San Francisco Community College District

Actuarial Study of
Retiree Health Liabilities
As of October 1, 2009

Prepared by:
Total Compensation Systems, Inc.

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PART I: EXECUTIVE SUMMARY

A. Introduction

San Francisco Community College District engaged Total Compensation Systems, Inc. (TCS) to analyze liabilities associated with its current retiree health program as of October 1, 2009 (the valuation date). This report was prepared assuming it will first be used to calculate accounting entries for the fiscal year ending June 30, 2009.

This actuarial study is intended to serve the following purposes:

- To provide information to enable San Francisco CCD to manage the costs and liabilities associated with its retiree health benefits.
- To provide information to enable San Francisco CCD to communicate the financial implications of retiree health benefits to internal financial staff, the Board, employee groups and other affected parties.
- To provide information needed to comply with Governmental Accounting Standards Board Accounting Standards 43 and 45 related to "other postemployment benefits" (OPEB's).

Because this report was prepared in compliance with GASB 43 and 45, as appropriate, San Francisco CCD should not use this report for any other purpose without discussion with TCS. This means that any discussions with employee groups, governing Boards, etc. should be restricted to the implications of GASB 43 and 45 compliance.

This actuarial report includes several estimates for San Francisco CCD's retiree health program. In addition to the tables included in this report, we also performed cash flow adequacy tests as required under Actuarial Standard of Practice 6 (ASOP 6). Our cash flow adequacy testing covers a twenty-year period. We would be happy to make this cash flow adequacy test available to San Francisco CCD in spreadsheet format upon request.

We calculated the following estimates separately for active employees and retirees. As requested, we also separated results by the following employee classifications: Faculty, Classified, Stationary Engineers, Management and SFBCTCU. We estimated the following:

- the total liability created. (The actuarial present value of total projected benefits or APVTPB)
- the ten year "pay-as-you-go" cost to provide these benefits.
- the "actuarial accrued liability (AAL)." (The AAL is the portion of the APVTPB attributable to employees' service prior to the valuation date.)
- the amount necessary to amortize the UAAL over a period of 30 years.
- the annual contribution required to fund retiree benefits over the working lifetime of eligible employees (the "normal cost").

- The Annual Required Contribution (ARC) which is the basis of calculating the annual OPEB cost and net OPEB obligation under GASB 43 and 45.

We summarized the data used to perform this study in Appendix A. No effort was made to verify this information beyond brief tests for reasonableness and consistency.

All cost and liability figures contained in this study are estimates of future results. Future results can vary dramatically and the accuracy of estimates contained in this report depends on the actuarial assumptions used. Normal costs and liabilities could easily vary by 10 - 20% or more from estimates contained in this report. The best way to respond to this uncertainty of future results is to have an actuarial study performed regularly - no less frequently than every two or three years as provided by GASB 43 and 45.

B. General Findings

We estimate the "pay-as-you-go" cost of providing retiree health benefits in the year beginning October 1, 2009 to be $5,832,134 (see Section IV.A.). The “pay-as-you-go” cost is the cost of benefits for current retirees.

For current employees, the value of benefits "accrued" in the year beginning October 1, 2009 (the normal cost) is $6,579,864. This normal cost would increase each year based on covered payroll. Had San Francisco CCD begun accruing retiree health benefits when each current employee and retiree was hired, a substantial liability would have accumulated. We estimate the amount that would have accumulated to be $160,538,181. This amount is called the "actuarial accrued liability” (AAL). Of this amount, $156,918,436 is the remaining initial unamortized AAL (UAAL). This leaves a residual AAL of $3,619,745.

We calculated the annual cost to amortize the residual unfunded actuarial accrued liability using a 5% discount rate. We used a 30 year amortization period. The current year cost to amortize the unfunded "actuarial accrued liability" is $160,330. This amortization payment would increase each year based on covered payroll.

Combining the normal cost with the initial and residual UAAL amortization costs produces a 2008-09 annual required contribution (ARC) of $13,858,484. The ARC is used as the basis for determining expenses and liabilities under GASB 43/45. The ARC is used in lieu of (rather than in addition to) the “pay-as-you-go” cost.

We based all of the above estimates on employees as of September, 2009. Over time, liabilities and cash flow will vary based on the number and demographic characteristics of employees and retirees. It will be important to periodically revalue costs and liabilities.

C. Description of Retiree Benefits

Following is a description of the current retiree benefit plan:

	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Benefit types provided	Medical only	Medical only	Medical only	Medical only	Medical only
Duration of Benefits	Lifetime	Lifetime	Lifetime	Lifetime	Lifetime
Required Service	5 years	5 years	5 years	5 years	5 years
Minimum Age	55	50	50	50	50
Dependent Coverage	One dependent	One dependent	One dependent	One dependent	One dependent
College Contribution %	Non-Medicare Retiree Coverage: Retirees pay 50% of active employee contributions up to cap Medicare Retiree Coverage: Retirees pay 50% of the difference between active employee contributions up to cap First Dependent: Retiree pays 50% of cost Additional Dependents: Retiree pays 100% of cost				
College Cap	Based on 10 County survey, Proposition E, and other considerations				

D. Recommendations

It is outside the scope of this report to make specific recommendations of actions San Francisco CCD should take to manage the substantial liability created by the current retiree health program. Total Compensation Systems, Inc. can assist in identifying and evaluating options once this report has been studied. The following recommendations are intended only to allow the College to get more information from this and future studies. Because we have not conducted a comprehensive administrative audit of San Francisco CCD's practices, it is possible that San Francisco CCD is already complying with some or all of our recommendations.

- We recommend that San Francisco CCD inventory all benefits and services provided to retirees – whether contractually or not and whether retiree-paid or not. For each, San Francisco CCD should determine whether the benefit is material and subject to GASB 43 and/or 45.

- We recommend that San Francisco CCD conduct a study whenever events or contemplated actions significantly affect present or future liabilities, but no less frequently than every two or three years, as will be required under GASB 43/45.

- We recommend that the College communicate the magnitude of these costs to employees and include employees in discussions of options to control the costs.

- Because of the significant liabilities created by the current retiree health program, the College should consider earmarking funds to pay future benefits. It should be noted that the upcoming GASB accounting standard will require assets sufficient to offset retiree health liabilities. Accrual basis costs under GASB 43/45 will be lower and more stable to the extent liabilities are funded under an irrevocable trust that qualifies under GASB 43/45 as a "plan."

- Under GASB 45, it is important to isolate the cost of retiree health benefits. We strongly urge San Francisco CCD to have all premiums, claims and expenses for retirees separated from active

employee premiums, claims, expenses, etc. To the extent any retiree benefits are made available to retirees over the age of 65 – ***even on a retiree-pay-all basis*** – all premiums, claims and expenses for post-65 retiree coverage should be segregated from those for pre-65 coverage. Furthermore, San Francisco CCD should arrange for the rates or prices of all retiree benefits to be set on what is expected to be a self-sustaining basis.

- San Francisco CCD should establish a way of designating employees as eligible or ineligible for future OPEB benefits. Ineligible employees can include those in ineligible job classes; those hired after a designated date restricting eligibility; those who, due to their age at hire cannot qualify for College-paid OPEB benefits; employees who exceed the termination age for OPEB benefits, etc.

- Several assumptions were made in estimating costs and liabilities under San Francisco CCD's retiree health program. Further studies may be desired to validate any assumptions where there is any doubt that the assumption is appropriate. (See Appendices B and C for a list of assumptions and concerns.) For example, San Francisco CCD should maintain a retiree database that includes – in addition to date of birth, gender and employee classification – retirement date and (if applicable) dependent date of birth, relationship and gender. It will also be helpful for San Francisco CCD to maintain employment termination information – namely, the number of OPEB-eligible employees in each employee class that terminate employment each year for reasons other than death, disability or retirement.

- Segregating plan assets will allow taking advantage of California Government Code Sections 53620 through 53622 to achieve greater investment income on plan assets. This study assumes an investment return net of all investment and plan expenses of 5%. We recommend San Francisco CCD take actions to achieve a long term rate of return that reflects the long term nature of the liabilities.

Respectfully submitted,

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PART II: BACKGROUND

A. Summary

Accounting principles have long held that the cost of retiree benefits should be "accrued" over employees' working lifetime. For this reason, the Governmental Accounting Standards Board (GASB) issued in 2004 Accounting Standards 43 and 45 for retiree health benefits. These standards apply to all public employers that pay any part of the cost of retiree health benefits for current or future retirees (including early retirees).

B. Actuarial Accrual

To actuarially accrue retiree health benefits requires determining the amount to expense each year so that the liability accumulated at retirement is, on average, sufficient (with interest) to cover all retiree health expenditures without the need for additional expenses. There are many different ways to determine the annual accrual amount. The calculation method used is called an "actuarial cost method."

Conceptually, there are two components of actuarial cost - a "normal cost" and amortization of something called the "unfunded actuarial accrued liability." Both accounting standards and actuarial standards usually address these two components separately (though alternative terminology is sometimes used).

The normal cost can be thought of as the value of the benefit earned each year if benefits are accrued during the working lifetime of employees. This report will not discuss differences between actuarial cost methods or their application. Instead, following is a description of a commonly used, generally accepted actuarial cost method that will be permitted under GASB 43 and 45. This actuarial cost method is called the "entry age normal" method.

Under the entry age normal cost method, an average age at hire and average retirement age are determined for eligible employees. Then, the actuary determines what amount needs to be expensed each year from hire until retirement to fully accrue the expected cost of retiree health benefits. This amount is the normal cost. Under GASB 43 and 45, the normal cost can be expressed either as a level dollar amount or as a level percentage of payroll.

The normal cost is determined using several key assumptions:

- The current ***cost of retiree health benefits*** (often varying by age, Medicare status and/or dependent coverage). The higher the current cost of retiree benefits, the higher the normal cost.

- The ***"trend" rate*** at which retiree health benefits are expected to increase over time. A higher trend rate increases the normal cost. A "cap" on College contributions can reduce trend to zero once the cap is reached thereby dramatically reducing normal costs.

- ***Mortality rates*** that vary by age and sex. (Unisex mortality rates are not usually used because an individual's OPEB benefits do not depend on the mortality table used.) If employees die prior to retirement, contributions attributable to deceased employees are available to fund benefits for employees who live to retirement. After retirement, death results in benefit termination. Although higher mortality rates reduce normal costs, the mortality assumption is not likely to vary from employer to employer.

- ***Employment termination rates*** have the same effect as mortality inasmuch as higher termination rates reduce normal costs. Employment termination can vary considerably between community

college districts.

- ***Vesting rates*** reflect years of service required to earn full or partial retiree benefits. While longer vesting periods reduce costs, cost reductions are not usually substantial unless full vesting requires more than 20 years of service.

- ***Retirement rates*** determine what proportion of employees retire at each age (assuming employees reach the requisite length of service). Retirement rates often vary by employee classification and implicitly reflect the minimum retirement age required for eligibility. Higher retirement rates increase normal costs but, except for differences in minimum retirement age, retirement rates tend to be consistent between community college districts for each employee type.

- ***Participation rates*** indicate what proportion of retirees are expected to elect retiree health benefits if a significant retiree contribution is required. Higher participation rates increase costs.

- The ***discount rate*** estimates investment earnings for assets earmarked to cover retiree health benefit liabilities. The discount rate depends on the nature of underlying assets. For example, earmarked funds earning money market rates in the county treasury are likely to earn far less than a diversified portfolio including stocks, bonds, etc. A higher discount rate can dramatically lower normal costs. GASB 43 and 45 require the interest assumption to reflect likely *long term* investment return.

The assumptions listed above are not exhaustive, but are the most common assumptions used in actuarial cost calculations. The actuary selects the assumptions which - taken together - will yield reasonable results. It's not necessary (or even possible) to predict individual assumptions with complete accuracy.

If all actuarial assumptions were exactly met and an employer had expensed the normal cost every year for all past and current employees and retirees, the funds would have accumulated to a sizeable amount (after adding interest and subtracting retiree benefit costs from the accumulated funds). The fund that would have accumulated is called the actuarial accrued liability or AAL. The excess of the AAL over funds earmarked for retiree health benefits is called the *unfunded* actuarial accrued liability (or UAAL). Under GASB 43 and 45, in order for assets to count toward offsetting the AAL, the assets have to be held in an irrevocable trust that is safe from creditors and can only be used to provide OPEB benefits to eligible participants.

The actuarial accrued liability (AAL) can arise in several ways. First, at the inception of actuarial funding, there is usually a substantial UAAL. Under GASB 43 and 45, some portion of this amount can be established as the "transition obligation" subject to certain constraints. UAAL can also increase as the result of operation of a retiree health plan - e.g., as a result of plan changes or changes in actuarial assumptions. Finally, AAL can arise from actuarial gains and losses. Actuarial gains and losses result from differences between actuarial assumptions and actual plan experience.

Under GASB 43 and 45, employers have several options on how the UAAL can be amortized as follows:

- The employer can select an amortization period of 1 to 30 years. (For certain situations that result in a reduction of the AAL, the amortization period must be at least 10 years.)

- The employer may apply the same amortization period to the total combined UAAL or can apply different periods to different components of the UAAL.

- The employer may elect a “closed” or “open” amortization period.

- The employer may choose to amortize on a level dollar or level percentage of payroll method.

UAAL amortization payments can be higher than the normal cost. The magnitude of the UAAL depends not only on all the assumptions discussed earlier, but also on the average age of employees. The higher employees' average age, the greater the AAL.

PART III: LIABILITIES AND COSTS FOR RETIREE BENEFITS

A. Introduction.

We calculated the actuarial present value of projected benefits (APVPB) separately for each employee. We determined eligibility for retiree benefits based on information supplied by San Francisco CCD. We then selected assumptions for the factors discussed in the above Section that, based on plan experience and our training and experience, represent our best prediction of future plan experience. For each employee, we applied the appropriate factors based on the employee's age, sex and length of service.

We summarized actuarial assumptions used for this study in Appendix C.

B. Medicare

The extent of Medicare coverage can affect projections of retiree health costs. The method of coordinating Medicare benefits with the retiree health plan's benefits can have a substantial impact on retiree health costs. We will be happy to provide more information about Medicare integration methods if requested.

C. Liability for Retiree Benefits.

For each employee, we projected future premium costs using an assumed trend rate (see Appendix C). A constant trend rate was used for all years. This rate may understate trend in some years but might overstate it in others. As long as trend averages the assumed rate over a long period, it is not critical the rate be correct in any one year. To the extent San Francisco CCD uses contribution caps, the influence of the trend factor is further reduced.

We multiplied each year's projected cost by the probability that premium will be paid; i.e. based on the probability that the employee is living, has not terminated employment and has retired. The probability that premium will be paid is zero if the employee is not eligible. The employee is not eligible if s/he has not met minimum service, minimum age or, if applicable, maximum age requirements.

The product of each year's premium cost and the probability that premium will be paid equals the expected cost for that year. We discounted the expected cost for each year to the valuation date October 1, 2009 at 5% interest.

Finally, we multiplied the above discounted expected cost figures by the probability that the retiree would elect coverage. A retiree may not elect to be covered if retiree health coverage is available less expensively from another source (e.g. Medicare risk contract) or the retiree is covered under a spouse's plan.

For current retirees, the approach used was similar. The major difference is that the probability of payment for current retirees depends only on mortality and age restrictions (i.e. for retired employees the probability of being retired and of not being terminated are always both 1.0000).

We added the APVPB for all employees to get the actuarial present value of total projected benefits (APVTPB). The APVTPB (sometimes called the expected postemployment benefit obligation or EPBO) is the estimated present value of all future retiree health benefits for all **current** employees and retirees. The APVTPB is the amount on October 1, 2009 that, if all actuarial assumptions are exactly right, would be sufficient to expense all promised benefits until the last current employee or retiree dies or reaches the maximum eligibility age.

Actuarial Present Value of Total Projected Benefits
October 1, 2009

	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Active: Pre-65	$38,575,797	$16,300,376	$18,121,335	$503,122	$3,161,955	$489,009
Post-65	$102,193,007	$46,363,808	$43,592,563	$1,055,729	$9,645,422	$1,535,485
Subtotal	$140,768,804	$62,664,184	$61,713,898	$1,558,851	$12,807,377	$2,024,494
Retiree: Pre-65	$5,908,527	$1,148,724	$3,242,837	$15,564	$1,334,581	$166,821
Post-65	$55,765,360	$31,979,157	$12,984,405	$469,007	$9,836,347	$496,444
Subtotal	$61,673,887	$33,127,881	$16,227,242	$484,571	$11,170,928	$663,265
Grand Total	$202,442,691	$95,792,065	$77,941,141	$2,043,421	$23,978,305	$2,687,759
Subtotal Pre-65	$44,484,324	$17,449,100	$21,364,172	$518,686	$4,496,536	$655,830
Subtotal Post-65	$157,958,366	$78,342,965	$56,576,968	$1,524,735	$19,481,769	$2,031,929

The APVTPB should be accrued over the working lifetime of employees. At any time much of it has not been "earned" by employees. The APVTPB is used to develop expense and liability figures. To do so, the APVTFB is divided into two parts: the portions attributable to service rendered prior to the valuation date (the past service liability or actuarial accrued liability under GASB 43 and 45) and to service after the valuation date but prior to retirement (the future service liability).

The past service and future service liabilities are each funded in a different way. We will start with the future service liability which is funded by the normal cost.

D. Cost to Prefund Retiree Benefits

1. Normal Cost

The average hire age for eligible employees is 37. To accrue the liability by retirement, the College would accrue the retiree liability over a period of about 23 years (assuming an average retirement age of 60). We applied an "entry age normal" actuarial cost method to determine funding rates for active employees. The table below summarizes the calculated normal cost.

Normal Cost Year Beginning
October 1, 2009

	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
# of Employees	1685	724	783	16	142	20
Per Capita Normal Cost						
Pre-65 Benefit	N/A	$1,377	$1,521	$2,104	$1,632	$1,597
Post-65 Benefit	N/A	$2,490	$2,359	$2,858	$2,420	$2,770
First Year Normal Cost						
Pre-65 Benefit	$2,485,239	$996,948	$1,190,943	$33,664	$231,744	$31,940
Post-65 Benefit	$4,094,625	$1,802,760	$1,847,097	$45,728	$343,640	$55,400
Total	$6,579,864	$2,799,708	$3,038,040	$79,392	$575,384	$87,340

Accruing retiree health benefit costs using normal costs would level out the cost of retiree health benefits over time and more fairly reflect the value of benefits "earned" each year by employees. This normal cost would increase each year based on covered payroll.

2. Amortization of Unfunded Actuarial Accrued Liability (UAAL)

If actuarial assumptions are borne out by experience, the College could fully accrue retiree benefits by expensing an amount each year that equals the normal cost. If no accruals had taken place in the past, there would be a shortfall of many years' contributions, accumulated interest and forfeitures for terminated or deceased employees. This shortfall is called the actuarial accrued liability (AAL). We calculated the AAL as the APVTPB minus the present value of future normal costs.

The College can amortize the UAAL over many years. The table below shows the annual amount necessary to amortize the UAAL over a period of 30 years at 5% interest. (Thirty years is the longest amortization period allowable under GASB 43 and 45.) GASB 43 and 45 will allow amortizing the UAAL using either payments that stay the same as a dollar amount, or payments that are a flat percentage of covered payroll over time. The figures below reflect the level percentage of payroll method. This amortization payment would increase each year based on covered payroll. Payments would continue for 30 years, after which time amortization payments would end.

Actuarial Accrued Liability as of October 1, 2009

	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Active: Pre-65	$22,705,847	$10,417,204	$9,552,794	$266,948	$2,111,467	$357,434
Post-65	$76,158,447	$35,725,392	$30,303,156	$734,919	$8,087,712	$1,307,268
Subtotal	$98,864,294	$46,142,596	$39,855,950	$1,001,867	$10,199,179	$1,664,702
Retiree: Pre-65	$5,908,527	$1,148,724	$3,242,837	$15,564	$1,334,581	$166,821
Post-65	$55,765,360	$31,979,157	$12,984,405	$469,007	$9,836,347	$496,444
Subtotal	$61,673,887	$33,127,881	$16,227,242	$484,571	$11,170,928	$663,265
Subtot Pre-65	$28,614,375	$11,565,928	$12,795,631	$282,512	$3,446,048	$524,256
Subtot Post-65	$131,923,807	$67,704,549	$43,287,561	$1,203,926	$17,924,059	$1,803,712
Grand Total	$160,538,181	$79,270,476	$56,083,192	$1,486,438	$21,370,107	$2,327,968
Unamortized Initial UAAL	$156,918,436					
Unfunded AAL	$3,619,745					
1st Year UAAL Amortization at 5.0% over 30 Years	$160,330					

3. Annual Required Contributions (ARC)

If the College determines retiree health plan expenses in accordance with GASB 43 and 45, first year costs will include both normal cost and UAAL amortization costs. The sum of normal cost and UAAL amortization costs is called the Annual Required Contribution (ARC) and is shown below.

Annual Required Contribution (ARC) Year Beginning October 1, 2009

		Total
Normal Cost		$6,579,864
Initial UAAL Amortization		$7,118,290
Residual UAAL Amortization		$160,330
	ARC	$13,858,484

This amortization payment would increase each year based on covered payroll. Initial UAAL amortization payments would continue for 29 more years, after which time amortization payments would end. Residual UAAL amortization payments continue as long as there is an unamortized residual UAAL. The normal cost remains as long as there are active employees who may some day qualify for College-paid retiree health benefits. This normal cost would increase each year based on covered payroll.

Should San Francisco CCD decide to fund retiree health benefits as shown above, the cost of current retiree benefits would be deducted from earmarked funds. This means the true cost is the difference between the ARC and "pay-as-you-go" costs. The above table shows the additional cost necessary to fund retiree health benefits.

4. Other Components of Annual OPEB Cost (AOC)

Once GASB 43 and 45 are implemented, the expense and liability amounts may include more components of cost than the normal cost plus amortization of the UAAL. This will apply to employers that don't fully fund the Annual Required Cost (ARC) through an irrevocable trust.

- The annual OPEB cost (AOC) will include assumed interest on the net OPEB obligation (NOO). The annual OPEB cost will also include an amortization adjustment for the net OPEB obligation. (It should be noted that there is no NOO if the ARC is fully funded through a qualifying "plan".)

- The net OPEB obligation will equal the accumulated differences between the (AOC) and qualifying "plan" contributions.

PART IV: "PAY AS YOU GO" FUNDING OF RETIREE BENEFITS

We used the actuarial assumptions shown in Appendix C to project ten year cash flow under the retiree health program. Because these cash flow estimates reflect average assumptions applied to a relatively small number of employees, estimates for individual years are **certain** to be ***in***accurate. However, these estimates show the size of needed cash flow and also the rate of increase in annual costs. Because we have used trend rates that are constant over time, it is likely that medical costs will be understated in some years and overstated in others.

The following table shows a projection of annual amounts needed to pay the College share of retiree health premiums.

Year Beginning October 1	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
2009	$5,832,134	$3,099,665	$1,485,660	$52,736	$1,139,144	$54,929
2010	$6,234,250	$3,306,902	$1,659,609	$47,521	$1,155,623	$64,595
2011	$7,109,324	$3,770,157	$1,972,418	$53,923	$1,230,806	$82,020
2012	$7,888,688	$4,179,596	$2,285,498	$62,324	$1,263,073	$98,197
2013	$8,465,547	$4,434,627	$2,548,702	$73,234	$1,291,097	$117,887
2014	$9,152,678	$4,745,753	$2,858,024	$80,241	$1,332,075	$136,585
2015	$9,728,660	$5,021,385	$3,131,365	$81,278	$1,349,585	$145,047
2016	$10,281,963	$5,176,272	$3,469,957	$94,500	$1,395,580	$145,654
2017	$10,801,693	$5,360,792	$3,740,596	$109,496	$1,435,023	$155,786
2018	$11,214,655	$5,499,688	$3,979,065	$114,340	$1,454,849	$166,713

PART V: RECOMMENDATIONS FOR FUTURE VALUATIONS

To effectively manage benefit costs, an employer must periodically examine the existing liability for retiree benefits as well as future annual expected premium costs. We recommend every two or three years as will be required under GASB 43/45. In addition, a valuation should be conducted whenever plan changes, changes in actuarial assumptions or other employer actions are likely to cause a material change in accrual costs and/or liabilities.

Following are examples of actions that could trigger a new valuation.

- An employer should perform a valuation whenever the employer considers or puts in place an early retirement incentive program.
- An employer should perform a valuation whenever the employer adopts a retiree benefit plan for some or all employees.
- An employer should perform a valuation whenever the employer considers or implements changes to retiree benefit provisions or eligibility requirements.
- An employer should perform a valuation whenever the employer introduces or changes retiree contributions.

We recommend San Francisco CCD take the following actions to ease future valuations.

- We have used our training, experience and information available to us to establish the actuarial assumptions used in this valuation. We have no information to indicate that any of the assumptions do not reasonably reflect future plan experience. However, the College should review the actuarial assumptions in Appendix C carefully. If the College has any reason to believe that any of these assumptions do not reasonably represent the expected future experience of the retiree health plan, the College should engage in discussions or perform analyses to determine the best estimate of the assumption in question.

PART VI: APPENDICES

APPENDIX A: MATERIALS USED FOR THIS STUDY

We relied on the following materials to complete this study.

- We used paper reports and digital files containing employee demographic data from the College personnel records.
- We used relevant sections of collective bargaining agreements provided by the College.

APPENDIX B: EFFECT OF ASSUMPTIONS USED IN CALCULATIONS

While we believe the estimates in this study are reasonable overall, it was necessary for us to use assumptions which inevitably introduce errors. We believe that the errors caused by our assumptions will not materially affect study results. If the College wants more refined estimates for decision-making, we recommend additional investigation. Following is a brief summary of the impact of some of the more critical assumptions.

1. Where actuarial assumptions differ from expected experience, our estimates could be overstated or understated. One of the most critical assumptions is the medical trend rate. The College may want to commission further study to assess the sensitivity of liability estimates to our medical trend assumptions. For example, it may be helpful to know how liabilities would be affected by using a trend factor 1% higher than what was used in this study.

2. We used an "entry age normal" actuarial cost method to estimate the actuarial accrued liability and normal cost. GASB will allow this as one of several permissible methods under its upcoming accounting standard. Using a different cost method could result in a somewhat different recognition pattern of costs and liabilities.

APPENDIX C: ACTUARIAL ASSUMPTIONS AND METHODS

Following is a summary of actuarial assumptions and methods used in this study. The College should carefully review these assumptions and methods to make sure they reflect the College's assessment of its underlying experience. It is important for San Francisco CCD to understand that the appropriateness of all selected actuarial assumptions and methods are San Francisco CCD's responsibility. Unless otherwise disclosed in this report, TCS believes that all methods and assumptions are within a reasonable range based on the provisions of GASB 43 and 45, applicable actuarial standards of practice, San Francisco CCD's actual historical experience, and TCS's judgement based on experience and training.

ACTUARIAL METHODS AND ASSUMPTIONS:

ACTUARIAL COST METHOD: Entry age normal. The allocation of OPEB cost is based on years of service. We used the level percentage of payroll method to allocate OPEB cost over years of service.

Entry age is based on the average age at hire for eligible employees. The attribution period is determined as the difference between the average retirement age and the average age at hire. The present value of future benefits and present value of future normal costs are determined on an employee by employee basis and then aggregated.

To the extent that different benefit formulas apply to different employees of the same class, the normal cost is based on the benefit plan applicable to the most recently hired employees (including future hires if a new benefit formula has been agreed to and communicated to employees).

AMORTIZATION METHODS: We used the level percentage of payroll method to allocate amortization cost by year. We used a closed 30 year amortization period for the initial UAAL. We used an open 30 year amortization period for the residual UAAL.

SUBSTANTIVE PLAN: As required under GASB 43 and 45, we based the valuation on the substantive plan. The formulation of the substantive plan was based on a review of written plan documents as well as historical information provided by San Francisco CCD regarding practices with respect to employer and employee contributions and other relevant factors.

ECONOMIC ASSUMPTIONS:

Economic assumptions are set under the guidance of Actuarial Standard of Practice 27 (ASOP 27). Among other things, ASOP 27 provides that economic assumptions should reflect a consistent underlying rate of general inflation. For that reason, we show our assumed long-term inflation rate below.

INFLATION: We assumed 3% per year.

INVESTMENT RETURN / DISCOUNT RATE: We assumed 5% per year. This is based on assumed long-term return on plan assets or employer assets, as appropriate. We used the "Building Block Method" as described in ASOP 27 Paragraph 3.6.2. Our assessment of long-term returns for employer assets is based on long-term historical returns for surplus funds invested pursuant to California Government Code Sections 53601 et seq.

TREND: We assumed 4% per year. Our long-term trend assumption is based on the conclusion that, while medical trend will continue to be cyclical, the average increase over time cannot continue to outstrip general inflation by a wide margin. Trend increases in excess of general inflation result in dramatic increases in unemployment, the number of uninsured and the number of underinsured. These effects are nearing a tipping point which will inevitably result in fundamental changes in health care finance and/or delivery which will bring increases in health care costs more closely in line with general inflation. We do not believe it is reasonable to project historical trend vs. inflation differences several decades into the future.

PAYROLL INCREASE: We assumed 3% per year. This assumption applies only to the extent that either or both of the normal cost and/or UAAL amortization use the level percentage of payroll method. For purposes of applying the level percentage of payroll method, payroll increase must not assume any increases in staff or merit increases.

ACTUARIAL ASSET VALUATION: There were no plan assets at the time of the valuation.

NON-ECONOMIC ASSUMPTIONS:

Economic assumptions are set under the guidance of Actuarial Standard of Practice 35 (ASOP 35).

MORTALITY: CalSTRS mortality for Faculty employees.
1994 GAM mortality for Other employees.

RETIREMENT RATES: CalSTRS retirement rates for Faculty employees.
SFERS retirement rates for other employees.

VESTING RATES:

	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Vesting Percentage	100%	100%	100%	100%	100%
Vesting Period	5 years	5 years	5 years	5 years	5 years

COSTS FOR RETIREE COVERAGE:

There was not sufficient information available to determine whether there is an implicit subsidy for retiree health costs. Based on ASOP 6, there can be justification for using "community-rated" premiums as the basis for the valuation where the insurer is committed to continuing rating practices. This is especially true where sufficient information is not available to determine the magnitude of the subsidy. However, San Francisco CCD should recognize that costs and liabilities in this report could change significantly if either the current insurer changes rating practices or if San Francisco CCD changes insurers.

First Year costs are as shown below. Subsequent years' costs are based on first year costs adjusted for trend and limited by any College contribution caps.

	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Current Retirees: based on actual costs					
Current Plan:					
Future Retirees Pre-65	$12,050	$11,139	$15,564	$12,694	$11,101
Future Retirees Post-65	$4,892	$4,855	$6,665	$5,329	$6,007

PARTICIPATION RATES: 100%

TURNOVER: CalSTRS turnover for Faculty employees.
CalPERS turnover for Miscellaneous employees.

SPOUSE PREVALENCE: To the extent not provided and when needed to calculate benefit liabilities, 80% of retirees assumed to be married at retirement. After retirement, the percentage married is adjusted to reflect mortality.

SPOUSE AGES: To the extent spouse dates of birth are not provided and when needed to calculate benefit liabilities, female spouse assumed to be three years younger than male.

AGING FACTORS:

Attained Age	Medical Annual Increases
50-64	3.5%
65-69	3.0
70-74	2.5
75-79	1.5
80-84	0.5
85+	0.0

APPENDIX D: DISTRIBUTION OF ELIGIBLE PARTICIPANTS BY AGE

ELIGIBLE ACTIVE EMPLOYEES:

Age	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Under 25	7	0	6	0	1	0
25-29	42	2	39	0	1	0
30-34	93	33	60	0	0	0
35-39	136	54	73	4	5	0
40-44	172	73	82	2	14	1
45-49	224	80	123	1	16	4
50-54	267	110	126	4	24	3
55-59	322	150	135	3	27	7
60-64	263	141	79	1	39	3
65 and older	159	81	60	1	15	2
Total	1685	724	783	16	142	20

ELIGIBLE RETIREES:

Age	Total	Faculty	Classified	Stationary Engineers	Management	SFBCTCU
Under 50	3	0	1	0	2	0
50-54	9	0	8	0	0	1
55-59	20	3	12	0	5	0
60-64	108	50	36	1	20	1
65-69	184	120	39	2	22	1
70-74	192	131	33	0	26	2
75-79	162	101	37	1	22	1
80-84	134	69	18	1	46	0
85-89	86	28	7	1	50	0
90 and older	10	7	0	0	3	0
Total	908	509	191	6	196	6

APPENDIX E: GLOSSARY OF RETIREE HEALTH VALUATION TERMS

Note: The following definitions are intended to help a *non*-actuary understand concepts related to retiree health valuations. Therefore, the definitions may not be actuarially accurate.

Actuarial Accrued Liability:	The amount of the actuarial present value of total projected benefits attributable to employees' past service based on the actuarial cost method used.
Actuarial Cost Method:	A mathematical model for allocating OPEB costs by year of service.
Actuarial Present Value of Total Projected Benefits:	The projected amount of all OPEB benefits to be paid to current and future retirees discounted back to the valuation date.
Actuarial Value of Assets:	Market-related value of assets which may include an unbiased formula for smoothing cyclical fluctuations in asset values.
Annual OPEB Cost:	This is the amount employers must recognize as an expense each year. The annual OPEB expense is equal to the Annual Required Contribution plus interest on the Net OPEB obligation minus an adjustment to reflect the amortization of the net OPEB obligation.
Annual Required Contribution:	The sum of the normal cost and an amount to amortize the unfunded actuarial accrued liability. This is the basis of the annual OPEB cost and net OPEB obligation.
Closed Amortization Period:	An amortization approach where the original ending date for the amortization period remains the same. This would be similar to a conventional, 30-year mortgage, for example.
Discount Rate:	Assumed investment return net of all investment expenses. Generally, a higher assumed interest rate leads to lower normal costs and actuarial accrued liability.
Implicit Rate Subsidy:	The estimated amount by which retiree rates are understated in situations where, for rating purposes, retirees are combined with active employees.
Mortality Rate:	Assumed proportion of people who die each year. Mortality rates always vary by age and often by sex. A mortality table should always be selected that is based on a similar "population" to the one being studied.
Net OPEB Obligation:	The accumulated difference between the annual OPEB cost and amounts contributed to an irrevocable trust exclusively providing retiree OPEB benefits and protected from creditors.
Normal Cost:	The dollar value of the "earned" portion of retiree health benefits if retiree health benefits are to be fully accrued at retirement.

OPEB Benefits:	Other PostEmployment Benefits. Generally medical, dental, prescription drug, life, long-term care or other postemployment benefits that are not pension benefits.
Open Amortization Period:	Under an open amortization period, the remaining unamortized balance is subject to a new amortization schedule each valuation. This would be similar, for example, to a homeowner refinancing a mortgage with a new 30-year conventional mortgage every two or three years.
Participation Rate:	The proportion of retirees who elect to receive retiree benefits. A lower participation rate results in lower normal cost and actuarial accrued liability. The participation rate often is related to retiree contributions.
Retirement Rate:	The proportion of active employees who retire each year. Retirement rates are usually based on age and/or length of service. (Retirement rates can be used in conjunction with vesting rates to reflect both age and length of service). The more likely employees are to retire early, the higher normal costs and actuarial accrued liability will be.
Transition Obligation:	The amount of the unfunded actuarial accrued liability at the time actuarial accrual begins in accordance with an applicable accounting standard.
Trend Rate:	The rate at which the cost of retiree benefits is expected to increase over time. The trend rate usually varies by type of benefit (e.g. medical, dental, vision, etc.) and may vary over time. A higher trend rate results in higher normal costs and actuarial accrued liability.
Turnover Rate:	The rate at which employees cease employment due to reasons other than death, disability or retirement. Turnover rates usually vary based on length of service and may vary by other factors. Higher turnover rates reduce normal costs and actuarial accrued liability.
Unfunded Actuarial Accrued Liability:	This is the excess of the actuarial accrued liability over assets irrevocably committed to provide retiree health benefits.
Valuation Date:	The date as of which the OPEB obligation is determined. Under GASB 43 and 45, the valuation date does not have to coincide with the statement date.
Vesting Rate:	The proportion of retiree benefits earned, based on length of service and, sometimes, age. (Vesting rates are often set in conjunction with retirement rates.) More rapid vesting increases normal costs and actuarial accrued liability.