

TEACHERS' RETIREMENT BOARD

REGULAR MEETING

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SUBJECT: Strategic Directions for Addressing Unfunded Actuarial  
Obligation

ITEM NUMBER: 5

CONSENT:     

ATTACHMENT(S): 1

ACTION:     

MEETING DATE: February 3, 2006

INFORMATION: X

PRESENTER: Ed Derman

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**PURPOSE OF THE ITEM**

The purpose of this item is to provide follow-up information on available options to address the current unfunded actuarial obligation.

**SUMMARY**

At the December Board meeting, staff presented the following options to address the long-term financial needs of the Defined Benefit Program.

- Issue pension obligation bonds to finance the unfunded actuarial obligation.
- Amortize the unfunded actuarial obligation over 40 years, rather than over 30 years.
- For new members:
  - Determining final compensation based on three consecutive school years of salary rates.
  - Eliminate the career factor.
  - Reduce the age factor to two percent after age 60.
  - Do not convert unused sick leave to service credit.
  - Eliminate two percent member contributions to the Defined Benefit Supplement Program.
  - Reduce or eliminate employer contributions to DBS for excess service and credit contributions to the DB Program.
- Reduce or eliminate annual two percent benefit adjustment.
- Incorporate the purchasing power account into the DB Program.
- Do not extend the Medicare Premium Payment Program.
- Impose employer contributions when members work after retirement.
- Increase the contribution rate for employees, employers or the State.

This item briefly summarizes each of these options and where necessary, as determined by questions and concerns of the Board, presents further information and analysis. In response to the Board's request for information regarding the design of similar retirement systems, staff has

compiled the attached chart outlining the various design aspects of the 12 other state teachers' retirement systems not coordinated with Social Security.

## **DISCUSSION**

To summarize the current problem, the most recent valuation concluded that:

- There is an unfunded actuarial obligation in the DB Program of \$24.16 billion as of June 30, 2004. The cost of amortizing this obligation over a 30-year period is the equivalent of 5.235 percent of creditable salary each year.
- The normal cost of the program is 0.672 percent less than the 17.499 percent of creditable salary that will be contributed to the DB Program over the next 30 years. This 0.672 percent excess can offset a portion of the amount needed to amortize the unfunded actuarial obligation, but the resources needed to amortize the remaining unfunded actuarial obligation over 30 years is equal to 4.563 percent of creditable salary.
- Because the amount of contributions currently available to the DB Program are less than the amount needed to fund current and future program liabilities, the unfunded actuarial obligation is never amortized, and continues to increase. Based on current assumptions, the program would not have the resources to pay its liabilities after about 60 years.

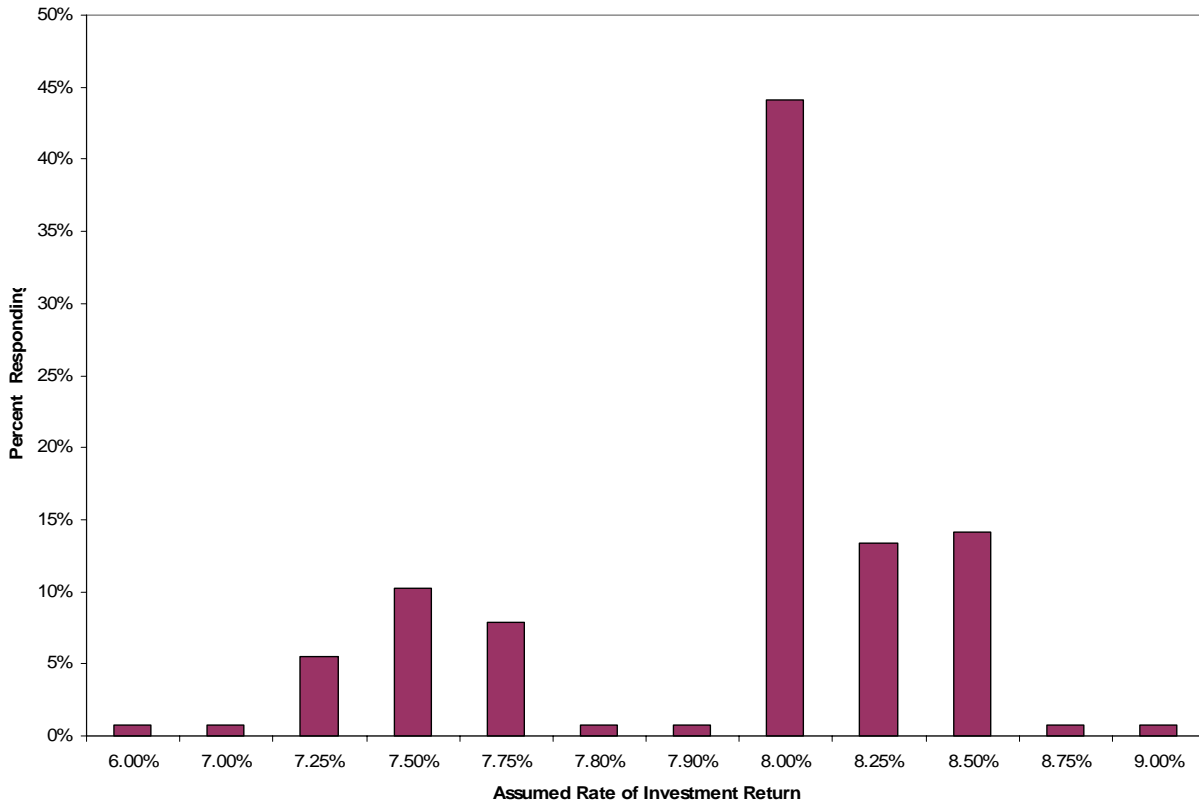
The fiscal implications of addressing the unfunded actuarial obligation reflect the expectation that a strategy would be adopted that fully amortizes that obligation, and that an objective would be established that results in a funding ratio of 100 percent. There is no requirement that a retirement system, such as CalSTRS, be 100 percent fully funded. Having a target of full funding is most critical when the plan is closed because at some point the plan will have liabilities with no incoming revenue, other than investment income. That is not the case with the DB Program. Under current law, as long as there are teachers in the California public school system, there will be contributions paid to the program.

As a result, the Board could establish a funding policy that maintains a funding status of something less than 100 percent. This would have two effects, one positive in the short-term, and one negative in the long-term. The short-term benefit is that such a policy reduces the increase in contributions or reduction in liabilities needed to achieve the objective. On the other hand, by reducing those changes in program financing, the long-term costs of funding the benefit program will increase. If the targeted funding status is 100 percent, the contribution rate would be reduced to the normal cost after the amortization period is completed. If the policy provides for something less than 100 percent, the contribution rate might be lower in the short-term but would always reflect an amount in addition to the normal cost.

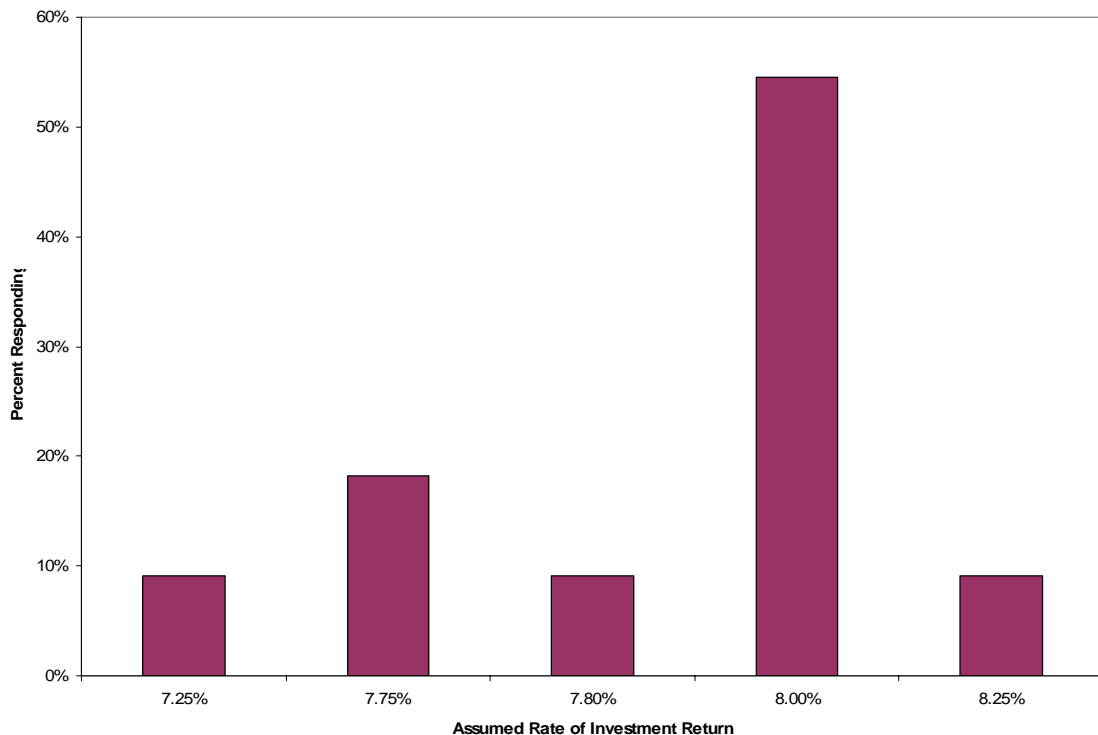
If the Board adopted a funding ratio target of the following ratios, it would require the following increases in contributions at different points in time.

Funding	Percent Increase in Contribution Rate			
	Year 1	Year 10	Year 15	Year 20
85 percent	1.105%	1.108%	2.589%	3.955%
90 percent	2.603%	2.717%	3.465%	3.590%
95 percent	4.101%	4.325%	4.342%	3.225%

The actuarial valuation is based on the assumption that CalSTRS can expect an average investment return of 8 percent. This rate of return is the most common rate assumed by 127 retirement systems responding to a survey undertaken by the National Association of State Retirement Systems (NASRA), as indicated in the chart below.



These 127 systems represent retirement systems ranging in size from about \$250 million to almost \$170 billion. There is, however, almost no relationship between the size of the retirement system and its assumed rate of return on its investments. CalSTRS is not alone in being a large retirement fund that assumes an 8 percent rate of return. This is indicated in the table below, which shows that 55 percent of the retirement systems with assets of \$50 billion or more assume an 8 percent rate of investment return.



As illustrated in the December Board item, if the assumed rate of return was to increase to 8.25 percent, the amount of the change in contributions or future liabilities would be reduced by about 38 percent. Conversely, if the assumed rate of return was to decrease to 7 percent, the size of the unfunded actuarial obligation would more than double to \$51.5 billion, resulting in a reduction in the funding ratio from 83 percent to 69 percent. All costs to the system would increase and as a result, the annual amount needed to retire the unfunded actuarial obligation in addition to paying the normal cost would increase from about 22 percent to over 30 percent of creditable salary.

### **Options to Address Unfunded Actuarial Obligation**

In the December item, and repeated here, the percent of members affected, based on experience in 2003-04, and the impact of each option on a member's benefit was identified. Obviously, the impact will be different for each member, depending on his or her individual circumstances, and may have no impact at all if the member is not eligible for the benefit being affected. These illustrations give an idea, however, of the relative impact of each option on an individual. For the purpose of illustrating the impact of those options that are applicable to members who are retired or retire in the future, we assume the member retired:

- With 31 years of service (the median service credit for those retiring in 2003-04)
- With 1 year of unused sick leave (members with unused sick leave average 0.698 years of service credit from the unused leave)
- At age 62 (the average member retires at age 61.2)

- With \$5,900 in monthly final compensation (the average final compensation for retiring members)
- With 3 percent annual salary increases in the two years prior to retirement
- After earning \$3,000 in excess earnings for each of the first 10 years of teaching
- With 5 percent annual interest on Defined Benefit Supplement (DBS) account balances (the minimum interest rate for DBS accounts this year)

In addition, the impact of increased contributions on employers and the General Fund are based on the 2003-04 creditable compensation of \$23.8 billion.

### **1. Pension Obligation Bonds**

A pension obligation bond (POB) could be issued by the state or employers to retire all or a portion of the unfunded actuarial obligation. However, POBs have not been authorized to be issued to pay for current year contributions. A POB equal to 5 to 10 percent of the Teachers' Retirement Fund, or about \$7 billion to \$14 billion, could be absorbed without affecting CalSTRS' investment return. If CalSTRS were willing to assume increased risk or a lower rate of return by not allocating bond proceeds to real estate or private equity, then CalSTRS could invest a bond issue equal to the entire unfunded actuarial obligation, but because the bond proceeds would earn less than the actuarially assumed 8 percent, the amount of the bond issue would have to be larger to fully fund the actuarial obligation.

In 2005, the state proposed to issue a pension obligation bond to pay a portion of the state's retirement contribution to CalPERS. The court ruled that the bond measure was subject to the state constitutional requirement that state debt in excess of \$300,000 be approved by the voters. Pension obligation bonds payable from a local issuer's general fund are based on the theory that the payment of the unfunded liability to the issuer's pension plan is an "obligation limited by law" which is not subject to the California Constitutional debt limit. As a result, school employers may be able to issue bonds to refinance CalSTRS' unfunded actuarial obligation. However, due to limited case law authority on this exception to the debt limit, a bond counsel might require a legal validation action prior to any POB issuance.

If school employers are allowed to issue pension obligation bonds, they would issue a taxable pension obligation bond to pay off, in a lump sum in today's dollars, their portion of the unfunded actuarial obligation. The difference in interest charges between CalSTRS' higher assumed rate of return (currently 8 percent) and bond interest payments (currently between 5 and 6 percent) could generate savings for the employers.

To lower their bond issuance fees, school employers could enter into a joint powers agreement. Under the Joint Exercise of Powers Act, two or more public agencies may by agreement jointly exercise any power common to those public agencies. A Statewide Pension Obligation Bond Pool could be established with the purpose of issuing bonds to finance the unfunded actuarial obligation (UAO). For example, the California Statewide Communities

Development Authority (CSCDA) issues bonds for various cities and counties, including pension obligation bonds for California local governments.

The pension obligation bonds issued by CSCDA are structured as follows:

- Each participating local agency issues underlying pension bonds that are sold to California Communities to finance all or a portion of its UAO.
- The individual underlying local agency obligations are pooled together by CSCDA.
- Pooled POBs are offered to investors.
- The interest cost of the pooled POBs is equal to the interest cost on the underlying local agency POBs.
- Each local agency is only responsible for the debt service on its POBs. No agency is responsible for any other agency's obligations under the program.

There are several advantages of a pooled POB issue. These include:

- Lower POB issuance costs.
- Ability of smaller employers to access the market.
- Interest rate savings.
- Economies of scale resulting in lower interest rates and reduced administrative burden for issuing bonds.

These advantages don't, however, eliminate the potential risks of issuing of pension obligation bonds, which include:

- Underperformance of the employer investment versus interest rate on the bonds.
- Expectation that this is a "fix it and forget about it" solution.

## **2. Amortize the Unfunded Actuarial Obligation Over 40 Years**

If the amount of the unfunded actuarial obligation were to be amortized over 40 years, this would decrease the annual contribution needed by 0.869 percent, from 5.235 to 4.366 percent of annual covered compensation. A major drawback to this plan is that, similar to an increased amortization period of a home loan, the total contributions that will be paid over the lifetime of the amortization will be significantly more than over shorter periods of time. Of the 12 systems surveyed, three had funding schemes that amortized the unfunded actuarial obligation for over 30 years.

Although CalSTRS is not required to use a certain period of time to amortize its unfunded liability, there are certain guidelines worth considering. As mentioned in December's agenda item, private plans are required, except under certain special circumstances, by the Employee

Retirement Income Security Act of 1974 to use a period not to exceed 30 years. Furthermore, the Governmental Accounting Standards Board (GASB) Statement 25 requires Required Supplemental Information to the financial statements identify the annual contributions required to fund an obligation over a maximum of 30 years. It should be stressed however, that the GASB requirements are principally for reporting purposes. For funding purposes, a system can have an amortization period in excess of the requirement, as CalSTRS does now, without violating GASB. The system is only required to report what the annual required contribution (ARC) would be if the unfunded actuarial obligation was amortized over a 30 year period.

Unlike boards of some other retirement systems, the Teachers' Retirement Board does not have the authority to increase or decrease contributions. As a result, the actuarial valuation does not recommend changes in contribution rates and is not required to follow any guidelines or principles regarding such actions. If the Board had the authority to set contribution rates, it would have to have a policy to determine how that rates get determined, and the actuarial valuation would presumably recommend what adjustment in the rate would be required to implement that policy. To the extent the resulting contribution rate was less than the ARC, that difference would be identified in the financial statement, but would otherwise have no consequence.

As for any consequences attached to lengthening the amortization period, a reduction in CalSTRS' credit rating is a possibility, but is less likely than a decreased credit rating if no plan is in place to fund the system, as is now the case. There has been concern about the possibility of CalSTRS losing its certificate of achievement from the Government Finance Officers Association for excellence in financial reporting. As described above, financial reporting and the funding of the system are two separate actions. If CalSTRS' funding method is changed, there is no reason why the reporting method would also need to change. In conclusion, and to emphasize, staff feels that the most important consequence to increasing the amortization rate is that although the amount paid annually to address the unfunded actuarial obligation may be less if the amortization period is lengthened, the total contributions needed will be significantly more than over a shorter amortization period.

### **3. Base Final Compensation on the Highest 3 Consecutive School Years**

California is one of the very few states whose pension systems base final compensation on a single year of compensation. More common is an average of three or five years of compensation. All of the 12 teachers' retirement systems surveyed use at least three years to calculate final compensation. One system uses four years while another system uses the five highest years. Calculating final compensation based on the highest three consecutive school years for all new members would reduce the 30-year amortization cost by 0.187 percent and reduce the monthly benefit by \$134.

**4. Eliminate the Addition of the Career Factor to the Age Factor**

The age factor is a percentage of pay for service credit that is used to calculate a service retirement benefit. The career factor adds 0.2 percent or two-tenths of one percent to the age factor once an educator has earned 30 years of service credit. Five of the 12 retirement systems surveyed have some type of enhanced career factor or a career factor generally based on at least 30 years of service. Eliminating the career factor for new members would decrease the 30-year amortization cost by 0.177 percent and reduce the monthly benefit by \$378.

**5. Reduce Age Factor to Two Percent after Age 60**

The age factor increases incrementally from two percent at age 60 to a maximum of 2.4 percent at age 63. From age 55 to 60, the age factor is reduced by 0.01 for each month in which the member is under 60 years of age. Between age 60 and 63, the two percent age factor is increased by 0.033 for each quarter of year of age that the member is over age 60, up to a maximum of 2.4 percent. Ten of the 12 retirement systems surveyed have an age factor that can exceed two percent (based on age or years of service), however, of those, only Massachusetts increases the factor after age 60— from two percent at 60 to 2.5 percent at 65. Eliminating the increased age factor for new members would decrease the amortization cost by 0.701 percent and reduce the monthly benefit by \$504.

**6. Do Not Convert Unused Sick Leave to Service Credit**

Members may convert the amount of their accumulated unused sick leave to service credit at the time of retirement. Not one of the 12 systems surveyed have an unlimited conversion of unused sick leave to service credit. Four of the 12 systems do not have any provisions for converting unused sick leave to service credit, while the other eight systems either have a maximum amount that can be converted or a portion of the sick leave can be used towards final compensation. Eliminating the conversion of unused sick leave for new members would decrease the amortization cost by 0.160 percent and reduce the monthly benefit by \$146.

**7. Eliminate 2 Percent Member Contribution to DBS**

The Defined Benefit Supplement Program (DBS) is a special account created to give members additional funds upon retirement. One quarter of a member's 8 percent contribution, equal to 2 percent of the member's compensation, have been redirected and placed in the member's DBS account beginning January 1, 2001. This redirection of contributions is scheduled to remain in effect until January 1, 2011. Eliminating this contribution to DBS for new members would decrease the amortization cost by 0.032 percent and reduce the DBS lump sum benefit at retirement by \$11,653, equal to a monthly reduction of \$81.

**8. Reduce or Eliminate Employer Contributions to DBS for Excess Service, and Credit Contribution to the DB Program**

Members who perform service in excess of 1.000 year within a school year, or are paid compensation for a limited period of time receive an additional contribution to their DBS account, equal to the contributions they pay on that compensation and an equal amount contributed by the employer. Eliminating the crediting of the entire 8 percent contribution to DBS for excess service and limited term compensation for new members would reduce the amortization cost by 0.152 percent and reduce the DBS lump sum benefit at retirement by \$7,663, equal to a monthly reduction of \$54.

The DBS Program has three years of experience in being credited for compensation paid for service in excess of 1.000 years of service in a school year, or if the member received limited-term compensation. Over 50 percent of all members who were active during all three years were credited with DBS contributions for such service in each of those years, and an additional 17 percent were credited with such DBS contributions for two of those years. This indicates that this proposal would affect a large majority of future members, assuming this pattern continued. Relatively more men (59 percent vs. 49 percent) were credited with such service for all three years, while the percentage being credited with such service for two of the three years had less variation (14 percent and 19 percent, respectively).

**9. Eliminate Annual Two Percent Benefit Adjustment**

Beginning with the October benefit check paid one year after initially receiving a DB benefit, the benefit is adjusted by two percent of the initial benefit amount. The increase is not compounded. Eleven of the 12 systems surveyed have annual benefit adjustments set by law, although for a few systems the adjustment depends on available funds and/or the Consumer Price Index. In most cases, the annual maximum amount is higher than the two percent CalSTRS annual benefit adjustment. If inflation rises above two percent, CalSTRS' adjustment would rank as the ninth highest out of all 13 systems.

Eliminating the two percent benefit adjustment for all current and future active members would reduce the amortization cost by 2.421 percent. Eliminating the adjustment only for new members would reduce the amortization cost by 0.938 percent. This would reduce the monthly benefit paid after the first year by \$93 per month, and by \$1,863 per month after the 20<sup>th</sup> year, partially offset by earlier receipt of 80 percent purchasing power supplemental payment.

**10. Incorporate the purchasing power account into the Defined Benefit Program**

When the inflation-adjusted value of the current benefit is less than 80 percent of the value of the initial benefit, a quarterly payment is made from a special account in the Teachers' Retirement Fund to restore purchasing power to the 80 percent level. The program is primarily funded from an annual General Fund contribution, which is guaranteed by contract. The benefit payment to recipients is guaranteed to the extent there are sufficient funds in the

special account to pay the benefit. Currently, about 56,000 of the 193,000 benefit recipients receive a purchasing power benefit payment. The average purchasing power payment is equal to \$338 per month.

Incorporating the purchasing power benefit program into the DB Program has two effects. First, the current assets and future contributions for the purchasing power program will be reflected in the valuation of the DB Program. Although the liability of the DB Program would be higher than under current law, that increased liability would be more than offset by the assets and contributions that would now be reflected in the DB Program. Incorporating the current assets and future state contributions for purchasing power into the DB Program would result in a net reduction in the amortization cost of 0.861 percent. There are no foreseeable administrative implications concerning this change.

The projected impact of this proposal on the DB Program assumes that future inflation is consistent with current assumptions, equal to 3.25 percent. If inflation increases to the point that the increased liability exceeds the value of the additional resources, then the DB Program will experience a net increase in its liability, further exacerbating the funding of the program. On the other hand, under current law, the purchasing power payments made to benefit recipients in the future would be reduced or eliminated if inflation increased sufficiently, whereas those payments would now continue to be made under this option. In effect, the risk of inflation would be shifted from benefit recipients to the DB Program.

Different assumptions on future inflation have several different effects on the financing of the DB Program, including assumed future wage growth and future investment return. If the real growth in wages and investment returns remained the same as are currently assumed (1 percent and 4.75 percent, respectively), and the assumed rate of inflation was either 2 percent, 3.25 percent (the current assumption) or 4.5 percent, the impact of these alternative assumptions on DB Program financing would be as follows:

	2 percent annual inflation	3.25 percent annual inflation (Current assumption)	4 percent annual inflation
Unfunded actuarial valuation as of June 30, 2004 (in millions)	\$39,997	\$24,160	\$9,743
Funded ratio	74 percent	83 percent	92 percent
Total cost rate	27.740 percent	22.062 percent	17.189 percent
<b>SBMA savings (cost)</b>	<b>2.455 percent</b>	<b>0.861 percent</b>	<b>(2.405 percent)</b>
<b>Remaining DB Program shortfall</b>	<b>7.747 percent</b>	<b>3.701 percent</b>	<b>2.133 percent</b>

As is indicated above, a higher rate of inflation could result in a net cost to the DB Program if the purchasing power program were integrated into the core benefit program. On the other hand, under that circumstance, and assuming no change in real wage growth and investment

return, the overall strength of the DB Program would be higher under that higher inflation than it is under lower rates of assumed inflation.

#### **11. Do Not Extend the Medicare Premium Payment Program**

Eligible members who retire before July 1, 2006 and are not otherwise eligible for premium-free Part A Medicare benefits and enroll in both Medicare Part A and Part B, may have their Medicare Part A premium paid by CalSTRS. Only two of the 12 systems surveyed pay for Medicare Premiums (Part A). Not extending the program for future retired members, and redirecting those saved assets to the DB Program, would reduce the amortization cost by 0.140 percent. In 2005, the Part A premium was \$375 per month, and will increase to \$393 in 2006. Members who retire on or after July 1, 2006 would either have to pay this premium themselves, or not be eligible for the hospitalization benefits provided by Part A. Unlike most other options, this option can be implemented within the Board's current statutory authority.

#### **12. Impose Employer Contributions When Members Work After Retirement**

Retirees who perform creditable service in California public schools do not currently pay contributions for that service and neither does the employing school district. However, there are no federal laws or regulations that would prohibit imposing this requirement. As discussed in the December Board item, requiring the same contributions from employers for retirees as are currently required for active members, may in fact reduce a current inequity that results in lower contributions to the DB Program. Of the 12 teachers retirement systems surveyed, two of these require only employer contributions for retired employees. Imposing employer contributions for post-retirement employment would reduce the amortization cost by 0.066 percent. The increased contributions would cost employers about \$15 million annually.

Unlike employer contributions, there are certain federal laws that may prohibit requiring contributions from retired employees themselves. Specifically, the Age Discrimination in Employment Act (ADEA) requires that, in an employee benefit plan, either the benefit or the cost of the benefit be the same for older workers as for younger workers. As a result, CalSTRS may only take contributions from retired members if the retired member is to receive a benefit that is comparable to the benefit provided to active members for the same amount of contributions. Because providing such a benefit would impose an additional cost associated with the additional revenue, it may either have a negative or a positive effect on the unfunded actuarial obligation of the plan.

Of the 12 systems surveyed, three of the systems collect employee contributions in addition to employer contributions. Of these, Ohio and Kentucky provide a benefit after retirement. Ohio provides retired members who elect to receive their second benefit after age 65 with 100 percent matching of their contributions and interest. Those members who elect to receive the second benefit before age 65 are only provided their contributions and interest. Kentucky's second benefit is a tiered defined benefit with a five year vesting period—2

percent at 5 years and 2.5 percent at 10 years. Louisiana, on the other hand, requires retired members to take a refund of their employee contributions after terminating employment. The retired members do not receive the interest on these contributions, nor do they receive the employer contributions and interest. Although not part of the surveyed group, the New Mexico Public Employees' Retirement Association requires, notwithstanding the prohibitions in the ADEA both employee and employer contributions from retired members and does not provide a benefit or allow the member to refund their contributions. The employee contributions only imposed compensation in excess of \$25,000 per year.

**13. Increase Contribution Rate**

Currently, members pay a contribution rate of 8 percent on the compensation they earn that is creditable to CalSTRS. Employers pay a contribution rate of 8.25 percent on that same compensation. The General Fund pays a contribution rate of 2.017 percent, but that is on the creditable compensation paid two fiscal years earlier. The General Fund pays an additional 2.5 percent on that same prior compensation to fund purchasing power protection for DB Program benefits. Eight of the 12 retirement systems staff surveyed increased employer contribution rates within the last three years while seven systems adjusted employee contribution rates within the last three years. In most cases, legislation is required to change rates, although some of the employer rate changes are delegated to the retirement board.

Impact on Program Funding:

Each one percent increase in the contribution rate paid by new members -0.359 percent

Each one percent increase in the contribution rate paid by the employer -1 percent

Each one percent increase in the contribution rate paid by the General Fund -0.898 percent

Increasing the employer contribution rate by one percent would cost the districts about \$250 million annually. The table below shows that for the 90 percent of districts, a one percent increase in employer contributions would cost the district less that \$500,000 a year. The average increase per employer would be \$196,000.

<b>Increased Cost to Employer of 1% employer contribution rate increase</b>	<b>Total</b>
0-\$500,000	1,161
\$500,000-\$1 million	85
\$1 million-\$1.5 million	24
\$1.5 million-\$2 million	8
\$2 million-\$2.5 million	4
\$2.5 million-\$3 million	1
\$3 million-\$5 million	1
\$5 million-\$5.5 million	1
>\$5.5 million	1
<b>Grand Total</b>	<b>1,286</b>

The table below shows the ten largest employers and what a one percent increase in the employer contribution rate would cost them annually, based on the employer's 2004-05 creditable compensation.

<b>Employer</b>	<b>Increased Cost (in millions)</b>
Los Angeles Unified	\$29.9
San Diego City Unified	\$5.1
Long Beach Unified	\$3.5
Fresno Unified	\$3.0
San Francisco Unified	\$2.2
San Bernardino City Unified	\$2.1
Elk Grove Unified	\$2.1
Santa Ana Unified	\$2.1
Sacramento City Unified	\$1.8
Garden Grove Unified	\$1.8

Different amortization periods would require different increases in contribution rates. For example, the total amount of contributions needed to amortize the unfunded actuarial obligation over 17 years would equal 24.404 percent of creditable salary. This is an increase from the 22.062 percent needed to amortize the unfunded actuarial obligation over 30 years. If the General Fund were to pay the entire increased contribution, the state's contribution rate would increase from 2.017 percent of the compensation paid two fiscal years prior to 9.837 percent of that same compensation.

An alternative scenario would phase in an employer contribution rate increase over a period of years. For example, if the employer rate were increased by one half percent every year, by 2016, the rate would increase to a point that would amortize the unfunded actuarial obligation over a 30-year period beginning in 2016. With the first half percent increase in 2006 and subsequent adjustments every year thereafter, by 2015 the rate would have increased 4.5 percentage points to 12.75 percent. Then, in 2016 the rate would be increased by less than one half percent to 13.18 percent. Each year, the employer contribution would increase by the current equivalent of \$125 million. The DB Program would be fully funded by 2046.

## **CONCLUSIONS**

The Board has many options that could be implemented to address the long-term financial needs of the DB Program, but there are not sufficient options available that present a painless road out of this funding deficiency. Under any scenario employer contributions will have to be increased otherwise the core benefits provided to future members will be entirely undermined. These contribution rate increases could be phased in over time, and adjustments to those increases, or other plan changes, could be built into the funding program to address unanticipated changes in

program funding status in the future. Staff, however, needs direction from the Board on which specific items it wishes to pursue further and which ones it does not want to pursue at this time.

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**FUNDING INFORMATION**

<b>Teacher Retirement System</b>	<b>Current Employee Contribution Rate</b>	<b>Current Employer Contribution Rate</b>	<b>State Contribution Rate - Additional</b>	<b>Authority to Change Contribution Rates</b>	<b>Fiscal Year Last Changed</b>	<b>Unfunded Liability</b>	<b>Pension Obligation Bonds</b>	<b>Amortization Period of Unfunded Liability</b>	<b>Funding Ratio</b>
<b>CalSTRS</b>	8%	8.25%	2.017%	Legislature	1972	\$24.16 billion	No	Infinity	83%
<b>Teachers' Retirement System of Alaska</b>	8.65%	16% - current 21% - FY 2006/07	No	Employee – Legislature Employer – Board`	1999 Employee and 2004 Employer	\$5.7 billion total for all Public employees and Teachers have \$2 billion unfunded liability.	Discussed possibility but under no obligations at this time.	25 years	62.8%
<b>Colorado Public Employees' Retirement Association</b>	8.00%	10.15% - current 10.65 – FY 2006/07 - Note: .5% will be used to finance unfunded liability.	No	Legislature	1981 Employee and 2003 Employer	\$12 billion	Discussed as option but not proposed by staff.	Infinity	71%
<b>Connecticut Teachers' Retirement System</b>	6% to fund and 1.25% to HIPA	No	12.5%	Legislature/ Board	Employer 2004	\$5.2 as of 2004	No – but have discussed	Segmented: 10 to 29 Years	65.3%
<b>Illinois Teachers' Retirement System</b>	9% current with .8% used to fund post retirement health care. 7.64% in 2006	13.98% 12.84% 2006	No	Legislature	1998 for Employee and 2005 for Employer	\$21.9 billion	Yes – State issued \$10 billion dollars worth and teachers received \$4.3 billion.	40 Years	60.8%

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**FUNDING INFORMATION**

<b>Teacher Retirement System</b>	<b>Current Employee Contribution Rate</b>	<b>Current Employer Contribution Rate</b>	<b>State Contribution Rate - Additional</b>	<b>Authority to Change Contribution Rates</b>	<b>Fiscal Year Last Changed</b>	<b>Unfunded Liability</b>	<b>Pension Obligation Bonds</b>	<b>Amortization Period of Unfunded Liability</b>	<b>Funding Ratio</b>
<b>Kentucky Teachers' Retirement System</b>	9.855%	9.855%	3.25%	Legislature	1988 Employee and 2002 Employer	\$4.5 billion	No	26 Years	76.3%
<b>Louisiana Teachers' Retirement System</b>	8%	15.9%	No	Employee- in statute and change by Legislature. Employer rate formula in statute and overseen by the Board	Employee- 1988 Employer- Yearly	\$6.6 billion	No and not discussed	Segmented 24 years for one part and 30 years for the period after 2001.	64.6%
<b>Maine State Retirement System</b>	7.65%	16.02%	Not Available	Employer -2004	Not Available	\$2.7 billion	Not Available	17 Years	76%
<b>Massachusetts Teachers' Retirement System</b>	5% - 11% depending on membership date	0%	State Assumes Pension funding – \$70 million for teachers.	Legislature	Can't remember	\$8.5 billion	No	18 Years	68%
<b>Missouri Public School Employees' Retirement System</b>	11.5%	11.5%	No	Board has authority to change up to ½ percent – over ½ goes to legislature	Employee 2004 and Employer 2004	\$ 4.8 billion	No	30 Years	83%
<b>Nevada Public Employees' Retirement System</b>	0% for non-contributory plan and 9.75% for contributory plan	18.5% for non-contributory plan and 9.75% for contributory plan	No	Board	Employee 2004 and Employer 2004 for contributory plan.	Approximately \$2 billion	No	20 Years	80%

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**FUNDING INFORMATION**

<b>Teacher Retirement System</b>	<b>Current Employee Contribution Rate</b>	<b>Current Employer Contribution Rate</b>	<b>State Contribution Rate - Additional</b>	<b>Authority to Change Contribution Rates</b>	<b>Fiscal Year Last Changed</b>	<b>Unfunded Liability</b>	<b>Pension Obligation Bonds</b>	<b>Amortization Period of Unfunded Liability</b>	<b>Funding Ratio</b>
<b>State Teachers' Retirement System of Ohio</b>	10%	14%	No	Board –up to statutory limit of 10% and 14% - over limit must go to Leg.	Employee 2003 an Employer 1984	\$20 billion	No and not discussed.	55.5 years	74%
<b>Teacher Retirement System of Texas</b>	6.4%	6%	No	Not Available	Not Available	\$13.3 billion	Not Available	32.7 Years	87.1%

Summary of Major Survey Findings of Non Social Security Retirement Systems

**ALASKA:** Alaska will discontinue their Defined Benefit (DB) Plan for new hires on June 30, 2006. New Alaska public employees hired on or after July 1, 2006 will be enrolled in a Defined Contribution Plan. Contributions to the new plan will help finance the old plan particularly employer contributions, which will increase from 16 percent this year to 21 percent next year. Pension Obligation Bonds have been discussed but not recommended at this point. The biggest worry is funding the DB plan as no new DB participants will be enrolled. Alaska does allow retired members to return to work. However, if the member returns to work prior to their normal retirement date and without establishing a special need by the employer, the member's retirement benefits and post retirement health care benefits are suspended. If the retired member fills a special need requirement sponsored by the employer, the employer is required to make contributions of 6.2 percent of salary which is then used to pay off the unfunded liability. Post retirement COLAS apply to Alaska residents only.

**COLORADO:** Colorado PERA will sponsor legislation to create a new DB Program or Tier that will reduce retirement benefits substantially. The new Tier will affect all new hires beginning July 1, 2006. Colorado has been fairly aggressive in introducing their DB plan for new employees due to pressure from the media. Staff feels that Pension Obligation Bonds should not be issued under any circumstances.

**ILLINOIS:** The state of Illinois issued \$10 billion in Pension Obligation Bonds to help fund the Illinois Public Retirement Systems'. \$4.3billion went to the Teachers' Retirement System. Additional Bonds are being discussed.

**MASSACHUSETTES:** The state pays 70 million dollars or the employer share to the TRS of Massachusetts. There is optimism about reducing the unfunded liability in the near future. However, critical supplemental or cost of living increases are needed for the older retired member population and the system needs to evaluate how to meet the unfunded liability and still increase benefits for retired educators.

**KENTUCKY:** Both the employer and employee pay post retirement contributions on service after retirement. A second retirement account is started and there is a 5-year vesting period.

**LOUISIANA:** The Louisiana TRS requires member and employer contributions for members who work after retirement. The member does not receive a benefit for the contributions. The member receives a lump sum return of contributions and no interest is credited.

**OHIO:** Ohio TRS retirees who return to work after retirement are required to make contributions as well as the employer. The employer pays 14 percent of salary. Five percent of the employer contributions are used to fund the normal retirement costs; eight percent is applied to the unfunded liability and the remaining one percent is used to pay for the unfunded health care. Ohio TRS pays the retired member either a lump sum retirement distribution or an annuity at age 65. This biggest concern is the unfunded liability of health benefits that the system provides. Ohio TRS is looking at the possibility of requesting the legislature to increase employer contributions by 5 percent (from 14 to 19 percent) to address the unfunded health care benefit; 4.4 percent would go to the health care unfunded liability and .6% would go towards normal pension costs.

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**BENEFIT STRUCTURE INFORMATION**

<b>Teacher Retirement System</b>	<b>Final Compensation</b>	<b>Limitations on Retirement Allowance</b>	<b>Enhanced Age/Career Factors</b>	<b>Service Credit for Unused Sick Leave</b>	<b>DBS Funds or Similar Accounts</b>
<b>CalSTRS</b>	36 highest consecutive months; 12 highest consecutive months with 25 years of service credit	None	Yes – Age Factor increased by 0.2 percent with 30 + years of service. Maximum age factor of 2.4 percent.	Yes - Days Divided by Base	Yes - 2% of Member Contributions and 16 % of Excess
<b>Teachers’ Retirement System of Alaska</b>	3 Highest Consecutive Years	None	Yes – Age Factor increased from 2.0% to 2.5% after 20 years.	Yes – varying schedules – funded by employer	No
<b>Colorado Public Employees’ Retirement Association</b>	3 Highest Years	100% FAS*	No – 2.5% for Retirement	Yes – not one for one and depends on school district – also funded by school district	No 1.02% of Employer Contributions subsidizes health care trust fund for post retirement health care. Does not pay all of health care premiums.
<b>Connecticut Teachers’ Retirement System</b>	3 Highest Years	None	No – 2% Normal Retirement	No	Yes – Voluntary Contributions that pays an annuity at retirement. Very popular.
<b>Illinois Teachers’ Retirement System</b>	4 Highest Consecutive Years in last 10 Years	75% FAS	No - 2.2% for Normal Retirement	Yes - can receive up to two years service.	No.
<b>Kentucky Teachers’ Retirement System</b>	5 Highest Years 3 Highest Years for members who retire on or after age 55 with 27 or more years of service	Cannot Exceed Last Year of Salary	No – 2.0% Normal Retirement for service before 7/83 and 2.5% for service after 6/30/83	No- but can convert to dollars and \$ used for FAS.	No

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Comparison of Non Social Security Teacher Retirement Systems**

**BENEFIT STRUCTURE INFORMATION**

<b>Teacher Retirement System</b>	<b>Final Compensation</b>	<b>Limitations on Retirement Allowance</b>	<b>Enhanced Age/Career Factors</b>	<b>Service Credit for Unused Sick Leave</b>	<b>DBS Funds or Similar Accounts</b>
<b>Louisiana Teachers' Retirement System</b>	3 Highest Consecutive Years	100% FAS	No – 2.5% for Normal Retirement	Yes, but maximum is one year of service	No
<b>Maine State Retirement System</b>	3 Highest Years	None	No – 2% for Normal Retirement	Yes – maximum of 30 days which is applied to Final Compensation	No
<b>Massachusetts Teachers' Retirement System</b>	3 Highest Consecutive Years	80% FAS	Yes – If retiring member has 30 years of service at retirement, the retirement benefit is increased by 2% for each year of service over 24 yrs. 2.5% at age 65 for normal retirement	No	No
<b>Missouri Public School Employees' Retirement System</b>	3 Highest Consecutive Years	100% FAS	Yes – 2.5% Normal Retirement or 2.55 if member retires with 31 or more years of service between July 1, 2001 and July 2008.	No	No
<b>Nevada Public Employees' Retirement System</b>	3 Highest Consecutive Years	90% FAS if member before 7/01/1985 and 75% FAS for those who became members after June 30, 1985.	No – Normal Retirement - 2.5% for service earned prior to 7/01/01 and 2.67% for service earned after 7/01/01.	No	No
<b>State Teachers' Retirement System of Ohio</b>	3 Highest Years	100% FAS	Yes – Normal Retirement is 2.2% for 30 years of service. 2.5% with 31 years and an additional 0.1 percent for each subsequent year.	No	No

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**BENEFIT STRUCTURE INFORMATION**

<b>Teacher Retirement System</b>	<b>Final Compensation</b>	<b>Limitations on Retirement Allowance</b>	<b>Enhanced Age/Career Factors</b>	<b>Service Credit for Unused Sick Leave</b>	<b>DBS Funds or Similar Accounts</b>
<b>Teacher Retirement System of Texas</b>	3 Highest Years	None	No – Normal Retirement 2.3%	Yes, up to one year, but member must purchase or pay for cost.	No

\*FAS refers to Final Average Salary

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
Comparison of Non Social Security Teacher Retirement Systems**

**SUPPLEMENTAL INFORMATION**

<b>Teacher Retirement System</b>	<b>COLA or Annual Benefit Adjustment</b>	<b>Medicare Premium</b>	<b>Post Retirement Contributions For Retired Members</b>	<b>State Taxation of Benefit</b>
<b>CalSTRS</b>	2% annually plus 80% purchasing power protection	Yes –Part A	No	Taxable
<b>Teachers’ Retirement System of Alaska</b>	If 65 smaller of 9% compounded or ¾ CPI; if 60, smaller of 6% or ½ CPI – Note: must be a resident of Alaska to receive additional 10% COLA.	No – Medicare Yes – Post Retirement Health Care	No – but TRS may suspend retirement benefit depending when member retired. If approved for post retirement employment (special program), employer picks up health care premium and contributes 6.5% to help with unfunded liability.	No State Income Tax
<b>Colorado Public Employees’ Retirement Association</b>	3.5% compounded annually, but for new hires lower of 3% compounded and CPI.	No - Medicare Yes – Post Retirement Health Care (portion of cost)	Not at the present time. Effective July 1, 2006, employer will pay 10.1%	\$20,000 excludable if age 55-64; up to \$24,000 excludable if age 65 or older
<b>Connecticut Teachers’ Retirement System</b>	CPI with 3% compounded minimum and 5% max. for retirees prior to 9/01/1992; retire after 9/01/2002 COLA is same as Social Security (compounded).	No – Medicare Yes – Post Retirement Health Care Partially Supplemented.	No	Taxable
<b>Illinois Teachers’ Retirement System</b>	3% compounded annually on January 1 after they turn age 61.	No – Medicare Yes – Post Retirement Health Care	No	Exempt
<b>Kentucky Teachers’ Retirement System</b>	1.5% compounded annually plus ad hoc	Yes – Part A Yes – Post Retirement Health Care	Yes – Employee and Employer pay contributions. New Retirement account is started – 5yr vesting.	Exempt to \$39,400
<b>Louisiana Teachers’ Retirement System</b>	If funds available COLA not to exceed either 2% (simple) or 3% (simple) of CPI depending on investment earnings.	No - Medicare No – Post Retirement Health Care	Yes - Employee and Employer pay contributions. No member benefit, just return of non-interest contributions.	Exempt

**Alternatives to Reduce CalSTRS Unfunded Actuarial Liability  
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**SUPPLEMENTAL INFORMATION**

<b>Teacher Retirement System</b>	<b>COLA or Annual Benefit Adjustment</b>	<b>Medicare Premium</b>	<b>Post Retirement Contributions For Retired Members</b>	<b>State Taxation of Benefit</b>
<b>Maine State Retirement System</b>	Up to 4% annually depending on CPI	Unknown	No	Exempt up to \$6,000
<b>Massachusetts Teachers' Retirement System</b>	Ad Hoc – usually first \$12,000 of allowance eligible for lesser of 3% (simple) COLA or CPI. Maximum of \$360.	No – Medicare No – Post Retirement Health Care although most employers pay a portion of post retirement health care premium (up to 50%).	No	Exempt
<b>Missouri Public School Employees' Retirement System</b>	CPI up to 5% compounded although lifetime COLAs limited to 80% of original benefit	No – Medicare No – Post Retirement Health Care	No as long as retiree works less than 550 hours. If over 550 hours or full time, retirement benefit put on hold and new retirement initiated with contributions. May return full time under exemption but employer pays contributions.	Exempt to \$6,000
<b>Nevada Public Employees' Retirement System</b>	0 to 5% compounded annually depending on years of service.	No – Medicare No – Post Retirement Health Care.	No	No State Income Tax
<b>State Teachers' Retirement System of Ohio</b>	3% simple annually with occasional ad hoc.	Yes – up to 70%-depends on years of service. Yes - Post retirement Health Care	Yes - employer and employee contributions are taken and paid out as either an annuity or lump-sum at age 65.	Tax Credit up \$200
<b>Teacher Retirement System of Texas</b>	Ad hoc d	No – Medicare Yes – Post Retirement Health Care (portion)	No	No State Income Tax