

**Contra Costa Community College District**  
**Actuarial Study of**  
**Unfunded Pension Liabilities Under GASB 73**  
**Roll-forward Valuation**  
**Valuation Date: June 30, 2021**  
**Measurement Date: June 30, 2022**  
**For Fiscal Year-End: June 30, 2022**

*Prepared by:*  
*Total Compensation Systems, Inc.*

*Date: October 3, 2022*

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**Contra Costa Community College District**  
**Actuarial Study of Unfunded Pension Liabilities**

**PART I: EXECUTIVE SUMMARY**

**A. Introduction**

This report was produced by Total Compensation Systems, Inc. for Contra Costa Community College District to determine the liabilities associated with its current unfunded retiree cash benefit plan as of a June 30, 2022 measurement date and to provide the necessary information to determine accounting entries for the fiscal year ending June 30, 2022. This report may not be suitable for other purposes such as determining employer contributions or assessing the potential impact of changes in plan design.

Different users of this report will likely be interested in different sections of information contained within. We anticipate that the following portions may be of most interest depending on the reader:

- A high level comparison of key results from the current year to the prior year is shown on this page.
- The values we anticipate will be disclosed in the June 30, 2022 year-end financials are shown on pages 2 and 3.
- Additional accounting information is shown on page 12 and Appendices C and D.
- Description and details of measured valuation liabilities can be found beginning on page 10.
- Guidance regarding the next actuarial valuation for the June 30, 2023 measurement date is provided on page 13.

**B. Key Results**

Contra Costa CCD uses an Actuarial Measurement Date that is the same as its Fiscal Year-End. This means that these actuarial results measured as of June 30, 2022 will be used directly for the June 30, 2022 Fiscal Year-End.

<b>Key Results</b>	<b>Current Year</b>	<b>Prior Year</b>
	<i>June 30, 2022 Measurement Date for June 30, 2022 Fiscal Year-End</i>	<i>June 30, 2021 Measurement Date for June 30, 2021 Fiscal Year-End</i>
Total Pension Liability (TPL)	\$12,741,875	\$15,089,544
Fiduciary Net Position (FNP)	\$0	\$0
Net Pension Liability (NPL)	\$12,741,875	\$15,089,544
Service Cost ( <i>for year following</i> )	\$456,595	\$653,059
Estimated Pay-as-you-go Cost ( <i>for year following</i> )	\$546,970	\$526,986
GASB 73 Pension Expense ( <i>for year ending</i> )	\$206,239	\$868,646

Refer to results section beginning on page 10 or the glossary on page 25 for descriptions of the above items.

<b>Key Assumptions</b>	<b>Current Year</b>	<b>Prior Year</b>
	<i>June 30, 2022 Measurement Date for June 30, 2022 Fiscal Year-End</i>	<i>June 30, 2021 Measurement Date for June 30, 2021 Fiscal Year-End</i>
Valuation Interest Rate	3.54%	2.16%
Expected Rate of Return on Assets	N/A	N/A
Projected Payroll Growth	2.75%	2.75%

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## C. Summary of GASB 73 Accounting Results

### 1. Changes in Net Pension Liability

The following table shows the reconciliation of the June 30, 2021 Net Pension Liability (NPL) in the prior valuation to the June 30, 2022 NOL. A more detailed version of this table can be found on page 12.

	<i>TPL</i>	<i>FNP</i>	<i>NPL</i>
<b>Balance at June 30, 2021 Measurement Date</b>	<b>\$15,089,544</b>	<b>\$0</b>	<b>\$15,089,544</b>
Service Cost	\$653,059	\$0	\$653,059
Interest on TOL / Return on FNP	\$327,296	\$0	\$327,296
Employer Contributions	\$0	\$526,986	(\$526,986)
Benefit Payments	(\$526,986)	(\$526,986)	\$0
Administrative Expenses	\$0	\$0	\$0
Experience (Gains)/Losses	\$0	\$0	\$0
Changes in Assumptions	(\$2,801,038)	\$0	(\$2,801,038)
Other	\$0	\$0	\$0
Net Change	(\$2,347,669)	\$0	(\$2,347,669)
<b>Actual Balance at June 30, 2022 Measurement Date</b>	<b>\$12,741,875</b>	<b>\$0</b>	<b>\$12,741,875</b>

### 2. Deferred Inflows and Outflows

Changes in the NPL arising from certain sources are recognized on a deferred basis. The following tables show the balance of each deferral item as of the measurement date and the scheduled future recognition. A reconciliation of these balances can be found on page 12 while the complete deferral history is shown beginning on page 22.

<b>Balances at June 30, 2022 Fiscal Year-End</b>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
Differences between expected and actual experience	\$0	(\$3,776,047)
Changes in assumptions	\$3,211,277	(\$6,603,633)
Differences between projected and actual return on assets	\$0	\$0
<b>Total</b>	<b>\$3,211,277</b>	<b>(\$10,379,680)</b>

<b>To be recognized fiscal year ending June 30:</b>	<i>Deferred Outflows</i>	<i>Deferred Inflows</i>
2023	\$437,009	(\$1,211,125)
2024	\$437,009	(\$1,211,125)
2025	\$437,009	(\$1,211,125)
2026	\$437,009	(\$1,211,125)
2027	\$437,009	(\$1,211,125)
Thereafter	\$1,026,232	(\$4,324,055)
<b>Total</b>	<b>\$3,211,277</b>	<b>(\$10,379,680)</b>

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### 3. Pension Expense

Under GASB 73, pension expense includes service cost, interest cost, administrative expenses, and change in TPL due to plan changes, adjusted for deferred inflows and outflows. Pension expense can also be derived as change in net position, adjusted for employer contributions, which can be found on page 12.

<b>To be recognized fiscal year ending June 30, 2022</b>	<i>Expense Component</i>
Service Cost	\$653,059
Interest Cost	\$327,296
Expected Return on Assets	\$0
Administrative Expenses	\$0
Recognition of Experience (Gain)/Loss Deferrals	(\$482,944)
Recognition of Assumption Change Deferrals	(\$291,172)
Recognition of Investment (Gain)/Loss Deferrals	\$0
Employee Contributions	\$0
Changes in Benefit Terms	\$0
<b>Net Pension Expense for fiscal year ending June 30, 2022</b>	<b>\$206,239</b>

\* May include a slight rounding error.

### 4. Adjustments

We are unaware of any adjustments that need to be made.

### 5. Interest Rate Sensitivities

The following presents what the Net Pension Liability would be if it were calculated using a discount rate assumption one percent higher or lower than the current assumption.

<b>Net Pension Liability at June 30, 2022 Measurement Date</b>	<i>Discount Rate</i>
1% Decrease in Assumption	\$14,722,335
Current Assumption	\$12,741,875
1% Increase in Assumption	\$11,336,393

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### D. Description of Retiree Benefits

Following is a description of the current retiree benefit plan:

	<u>Faculty</u>	<u>Classified</u>	<u>Management</u>
Applies to	Hired < 7/1/84	Hired < 7/1/84	Hired < 7/1/84
Benefit types provided	Cash	Cash	Cash
Duration of Benefits	Lifetime	Lifetime	Lifetime
Required Service	10 years	10 years	10 years
Minimum Age	55	50	50/55
College Cap	Kaiser Premium	Kaiser Premium	Kaiser Premium

### E. Summary of Valuation Data

This report is based on census data provided to us as of June, 2021. Distributions of participants by age and service can be found on page 17. The active count below excludes employees for whom it is not possible to receive retiree benefits (e.g. employees who are already older than the maximum age to which benefits are payable or who will not accrue the required service prior to reaching the maximum age).

	<b>Current Year</b>
	<i>June 30, 2021 Valuation Date</i>
	<i>June 30, 2022 Measurement Date</i>
<b>Active Employees eligible for future benefits</b>	
Count	1105
Average Age	49.5
Average Years of Service	11.9
<b>Retirees currently receiving benefits</b>	
Count	35
Average Age	78.1

We were not provided with information about any terminated, vested employees.

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### F. Certification

The actuarial information in this report is intended solely to assist Contra Costa CCD in complying with Governmental Accounting Standards Board Accounting Statement 73 and, unless otherwise stated, fully and fairly discloses actuarial information required for compliance. Nothing in this report should be construed as an accounting opinion, accounting advice or legal advice. TCS recommends that third parties retain their own actuary or other qualified professionals when reviewing this report. TCS's work is prepared solely for the use and benefit of Contra Costa CCD. Release of this report may be subject to provisions of the Agreement between Contra Costa CCD and TCS. No third party recipient of this report product should rely on the report for any purpose other than accounting compliance. Any other use of this report is unauthorized without first consulting with TCS.

This report is for fiscal year July 1, 2021 to June 30, 2022, using a measurement date of June 30, 2022. The calculations in this report have been made based on our understanding of plan provisions and actual practice at the time we were provided the required information. We relied on information provided by Contra Costa CCD. Much or all of this information was unaudited at the time of our evaluation. We reviewed the information provided for reasonableness, but this review should not be viewed as fulfilling any audit requirements. We relied on the following materials to complete this study:

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

All costs, liabilities, and other estimates are based on actuarial assumptions and methods that comply with all applicable Actuarial Standards of Practice (ASOPs). Each assumption is deemed to be reasonable by itself, taking into account plan experience and reasonable future expectations and in combination represent our estimate of anticipated experience of the Plan.

This report contains estimates of the Plan's financial condition and future results only as of a single date. Future results can vary dramatically and the accuracy of estimates contained in this report depends on the actuarial assumptions used. This valuation cannot predict the Plan's future condition nor guarantee its future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. Determining results using alternative assumptions (except for the alternate discount rate shown in this report) is outside the scope of our engagement.

Future actuarial measurements may differ significantly from those presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the measurement methodology (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. We were not asked to perform analyses to estimate the potential range of such future measurements.

The signing actuary is independent of Contra Costa CCD and any plan sponsor. TCS does not intend to benefit from and assumes no duty or liability to other parties who receive this report. TCS is not aware of any relationship that would impair the objectivity of the opinion.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this report is complete and has been prepared in accordance with generally accepted actuarial principles and practices and all applicable Actuarial Standards of Practice. I meet the Qualifications Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

## Total Compensation Systems, Inc.

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Respectfully submitted,

A handwritten signature in blue ink that reads "Will Kane". The signature is written in a cursive, flowing style.

Will Kane, FSA, EA, MAAA  
Actuary  
Total Compensation Systems, Inc.  
(805) 496-1700



## PART II: LIABILITIES AND COSTS FOR RETIREE BENEFITS

### A. Introduction.

We calculated the actuarial present value of projected benefit payments (APVPBP) separately for each participant. We determined eligibility for retiree benefits based on information supplied by Contra Costa CCD. We then selected assumptions that, based on plan provisions and our training and experience, represent our best prediction of future plan experience. For each participant, we applied the appropriate assumption factors based on the participant's age, sex, length of service, and employee classification.

The actuarial assumptions used for this study are summarized beginning on page 14.

### B. Liability for Retiree Benefits.

For each participant, we projected future pension costs. We multiplied each year's benefit payments by the probability that benefits will be paid; i.e. based on the probability that the participant is living, has not terminated employment, has retired and remains eligible. The probability that benefit will be paid is zero if the participant is not eligible. The participant 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 benefit payments and the probability the benefit will be paid equals the expected cost for that year. We multiplied the above expected cost figures by the probability that the retiree would elect coverage. Finally, we discounted the expected cost for each year to the measurement date June 30, 2022 at 3.54% interest.

For any *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 100%).

The value generated from the process described above is called the actuarial present value of projected benefit payments (APVPBP). We added APVPBP for each participant to get the total APVPBP for all participants which is the estimated present value of all future pension benefits for all **current** participants. The APVPBP is the amount on June 30, 2022 that, if all actuarial assumptions are exactly right, would be sufficient to expense all promised benefits until the last participant dies or reaches the maximum eligibility age. However, for most actuarial and accounting purposes, the APVPBP is not used directly but is instead apportioned over the lifetime of each participant as described in the following sections.

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### C. Actuarial Accrual

Accounting principles provide that the cost of retiree benefits should be “accrued” over employees' working lifetime. For this reason, the Governmental Accounting Standards Board (GASB) issued in June of 2015 Accounting Standard 73 for unfunded retiree pension benefits. These standards apply to all public employers that pay any part of the cost of pension benefits for current or future retirees (including early retirees), whether they pay directly or indirectly (via an “implicit rate subsidy”).

To actuarially accrue pension 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 pension 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” and uses the APVPBP to develop expense and liability figures. Furthermore, the APVPBP should be accrued over the working lifetime of employees.

In order to accrue the APVPBP over the working lifetime of employees, actuarial cost methods apportion the APVPBP into two parts: the portions attributable to service rendered prior to the measurement date (the past service liability or Total Pension Liability (TPL) under GASB 73) and to service after the measurement date but prior to retirement (the future service liability or present value of future service costs). Of the future service liability, the portion attributable to the single year immediately following the measurement date is known as the normal cost or Service Cost under GASB 73.

The service cost can be thought of as the value of the benefit earned each year if benefits are accrued during the working lifetime of employees. The actuarial cost method mandated by GASB 73 is the “entry age actuarial cost method”. Under the entry age actuarial cost method, the actuary determines the service cost as the annual amount needing to be expensed from hire until retirement to fully accrue the cost of pension benefits. Under GASB 73, the service cost is calculated to be a level percentage of each employee’s projected pay.

### D. Actuarial Assumptions

The APVPBP and service cost are determined using several key assumptions:

- ***Mortality rates*** varying by age and sex (and sometimes retirement or disability status). If employees die prior to retirement, past contributions are available to fund benefits for employees who live to retirement. After retirement, death results in benefit termination or reduction. Although higher mortality rates reduce service 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 service costs. Employment termination can vary considerably between public agencies.
- The ***service requirement*** reflects years of service required to earn full or partial retiree benefits. While a longer service requirement reduces costs, cost reductions are not usually substantial unless the service period exceeds 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. Retirement rates also depend on the amount of pension benefits available. Higher retirement rates increase service costs but, except for differences in minimum retirement age, retirement rates tend to be consistent between public agencies for each employee type.

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- **Participation rates** indicate what proportion of retirees are expected to elect pension benefits. Higher participation rates increase costs.
- The **discount rate** estimates investment earnings for assets earmarked to cover pension benefit liabilities. The discount rate depends on the nature of underlying assets for funded plans. The rate used for a funded plan is the **real** rate of return expected for plan assets plus the long term inflation assumption. For an unfunded plan, the discount rate is based on an index of 20 year General Obligation municipal bonds rated AA or higher. For partially funded plans, the discount rate is a blend of the funded and unfunded rates.

### **E. Total Pension Liability**

The assumptions listed above are not exhaustive, but are the most common assumptions used in actuarial cost calculations. If all actuarial assumptions are exactly met and an employer expensed the service cost every year for all past and current employees and retirees, a sizeable liability would have accumulated (after adding interest and subtracting retiree benefit costs). The liability that would have accumulated is called the Total Pension Liability (TPL). The excess of TPL over the value of plan assets is called the Net Pension Liability (NPL). Under GASB 73, in order for assets to count toward offsetting the TPL, the assets have to be held in an irrevocable trust that is safe from creditors and can only be used to provide benefits to eligible participants.

Changes in the TPL can arise in several ways - e.g., as a result of plan changes or changes in actuarial assumptions. Change in the TPL can also arise from actuarial gains and losses. Actuarial gains and losses result from differences between actuarial assumptions and actual plan experience. GASB 73 allows certain changes in the TPL to be deferred (i.e. deferred inflows and outflows of resources).

Under GASB 73, a portion of actuarial gains and losses can be deferred as follows:

- Investment gains and losses are deferred five years.
- Experience gains and losses are deferred over the Expected Average Remaining Service Lives (EARSL) of plan participants. In calculating the EARSL, terminated employees (primarily retirees) are considered to have a working lifetime of zero. This often makes the EARSL quite short.
- Liability changes resulting from changes in economic and demographic assumptions are also deferred based on the EARSL.
- Liability changes resulting from plan changes, for example, cannot be deferred.

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### F. Valuation Results

This section details the measured values of the concepts described on the previous pages. Because this is a roll-forward valuation, the results shown in this section do not match the overall results as of the measurement date.

#### 1. Actuarial Present Value of Projected Benefit Payments (APVPBP)

##### **Actuarial Present Value of Projected Benefit Payments as of June 30, 2021 Valuation Date**

	<i><b>Total</b></i>	<i><b>Certificated</b></i>	<i><b>Classified</b></i>	<i><b>Management</b></i>
Active: Pre-65 Benefit	\$964,194	\$407,620	\$425,208	\$131,366
Post-65 Benefit	\$8,528,155	\$4,025,304	\$3,463,768	\$1,039,083
Subtotal	\$9,492,349	\$4,432,924	\$3,888,976	\$1,170,449
Retiree: Pre-65 Benefit	\$76,094	\$0	\$54,516	\$21,578
Post-65 Benefit	\$7,173,765	\$2,938,345	\$2,691,009	\$1,544,411
Subtotal	\$7,249,859	\$2,938,345	\$2,745,525	\$1,565,989
Grand Total	\$16,742,208	\$7,371,269	\$6,634,501	\$2,736,438
Subtotal Pre-65 Benefit	\$1,040,288	\$407,620	\$479,724	\$152,944
Subtotal Post-65 Benefit	\$15,701,920	\$6,963,649	\$6,154,777	\$2,583,494

#### 2. Service Cost

The service cost represents the value of the benefit earned during a single year of employment. It is the APVPBP spread over the expected working lifetime of the employee and divided into annual segments. We applied an "entry age" actuarial cost method to determine funding rates for active employees. The table below summarizes the calculated service cost.

##### **Service Cost Valuation Year Beginning July 1, 2021**

	<i><b>Total</b></i>	<i><b>Certificated</b></i>	<i><b>Classified</b></i>	<i><b>Management</b></i>
# of Eligible Employees	1,105	474	489	142
<b>First Year Service Cost</b>				
Pre-65 Benefit	\$41,202	\$18,486	\$17,604	\$5,112
Post-65 Benefit	\$403,173	\$186,756	\$168,705	\$47,712
Total	\$444,375	\$205,242	\$186,309	\$52,824

Accruing pension costs using service costs levels out the cost of pension benefits over time and more fairly reflects the value of benefits "earned" each year by employees. While the service cost for each employee is targeted to remain level as a percentage of covered payroll, the service cost as a dollar amount would increase each year based on covered payroll. Additionally, the overall service cost may grow or shrink based on changes in the demographic makeup of the employees from year to year.

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### 3. Total Pension Liability and Net Pension Liability

If actuarial assumptions are borne out by experience, the District will fully accrue retiree benefits by expensing an amount each year that equals the service cost. If no accruals had taken place in the past, there would be a shortfall of many years' accruals, accumulated interest and forfeitures for terminated or deceased employees. This shortfall is called the Total Pension Liability. We calculated the Total Pension Liability (TPL) as the APVPBP minus the present value of future service costs.

#### Total Pension Liability and Net Pension Liability as of June 30, 2021 Valuation Date

	<i>Total</i>	<i>Certificated</i>	<i>Classified</i>	<i>Management</i>
Active: Pre-65 Benefit	522,933	\$204,366	\$240,671	\$77,896
Active: Post-65 Benefit	\$4,724,398	\$2,124,150	\$2,011,197	\$589,051
Subtotal	\$5,247,331	\$2,328,516	\$2,251,868	\$666,947
Retiree: Pre-65 Benefit	\$76,094	\$0	\$54,516	\$21,578
Retiree: Post-65 Benefit	\$7,173,765	\$2,938,345	\$2,691,009	\$1,544,411
Subtotal	\$7,249,859	\$2,938,345	\$2,745,525	\$1,565,989
Subtotal: Pre-65 Benefit	\$599,027	\$204,366	\$295,187	\$99,474
Subtotal: Post-65 Benefit	\$11,898,163	\$5,062,495	\$4,702,206	\$2,133,462
Total Pension Liability (TPL)	\$12,497,190	\$5,266,861	\$4,997,393	\$2,232,936
Fiduciary Net Position as of June 30, 2021	\$0			
Net Pension Liability (NPL)	\$12,497,190			

### 4. "Pay As You Go" Projection of Retiree Benefit Payments

We used the actuarial assumptions shown in Appendix C to project the District's ten year retiree benefit outlay. Because these cost estimates reflect average assumptions applied to a relatively small number of participants, estimates for individual years are **certain** to be **inaccurate**. However, these estimates show the size of cash outflow.

The following table shows a projection of annual amounts needed to pay the District's share of pension costs.

<i>Year Beginning</i>	<i>Total</i>	<i>Certificated</i>	<i>Classified</i>	<i>Management</i>
<i>July 1</i>				
2021	\$526,986	\$246,624	\$181,287	\$99,075
2022	\$546,970	\$255,340	\$190,529	\$101,101
2023	\$564,530	\$261,429	\$200,010	\$103,091
2024	\$586,050	\$265,680	\$209,265	\$111,105
2025	\$599,154	\$268,529	\$217,887	\$112,738
2026	\$611,890	\$271,261	\$226,695	\$113,934
2027	\$623,379	\$272,626	\$235,312	\$115,441
2028	\$633,325	\$273,988	\$243,116	\$116,221
2029	\$642,508	\$274,719	\$250,793	\$116,996
2030	\$649,748	\$274,688	\$257,588	\$117,472

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### G. Additional Reconciliation of GASB 73 Results

The following table shows the reconciliation of the June 30, 2021 Net Pension Liability (NPL) in the prior valuation to the June 30, 2022 NPL. For some plans, it will provide additional detail and transparency beyond that shown in the table on Page 2.

	<i>TPL</i>	<i>FNP</i>	<i>NPL</i>
<b>Balance at June 30, 2021</b>	<b>\$15,089,544</b>	<b>\$0</b>	<b>\$15,089,544</b>
Service Cost	\$653,059	\$0	\$653,059
Interest on Total Pension Liability	\$327,296	\$0	\$327,296
Expected Investment Income	\$0	\$0	\$0
Administrative Expenses	\$0	\$0	\$0
Employee Contributions	\$0	\$0	\$0
Employer Contributions to Trust	\$0	\$0	\$0
Employer Contributions as Benefit Payments	\$0	\$526,986	(\$526,986)
Benefit Payments from Trust	\$0	\$0	\$0
Expected Benefit Payments from Employer	(\$526,986)	(\$526,986)	\$0
<b>Expected Balance at June 30, 2022</b>	<b>\$15,542,913</b>	<b>\$0</b>	<b>\$15,542,913</b>
Experience (Gains)/Losses	\$0	\$0	\$0
Changes in Assumptions	(\$2,801,038)	\$0	(\$2,801,038)
Changes in Benefit Terms	\$0	\$0	\$0
Investment Gains/(Losses)	\$0	\$0	\$0
Other	\$0	\$0	\$0
Net Change during 2022	(\$2,347,669)	\$0	(\$2,347,669)
<b>Actual Balance at June 30, 2022*</b>	<b>\$12,741,875</b>	<b>\$0</b>	<b>\$12,741,875</b>

\* May include a slight rounding error.

Changes in the NOL arising from certain sources are recognized on a deferred basis. The deferral history for Contra Costa CCD is shown beginning on page 22. The following table summarizes the beginning and ending balances for each deferral item. The current year expense reflects the change in deferral balances for the measurement year.

### **Deferred Inflow/Outflow Balances Fiscal Year Ending June 30, 2022**

	<i>Beginning Balance</i>	<i>Change Due to New Deferrals</i>	<i>Change Due to Recognition</i>	<i>Ending Balance</i>
Experience (Gains)/Losses	(\$4,258,991)	\$0	\$482,944	(\$3,776,047)
Assumption Changes	(\$882,490)	(\$2,801,038)	\$291,172	(\$3,392,356)
Investment (Gains)/Losses	\$0	\$0	\$0	\$0
Deferred Balances	(\$5,141,481)	(\$2,801,038)	\$774,116	(\$7,168,403)

The following table shows the reconciliation of Net Position (NPL less the balance of any deferred inflows or outflows). When adjusted for contributions, the change in Net Position is equal to the Pension expense shown previously on page 3.

### **Pension Expense Fiscal Year Ending June 30, 2022**

	<i>Beginning Net Position</i>	<i>Ending Net Position</i>	<i>Change</i>
Net Pension Liability (NPL)	\$15,089,544	\$12,741,875	(\$2,347,669)
Deferred Balances	(\$5,141,481)	(\$7,168,403)	(\$2,026,922)
Net Position	\$20,231,025	\$19,910,278	(\$320,747)
Adjust Out Employer Contributions			\$526,986
Pension Expense			\$206,239

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### H. Procedures for Future Valuations

GASB 73 requires annual measurements of liability with a full actuarial valuation required every two years. This means that for the measurement date one year following a full actuarial valuation, a streamlined “roll-forward” valuation may be performed in place of a full valuation. The following outlines the key differences between full and roll-forward valuations.

	Full Actuarial Valuation	Roll-Forward Valuation
Collect New Census Data	Yes	No
Reflect Updates to Plan Design	Yes	No
Update Actuarial Assumptions	Yes	Typically Not
Update Valuation Interest Rate	Yes	Yes
Actual Assets as of Measurement Date	Yes	Yes
Timing	4-6 weeks after information is received	1-2 weeks after information is received
Fees	Full	Reduced
Information Needed from Employer	Moderate	Minimal
Required Frequency	At least every two years	Each year, unless a full valuation is performed

The majority of employers use an alternating cycle of a full valuation one year followed by a roll-forward valuation the next year. However, a full valuation may be required or preferred under certain circumstances. Following are examples of actions that could cause the employer to consider a full valuation instead of a roll-forward valuation.

- The employer considers or puts in place an early retirement incentive program.
- The employer considers or implements changes to retiree benefit provisions or eligibility requirements.
- The employer desires the measured liability to incorporate more recent census data or assumptions.
- The employer forms a qualifying trust or changes its investment policy.
- The employer adds or terminates a group of participants that constitutes a significant part of the covered group.

We anticipate that the next valuation we perform for Contra Costa CCD will be a full valuation with a measurement date of June 30, 2023 which will be used for the fiscal year ending June 30, 2023.

### PART III: ACTUARIAL ASSUMPTIONS AND METHODS

Following is a summary of actuarial assumptions and methods used in this study. The District should carefully review these assumptions and methods to make sure they reflect the District's assessment of its underlying experience. It is important for Contra Costa CCD to understand that the appropriateness of all selected actuarial assumptions and methods are Contra Costa 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 73, applicable actuarial standards of practice, Contra Costa CCD's actual historical experience, and TCS's judgment based on experience and training.

#### **A. ACTUARIAL METHODS AND ASSUMPTIONS:**

*ACTUARIAL COST METHOD:* GASB 73 requires use of the entry age actuarial cost method.

Entry age is based on the age at hire for eligible employees. The attribution period is determined as the difference between the expected retirement age and the age at hire. The APVPBP and present value of future service costs are determined on a participant by participant basis and then aggregated.



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### **B. 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 2.50% per year used for pension purposes.

INVESTMENT RETURN / DISCOUNT RATE: We assumed 3.54% per year net of expenses. This is based on the Bond Buyer 20 Bond Index.

PAYROLL INCREASE: We assumed 2.75% per year.

## Total Compensation Systems, Inc.

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### **C. NON-ECONOMIC ASSUMPTIONS:**

Economic assumptions are set under the guidance of Actuarial Standard of Practice 35 (ASOP 35). See Appendix C, Paragraph 52 for more information.

#### ***MORTALITY***

<b><i>Participant Type</i></b>	<b><i>Mortality Tables</i></b>
Certificated	2020 CalSTRS Mortality
Classified	2017 CalPERS Mortality for Miscellaneous and Schools Employees

#### ***RETIREMENT RATES***

<b><i>Employee Type</i></b>	<b><i>Retirement Rate Tables</i></b>
Certificated	Hired 2012 and earlier: 2020 CalSTRS 2.0% @60 Rates Hired 2013 and later: 2020 CalSTRS 2.0% @62 Rates
Classified	Hired 2012 and earlier: 2017 CalPERS 2.0% @55 Rates for Schools Employees Hired 2013 and later: 2017 CalPERS 2.0% @62 Rates for Schools Employees
Management	Hired 2012 and earlier: 2017 CalPERS 2.0% @55 Rates for Schools Employees Hired 2013 and later: 2017 CalPERS 2.0% @62 Rates for Schools Employees

#### ***PARTICIPATION RATES***

<b><i>Employee Type</i></b>	<b><i>&lt;65 Non-Medicare Participation %</i></b>	<b><i>65+ Medicare Participation %</i></b>
Certificated	3%	3%
Classified	3%	3%

#### ***TURNOVER***

<b><i>Employee Type</i></b>	<b><i>Turnover Rate Tables</i></b>
Certificated	2020 CalSTRS Termination Rates
Classified	2017 CalPERS Termination Rates for School Employees

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### PART IV: APPENDICES

#### APPENDIX A: DEMOGRAPHIC DATA BY AGE

##### **ELIGIBLE ACTIVE EMPLOYEES BY AGE AND EMPLOYEE CLASS**

<i>Age</i>	<i>Total</i>	<i>Certificated</i>	<i>Classified</i>	<i>Management</i>
Under 25	6	0	6	0
25 – 29	33	4	29	0
30 – 34	76	29	40	7
35 – 39	136	72	52	12
40 – 44	153	68	60	25
45 – 49	160	70	63	27
50 – 54	163	66	71	26
55 – 59	165	69	71	25
60 – 64	115	48	57	10
65 and older	98	48	40	10
Total	1105	474	489	142

##### **ELIGIBLE ACTIVE EMPLOYEES BY AGE AND SERVICE**

	<i>Under 5</i>	<i>5 – 9</i>	<i>10 – 14</i>	<i>15 – 19</i>	<i>20 – 24</i>	<i>25 – 29</i>	<i>30 – 34</i>	<i>Over 34</i>
	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>	<i>Years of</i>
<i>Total</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>	<i>Service</i>
Under 25	6	6						
25 – 29	33	29	4					
30 – 34	76	48	26	1	1			
35 – 39	136	69	51	13	3			
40 – 44	153	59	36	35	20	3		
45 – 49	160	47	36	36	28	9	4	
50 – 54	163	36	34	34	34	17	7	1
55 – 59	165	22	24	33	28	30	15	11
60 – 64	115	12	14	21	20	21	13	10
65 and older	98	9	6	25	10	16	12	13
Total	1105	337	231	198	144	96	51	35

##### **ELIGIBLE RETIREES BY AGE AND EMPLOYEE CLASS**

<i>Age</i>	<i>Total</i>	<i>Certificated</i>	<i>Classified</i>	<i>Management</i>
Under 50	0	0	0	0
50 – 54	0	0	0	0
55 – 59	0	0	0	0
60 – 64	2	0	1	1
65 – 69	2	1	1	0
70 – 74	9	1	5	3
75 – 79	7	3	3	1
80 – 84	8	4	2	2
85 – 89	5	3	1	1
90 and older	2	2	0	0
Total	35	14	13	8

### **APPENDIX B: ADMINISTRATIVE BEST PRACTICES**

It is outside the scope of this report to make specific recommendations of actions Contra Costa CCD should take to manage the liability created by the current pension program. The following items are intended only to allow the District to get more information from this and future studies. Because we have not conducted a comprehensive administrative audit of Contra Costa CCD's practices, it is possible that Contra Costa CCD is already complying with some or all of these suggestions.

- We suggest that Contra Costa CCD maintain an inventory of all benefits and services provided to retirees – whether contractually or not and whether retiree-paid or not. For each, Contra Costa CCD should determine whether the benefit is material and subject to GASB 73.
- Contra Costa CCD should establish a way of designating employees as eligible or ineligible for future pension 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 District-paid pension benefits; employees who exceed the termination age for pension benefits, etc.
- Several assumptions were made in estimating costs and liabilities under Contra Costa CCD's pension program. Further studies may be desired to validate any assumptions where there is any doubt that the assumption is appropriate. (See Part III of this report for a summary of assumptions.) For example, Contra Costa 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 Contra Costa CCD to maintain employment termination information – namely, the number of pension-eligible employees in each employee class that terminate employment each year for reasons other than death, disability or retirement.

# Total Compensation Systems, Inc.

## **APPENDIX C: GASB 73 ACCOUNTING ENTRIES AND DISCLOSURES**

This report does not necessarily include the entire accounting values. As mentioned earlier, there are certain deferred items that are employer-specific. The District should consult with its auditor if there are any questions about what, if any, adjustments may be appropriate.

GASB 73 includes a large number of items that should be included in the Note Disclosures and Required Supplementary Information (RSI) Schedules. Many of these items are outside the scope of the actuarial valuation. However, following is information to assist the District in complying with GASB 73 disclosure requirements:

### **Paragraph 41: Information about the Pension Plan**

Most of the information about the pension plan should be supplied by Contra Costa CCD. Following is information to help fulfill Paragraph 41 reporting requirements.

41.c: Following is a table of plan participants

	Number of Participants
Inactive Employees Currently Receiving Benefit Payments	35
Inactive Employees Entitled to But Not Yet Receiving Benefit Payments*	0
Participating Active Employees	1105
Total Number of participants	1140

\*We were not provided with information about any terminated, vested employees

### **Paragraph 42: Information Related to Assumptions and Other Inputs**

The following information is intended to assist Contra Costa CCD in complying with the requirements of Paragraph 42.

42.b: Mortality Assumptions Following are the tables the mortality assumptions are based upon. Inasmuch as these tables are based on appropriate populations, and that these tables are used for pension purposes, we believe these tables to be the most appropriate for the valuation.

Mortality Table	2017 CalPERS Mortality for Miscellaneous and Schools Employees
Disclosure	The mortality assumptions are based on the 2017 CalPERS Mortality for Miscellaneous and Schools Employees table created by CalPERS. CalPERS periodically studies mortality for participating agencies and establishes mortality tables that are modified versions of commonly used tables. This table incorporates mortality projection as deemed appropriate based on CalPERS analysis.

  

Mortality Table	2020 CalSTRS Mortality
Disclosure	The mortality assumptions are based on the 2020 CalSTRS Mortality table created by CalSTRS. CalSTRS periodically studies mortality for participating agencies and establishes mortality tables that are modified versions of commonly used tables. This table incorporates mortality projection as deemed appropriate based on CalSTRS analysis.

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Mortality Table	2017 CalPERS Retiree Mortality for Miscellaneous and Schools Employees
Disclosure	The mortality assumptions are based on the 2017 CalPERS Retiree Mortality for Miscellaneous and Schools Employees table created by CalPERS. CalPERS periodically studies mortality for participating agencies and establishes mortality tables that are modified versions of commonly used tables. This table incorporates mortality projection as deemed appropriate based on CalPERS analysis.

42.c: Experience Studies Following are the tables the retirement and turnover assumptions are based upon. Inasmuch as these tables are based on appropriate populations, and that these tables are used for pension purposes, we believe these tables to be the most appropriate for the valuation.

### Retirement Tables

Retirement Table	2017 CalPERS 2.0% @62 Rates for Schools Employees
Disclosure	The retirement assumptions are based on the 2017 CalPERS 2.0% @62 Rates for Schools Employees table created by CalPERS. CalPERS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

Retirement Table	2020 CalSTRS 2.0% @62 Rates
Disclosure	The retirement assumptions are based on the 2020 CalSTRS 2.0% @62 Rates table created by CalSTRS. CalSTRS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

Retirement Table	2009 CalSTRS Retirement Rates
Disclosure	The retirement assumptions are based on the 2009 CalSTRS Retirement Rates table created by CalSTRS. CalSTRS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

Retirement Table	2009 CalPERS Retirement Rates for School Employees
Disclosure	The retirement assumptions are based on the 2009 CalPERS Retirement Rates for School Employees table created by CalPERS. CalPERS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

### Turnover Tables

Turnover Table	2017 CalPERS Termination Rates for School Employees
Disclosure	The turnover assumptions are based on the 2017 CalPERS Termination Rates for School Employees table created by CalPERS. CalPERS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

## Total Compensation Systems, Inc.

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Turnover Table	2020 CalSTRS Termination Rates
Disclosure	The turnover assumptions are based on the 2020 CalSTRS Termination Rates table created by CalSTRS. CalSTRS periodically studies the experience for participating agencies and establishes tables that are appropriate for each pool.

For other assumptions, we use actual plan provisions and plan data.

42.d: The alternative measurement method was not used in this valuation.

**Paragraph 43:**      **Changes in the Total Pension Liability**

Please see reconciliation on pages 2 or 12.

**Paragraph 44:**      **Additional Total Pension Liability Information**

The following information is intended to assist Contra Costa CCD to comply with Paragraph 44 requirements.

56.a: The valuation date is June 30, 2021.

The measurement date is June 30, 2022.

56.b: We are not aware of a special funding arrangement.

56.c: The interest assumption changed from 2.16% to 3.54%.

56.d: There were no changes in benefit terms since the prior measurement date.

56.e: Not applicable

56.f: To be determined by the employer

56.g: To be determined by the employer

56.h: Other than contributions after the measurement, all deferred inflow and outflow balances are shown on page 12 and in Appendix D

56.i: Future recognition of deferred inflows and outflows is shown in Appendix D

**Paragraph 45:**      **Required Supplementary Information**

57.a: Please see reconciliation on pages 2 or 12. Please see the notes for Paragraph 124 below for more information.

57.b: These items are provided on pages 2 and 12 for the current valuation, except for covered payroll, which should be determined based on appropriate methods.

57.c: We have not been asked to calculate an actuarially determined contribution amount. We assume the District contributes on an ad hoc basis, but in an amount sufficient to fully fund the obligation over a period not to exceed 28 years.

57.d: We are not aware that there are any statutorily or contractually established contribution requirements.

**Paragraph 124:**      **Transition Option**

Prior periods were not restated due to the fact that prior valuations were not rerun in accordance with GASB 73. It was determined that the time and expense necessary to rerun prior valuations and to restate prior financial statements was not justified.

## Total Compensation Systems, Inc.

### APPENDIX D: DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES

#### EXPERIENCE GAINS AND LOSSES

#### Increase (Decrease) in Pension Expense Arising from the Recognition of Effects of Experience Gains and Losses (Measurement Periods)

Measurement Period	Experience (Gain)/Loss	Original Recognition Period (Years)	Amounts Recognized in Pension Expense through 2021	2022	Amounts to be Recognized in Pension Expense after 2022	2023	2024	2025	2026	2027	Thereafter
2018-19	(\$2,593,954)	10.5	(\$741,132)	(\$247,044)	(\$1,605,778)	(\$247,044)	(\$247,044)	(\$247,044)	(\$247,044)	(\$247,044)	(\$370,558)
2020-21	(\$2,642,069)	11.2	(\$235,900)	(\$235,900)	(\$2,170,269)	(\$235,900)	(\$235,900)	(\$235,900)	(\$235,900)	(\$235,900)	(\$990,769)
2021-22	\$0	0	\$0	\$0	\$0						
Net Increase (Decrease) in Pension Expense			(\$977,032)	(\$482,944)	(\$3,776,047)	(\$482,944)	(\$482,944)	(\$482,944)	(\$482,944)	(\$482,944)	(\$1,361,327)



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### CHANGES OF ASSUMPTIONS

#### Increase (Decrease) in Pension Expense Arising from the Recognition of Effects of Changes of Assumptions (Measurement Periods)

Measurement Period	Changes of Assumptions	Original Recognition Period (Years)	Amounts Recognized in Pension Expense through 2021	2022	Amounts to be Recognized in Pension Expense after 2022	2023	2024	2025	2026	2027	Thereafter
2017-18	(\$881,562)	10.2	(\$345,712)	(\$86,428)	(\$449,422)	(\$86,428)	(\$86,428)	(\$86,428)	(\$86,428)	(\$86,428)	(\$17,282)
2018-19	\$695,880	10.5	\$198,825	\$66,275	\$430,780	\$66,275	\$66,275	\$66,275	\$66,275	\$66,275	\$99,405
2019-20	\$3,892,699	10.5	\$741,468	\$370,734	\$2,780,497	\$370,734	\$370,734	\$370,734	\$370,734	\$370,734	\$926,827
2020-21	(\$4,386,586)	11.2	(\$391,660)	(\$391,660)	(\$3,603,266)	(\$391,660)	(\$391,660)	(\$391,660)	(\$391,660)	(\$391,660)	(\$1,644,966)
2021-22	(\$2,801,038)	11.2	\$0	(\$250,093)	(\$2,550,945)	(\$250,093)	(\$250,093)	(\$250,093)	(\$250,093)	(\$250,093)	(\$1,300,480)
Net Increase (Decrease) in Pension Expense			<b>\$202,921</b>	<b>(\$291,172)</b>	<b>(\$3,392,356)</b>	<b>(\$291,172)</b>	<b>(\$291,172)</b>	<b>(\$291,172)</b>	<b>(\$291,172)</b>	<b>(\$291,172)</b>	<b>(\$1,936,496)</b>

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INVESTMENT GAINS AND LOSSES

Increase (Decrease) in Pension Expense Arising from the Recognition of Effects of Investment Gains and Losses (Measurement Periods)											
Measurement Period	Investment (Gain)/Loss	Original Recognition Period (Years)	Amounts Recognized in Pension Expense through 2021	2022	Amounts to be Recognized in Pension Expense after 2022	2023	2024	2025	2026	2027	Thereafter
2021-22	\$0	0	\$0	\$0	\$0						
Net Increase (Decrease) in Pension Expense			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

## APPENDIX E: GLOSSARY OF PENSION VALUATION TERMS

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

<u>Actuarial Cost Method:</u>	A mathematical model for allocating pension costs by year of service. The only actuarial cost method allowed under GASB 73 is the entry age actuarial cost method.
<u>Actuarial Present Value of Projected Benefit Payments:</u>	The projected amount of all pension benefits to be paid to current and future retirees discounted back to the valuation or measurement date.
<u>Deferred Inflows/Outflows of Resources:</u>	A portion of certain items that can be deferred to future periods or that weren't reflected in the valuation. The former includes investment gains/losses, actuarial gains/losses, and gains/losses due to changes in actuarial assumptions or methods. The latter includes contributions made to a trust subsequent to the measurement date but before the statement date.
<u>Discount Rate:</u>	Assumed investment return net of all investment expenses. Generally, a higher assumed interest rate leads to lower service costs and total pension liability.
<u>Fiduciary Net Position:</u>	Net assets (liability) of a qualifying pension "plan" (i.e. qualifying irrevocable trust or equivalent arrangement).
<u>Measurement Date:</u>	The date at which assets and liabilities are determined in order to estimate TOL and NOL.
<u>Mortality Rate:</u>	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.
<u>Net Pension Liability (NPL):</u>	The Total Pension Liability minus the Fiduciary Net Position.
<u>Pension Expense:</u>	This is the amount employers must recognize as an expense each year. The annual pension expense is equal to the Service Cost plus interest on the Total Pension Liability (TOL) plus change in TOL due to plan changes minus projected investment income; all adjusted to reflect deferred inflows and outflows of resources.
<u>Participation Rate:</u>	The proportion of retirees who elect to receive retiree benefits. A lower participation rate results in lower service cost and a TOL.
<u>Pay As You Go Cost:</u>	The projected benefit payments to retirees in a given year as estimated by the actuarial valuation. Actual benefit payments are likely to differ from these estimated amounts. For pension plans that do not pre-fund through an irrevocable trust, the Pay As You Go Cost serves as an estimated amount to budget for annual pension payments.
<u>Retirement Rate:</u>	The proportion of active employees who retire each year. Retirement rates are

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usually based on age and/or length of service. (Retirement rates can be used in conjunction with the service requirement to reflect both age and length of service). The more likely employees are to retire early, the higher service costs and actuarial accrued liability will be.

Service Cost:

The annual dollar value of the “earned” portion of pension benefits if pension benefits are to be fully accrued at retirement.

Service Requirement:

The proportion of retiree benefits payable under the pension plan, based on length of service and, sometimes, age. A shorter service requirement increases service costs and TPL.

Total Pension Liability (TPL):

The amount of the actuarial present value of projected benefit payments attributable to participants’ past service based on the actuarial cost method used.

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 service costs and TOL.

Valuation Date:

The date as of which the pension obligation is determined by means of an actuarial valuation. Under GASB 73, the valuation date does not have to coincide with the statement date, but can’t be more than 30 months prior.