34 |
| 60 | .40 | .42 | .27 | .24 |
| 65 | .61 | .38 | .42 | .15 |
| 70 | .91 | .40 | .65 | .08 |

## Rates of Retirement

Males and Females:
California PERS rates for School Employers from 2010 Experience Study

|  | Years of Service |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | 5 | 10 | 15 | 20 | 25 | 30 | $35+$ |
| 50 | 0.0050 | 0.0090 | 0.0130 | 0.0150 | 0.0150 | 0.0170 | 0.0190 |
| 51 | 0.0050 | 0.0100 | 0.0140 | 0.0170 | 0.0170 | 0.0190 | 0.0220 |
| 52 | 0.0060 | 0.0120 | 0.0170 | 0.0200 | 0.0200 | 0.0230 | 0.0260 |
| 53 | 0.0070 | 0.0140 | 0.0190 | 0.0230 | 0.0230 | 0.0260 | 0.0290 |
| 54 | 0.0120 | 0.0240 | 0.0330 | 0.0390 | 0.0400 | 0.0440 | 0.0500 |
| 55 | 0.0240 | 0.0480 | 0.0670 | 0.0790 | 0.0810 | 0.0900 | 0.1020 |
| 56 | 0.0200 | 0.0390 | 0.0550 | 0.0650 | 0.0670 | 0.0740 | 0.0830 |
| 57 | 0.0210 | 0.0420 | 0.0590 | 0.0700 | 0.0710 | 0.0790 | 0.0890 |
| 58 | 0.0250 | 0.0500 | 0.0700 | 0.0830 | 0.0850 | 0.0940 | 0.1060 |
| 59 | 0.0290 | 0.0570 | 0.0800 | 0.0950 | 0.0970 | 0.1070 | 0.1210 |
| 60 | 0.0370 | 0.0730 | 0.1020 | 0.1210 | 0.1240 | 0.1370 | 0.1540 |
| 61 | 0.0460 | 0.0900 | 0.1260 | 0.1490 | 0.1530 | 0.1690 | 0.1910 |
| 62 | 0.0760 | 0.1510 | 0.2120 | 0.2500 | 0.2560 | 0.2840 | 0.3200 |
| 63 | 0.0690 | 0.1360 | 0.1910 | 0.2250 | 0.2310 | 0.2560 | 0.2880 |
| 64 | 0.0670 | 0.1330 | 0.1850 | 0.2190 | 0.2240 | 0.2480 | 0.2800 |
| 65 | 0.0910 | 0.1800 | 0.2510 | 0.2970 | 0.3040 | 0.3370 | 0.3800 |
| 70 | 0.0660 | 0.1310 | 0.1830 | 0.2160 | 0.2220 | 0.2450 | 0.2760 |
| 75 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

## Rates of Withdrawal

Males and Females:
2.00 times California PERS rates for School Employers from 2010 Experience Study

|  | 0 | 5 | 10 | Service <br> Age | 0 | 20 | 25 | 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | 0.3460 |  |  |  |  |  |  | $35+$ |
| 25 | 0.3254 | 0.0556 |  |  |  |  |  |  |
| 30 | 0.3050 | 0.0498 | 0.0344 |  |  |  |  |  |
| 35 | 0.2844 | 0.0442 | 0.0294 | 0.0230 |  |  |  |  |
| 40 | 0.2638 | 0.0384 | 0.0244 | 0.0188 | 0.0146 |  |  |  |
| 45 | 0.2434 | 0.0328 | 0.0196 | 0.0148 | 0.0110 | 0.0074 |  |  |
| 50 | 0.2228 | 0.0270 | 0.0148 | 0.0106 | 0.0076 | 0.0046 | 0.0030 |  |
| 55 | 0.2022 | 0.0214 | 0.0098 | 0.0064 | 0.0040 | 0.0050 | 0.0006 | 0.0004 |
| 60 | 0.1858 | 0.0156 | 0.0050 | 0.0022 | 0.0004 | 0.0004 | 0.0006 | 0.0004 |
| 65 | 0.1858 | 0.0146 | 0.0038 | 0.0014 | 0.0004 | 0.0004 | 0.0004 | 0.0004 |
| 70 | 0.1858 | 0.0134 | 0.0028 | 0.0006 | 0.0004 | 0.0004 | 0.0004 | 0.0004 |

Future Retirees Declining Coverage: 1\%

Retiree Mortality Rates: California PERS 2010 Experience Study Sample annual rates and life expectancies:

FEMALE RETIREES

| Age | Life Expectancy (Years) |  |  | Rate of Mortality (\%) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Service <br> Retiree | Industrial <br> Disability <br> Retiree | Spouse | Service <br> Retiree | Industrial <br> Disability <br> Retiree | Spouse |
|  | 30.3 | 27.9 | 27.3 | 0.24 | 0.55 | 0.47 |
| 60 | 25.7 | 23.8 | 23.0 | 0.43 | 0.80 | 0.72 |
| 65 | 21.3 | 19.8 | 18.9 | 0.78 | 1.18 | 1.07 |
| 70 | 17.3 | 16.0 | 15.0 | 1.24 | 1.72 | 1.68 |
| 75 | 13.5 | 12.5 | 11.5 | 2.07 | 2.66 | 3.08 |

mALE RETIREES

| Age | Life Expectancy (Years) |  |  | Rate of Mortality (\%) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Service <br> Retiree | Industrial <br> Disability <br> Retiree | Spouse | Service <br> Retiree | Industrial <br> Disability <br> Retiree | Spouse |
|  | 27.3 | 25.8 | 30.3 | 0.47 | 0.56 | 0.24 |
| 60 | 23.0 | 21.5 | 25.7 | 0.72 | 0.78 | 0.43 |
| 65 | 18.9 | 17.5 | 21.3 | 1.07 | 1.39 | 0.78 |
| 70 | 15.0 | 13.9 | 17.3 | 1.68 | 2.24 | 1.24 |
| 75 | 11.5 | 10.5 | 13.5 | 3.08 | 3.58 | 2.07 |

Note: Life expectancy is the average number of future years of life for those who have attained the specified age. For example, female service retirees age 65 will live for for an average of 21.3 more years. The rates of mortality are the percentages of the retirees at the specific age who die before reaching the next age. For example, $0.78 \%$ of female service retirees age 65 are assumed to die before reaching age 66.

## Appendix C

## Actuarial Assumptions for Employees in STRS

Actuarial Method: Projected Unit Credit
Investment return: 5\% per year
General inflation: 3.5\% per year
Covered payroll increases: $3.5 \%$ per year
Rates of death and disability for active employees
California STRS 2008 Experience Study

| Male Rates (\%) |  |  | Female Rates (\%) |  |
| :---: | :---: | :---: | :---: | :---: |
| Age | Death | Disability | Death | Disability |
| 25 | .03 | .02 | .02 | .02 |
| 30 | .04 | .03 | .02 | .03 |
| 35 | .04 | .05 | .02 | .06 |
| 40 | .06 | .08 | .04 | .09 |
| 45 | .10 | .11 | .06 | .11 |
| 50 | .13 | .16 | .09 | .22 |
| 55 | .19 | .21 | .14 | .28 |
| 60 | .29 |  | .22 |  |
| 65 | .53 |  | .51 |  |

Rates of Retirement
California STRS 2008 Experience Study

|  | Female Rates |  | Male Rates |  |
| :---: | :---: | :---: | :---: | :---: |
| Age | Under 30 <br> Years | $30+$ <br> Years | Under 30 <br> Years | $30+$ <br> Years |
| 55 | $4.50 \%$ | $9.0 \%$ | $2.70 \%$ | $8.0 \%$ |
| 56 | $3.15 \%$ | $8.0 \%$ | $1.80 \%$ | $8.0 \%$ |
| 57 | $3.15 \%$ | $11.0 \%$ | $1.80 \%$ | $10.0 \%$ |
| 58 | $4.05 \%$ | $16.0 \%$ | $2.70 \%$ | $14.0 \%$ |
| 59 | $5.40 \%$ | $19.0 \%$ | $4.50 \%$ | $18.0 \%$ |
| 60 | $9.00 \%$ | $31.0 \%$ | $6.30 \%$ | $27.0 \%$ |
| 61 | $9.00 \%$ | $40.0 \%$ | $6.30 \%$ | $43.0 \%$ |
| 62 | $10.80 \%$ | $37.0 \%$ | $10.80 \%$ | $38.0 \%$ |
| 63 | $16.20 \%$ | $35.0 \%$ | $11.70 \%$ | $30.0 \%$ |
| 64 | $13.50 \%$ | $32.0 \%$ | $10.80 \%$ | $30.0 \%$ |
| 65 | $14.40 \%$ | $32.0 \%$ | $13.50 \%$ | $30.0 \%$ |
| $66-69$ | $13.50 \%$ | $32.0 \%$ | $10.80 \%$ | $30.0 \%$ |
| 70 | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ | $100.0 \%$ |

## Rates of Withdrawal:

2.00 times California STRS 2008 Experience Study

FEMALES

| Age When Hired |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Years of <br> Service | Under 25 | $25-29$ | $30-34$ | $35-39$ | $40-44$ | 45 \& Over |
| 0 | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ |
| 5 | $11.00 \%$ | $10.50 \%$ | $9.00 \%$ | $7.50 \%$ | $6.50 \%$ | $5.00 \%$ |
| 10 | $4.50 \%$ | $3.60 \%$ | $3.20 \%$ | $2.60 \%$ | $2.60 \%$ | $0.80 \%$ |
| 15 | $2.00 \%$ | $1.80 \%$ | $1.80 \%$ | $1.70 \%$ | $1.60 \%$ | $0.80 \%$ |
| 20 | $1.00 \%$ | $1.00 \%$ | $1.00 \%$ | $1.20 \%$ | $0.80 \%$ | $0.80 \%$ |
| 25 | $0.68 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ |
| 30 | $0.60 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ | $0.80 \%$ |

MALES

| Age When Hired |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Years of <br> Service | Under 25 | $25-29$ | $30-34$ | $35-39$ | $40-44$ | 45 \& Over |
| 0 | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $30.60 \%$ | $36.00 \%$ |
| 5 | $7.80 \%$ | $7.20 \%$ | $6.00 \%$ | $6.00 \%$ | $6.00 \%$ | $6.00 \%$ |
| 10 | $4.00 \%$ | $4.00 \%$ | $4.00 \%$ | $4.00 \%$ | $4.00 \%$ | $2.00 \%$ |
| 15 | $2.20 \%$ | $2.20 \%$ | $2.20 \%$ | $2.20 \%$ | $2.20 \%$ | $0.60 \%$ |
| 20 | $1.20 \%$ | $1.20 \%$ | $1.20 \%$ | $1.20 \%$ | $1.20 \%$ | $0.50 \%$ |
| 25 | $0.75 \%$ | $1.00 \%$ | $1.00 \%$ | $1.00 \%$ | $1.00 \%$ | $0.50 \%$ |
| 30 | $0.50 \%$ | $0.50 \%$ | $0.50 \%$ | $0.50 \%$ | $0.00 \%$ | $0.50 \%$ |

Future Retirees Declining Coverage: 1\%

Retiree Mortality Rates: California STRS 2008 Experience Study Annual rates of mortality and life expectancies:

MALE EMPLOYEES

|  | Life Expectancy (Years) |  |  | Rate of Mortality (\%) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Service <br> Retiree | Disability <br> Retiree | Spouse | Service <br> Retiree | Disability <br> Retiree | Spouse |
| 55 | 29.2 | 21.0 | 31.9 | .21 | 2.50 | .17 |
| 60 | 25.1 | 18.5 | 27.2 | .36 | 2.50 | .27 |
| 65 | 20.6 | 15.7 | 22.7 | .68 | 2.50 | .51 |
| 70 | 16.5 | 12.5 | 18.4 | 1.27 | 2.73 | .97 |
| 75 | 12.7 | 934 | 14.4 | 2.38 | 4.69 | 1.67 |
| 80 | 9.4 | 6.8 | 10.8 | 4.36 | 8.05 | 3.26 |

FEMALE EMPLOYEES

|  | Life Expectancy (Years) |  |  | Rate of Mortality (\%) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Service <br> Retiree | Disability <br> Retiree | Spouse | Service <br> Retiree | Disability <br> Retiree | Spouse |  |
| 55 | 31.9 | 23.9 | 29.2 | .17 | 2.00 | .21 |  |
| 60 | 27.2 | 21.1 | 25.1 | .27 | 2.00 | .36 |  |
| 65 | 22.7 | 18.1 | 20.6 | .51 | 2.00 | .68 |  |
| 70 | 18.4 | 14.8 | 16.5 | .97 | 2.07 | 1.27 |  |
| 75 | 14.4 | 11.5 | 12.7 | 1.67 | 3.41 | 2.38 |  |
| 80 | 10.8 | 8.6 | 9.4 | 3.26 | 5.63 | 4.36 |  |

These are STRS assumptions for current retirees, which have been used in this study for all retirees. Higher rates of mortality among disability retirees in their first three years of retirement have not been used herein.

## APPENDIX D-1

Distribution of All Employees By Age and Years of Service as of July 1, 2010

| Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 5 | $5-9$ | $10-14$ | $15-19$ | $20-24$ | $25 \&$ Over | Total |  |
| Under 25 | 4 |  |  |  |  |  | 4 |  |
| $25-29$ | 44 | 1 |  |  |  |  | 45 |  |
| $30-34$ | 32 | 14 | 3 |  |  |  | 49 |  |
| $35-39$ | 14 | 13 | 8 |  |  |  | 35 |  |
| $40-44$ | 22 | 14 | 10 | 1 |  |  | 47 |  |
| $45-49$ | 20 | 18 | 13 | 6 | 4 |  | 61 |  |
| $50-54$ | 23 | 20 | 13 | 7 | 9 | 1 | 73 |  |
| $55-59$ | 11 | 22 | 16 | 11 | 17 | 8 | 85 |  |
| $60-64$ | 7 | 14 | 16 | 9 | 18 | 14 | 78 |  |
| $65 \&$ Over | 2 | 3 | 6 | 2 | 1 | 6 | 20 |  |
| Total | 179 | 119 | 85 | 36 | 49 | 29 | 497 |  |

There are 346 females and 151 males in this census. The average age is 48.4 and the average length of service is 9.6 years.

## APPENDIX D-2

Distribution of Non-Management Certificated Employees By Age and Years of Service
as of July 1, 2010

| Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 5 | $5-9$ | $10-14$ | $15-19$ | $20-24$ | 25 \& Over | Total |  |
| Under 25 | 2 |  |  |  |  |  | 2 |  |
| $25-29$ | 41 | 1 |  |  |  |  | 42 |  |
| $30-34$ | 29 | 11 | 2 |  |  |  | 42 |  |
| $35-39$ | 12 | 10 | 8 |  |  |  | 30 |  |
| $40-44$ | 16 | 8 | 9 | 1 |  |  | 34 |  |
| $45-49$ | 14 | 11 | 8 | 4 | 4 |  | 41 |  |
| $50-54$ | 8 | 10 | 7 | 4 | 5 |  | 34 |  |
| $55-59$ | 5 | 10 | 8 | 5 | 9 | 5 | 42 |  |
| $60-64$ | 4 | 4 | 11 | 3 | 9 | 8 | 39 |  |
| $65-69$ | 2 | 1 | 3 | 2 | 1 | 1 | 10 |  |
| $70 \&$ Over |  |  | 1 |  |  |  | 1 |  |
| Total | 133 | 66 | 57 | 19 | 28 | 14 | 317 |  |

There are 230 females and 87 males in this census. The average age is 45.6 and the average service is 8.8 years.

## APPENDIX D-3

## Distribution of Non-Management Classified Employees By Age and Years of Service

 as of July 1, 2010| Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 5 | $5-9$ | $10-14$ | $15-19$ | $20-24$ | $25 \&$ Over | Total |  |
| Under 25 | 2 |  |  |  |  |  | 2 |  |
| $25-29$ | 3 |  |  |  |  |  | 3 |  |
| $30-34$ | 2 | 2 | 1 |  |  |  | 5 |  |
| $35-39$ | 1 | 2 |  |  |  |  | 3 |  |
| $40-44$ | 5 | 5 | 1 |  |  |  | 11 |  |
| $45-49$ | 4 | 7 | 4 | 2 |  |  | 17 |  |
| $50-54$ | 12 | 8 | 6 | 3 | 3 | 1 | 33 |  |
| $55-59$ | 3 | 10 | 6 | 6 | 7 | 2 | 34 |  |
| $60-64$ | 3 | 7 | 5 | 5 | 7 | 4 | 31 |  |
| $65-69$ |  | 2 | 2 |  |  | 5 | 9 |  |
| $70 \&$ Over |  |  |  |  |  |  | 0 |  |
| Total | 35 | 43 | 25 | 16 | 17 | 12 | 148 |  |

There are 97 females and 51 males in this census. The average age is 53.4 and the average service is 11.2 years.

## APPENDIX D-4

## Distribution of Management/Confidential Employees By Age and Years of Service

 as of July 1, 2010| Years of Service |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 5 | $5-9$ | $10-14$ | $15-19$ | $20-24$ | 25 \& Over | Total |
| Under 25 |  |  |  |  |  |  | 0 |
| $25-29$ |  |  |  |  |  |  | 0 |
| $30-34$ | 1 | 1 |  |  |  |  | 2 |
| $35-39$ | 1 | 1 |  |  |  |  | 2 |
| $40-44$ | 1 | 1 |  |  |  |  | 2 |
| $45-49$ | 2 |  | 1 |  |  |  | 3 |
| $50-54$ | 3 | 2 |  |  | 1 |  | 6 |
| $55-59$ | 3 | 2 | 2 |  | 1 | 1 | 9 |
| $60-64$ |  | 3 |  | 1 | 2 | 2 | 8 |
| $65-69$ |  |  |  |  |  |  | 0 |
| $70 \&$ Over |  |  |  |  |  |  | 0 |
| Total | 11 | 10 | 3 | 1 | 4 | 3 | 32 |

This census includes 19 female and 13 male employees. The average age is 53.3 and the average service is 10.5 years.

## APPENDIX E

Distribution of Current Retirees by
Employment Unit and Age
As of July 1, 2010

| Age | Certificated | Classified | Mgmt/Conf | Total |
| :---: | :---: | :---: | :---: | :---: |
| Under 55 |  |  |  | 0 |
| $55-59$ | 4 |  |  | 4 |
| $60-64$ | 13 | 7 | 3 | 23 |
| $65 \&$ Over |  |  |  | 0 |
| Total | 17 | 7 | 3 | 27 |

There are 23 females and 4 males in this table. The average age is 62.6 and the average monthly benefit is $\$ 196$.

## APPENDIX F

## Summary of Principal Provisions of Retiree Health Program Novato Unified School District Current Plan

|  | Certificated and Mgmt/Conf | Classified |
| :---: | :---: | :---: |
| Full Retirement Benefit |  |  |
| Eligibility Age | 55 | 55 |
| Years of Service Required | 10 | 15 |
| Benefit Amount | Payment of one-party medical premiums, maximum $\$ 200$ | Payment of one-party medical premiums, maximum \$200 |
| Benefit Duration | Paid until earlier of age 65 or death | Paid until earlier of age 65 or death |
| Partial Retirement Benefit Eligibility Age | 55 | 55 |
| Years of Service Required | 5 | 5 |
| Benefit Amount | Amount of full benefit is pro-rated by years of service at retirement to 10 | Amount of full benefit is pro-rated by years of service at retirement to 15 |
| Benefit Duration | Paid until earlier of age 65 or death | Paid until earlier of age 65 or death |
| Disability Benefit | Same as full or partial benefit above | Same as full or partial benefit above |
| Pre-retirement Death Benefit | None | None |
| Post-retirement Death Benefit | None | None |

