Attachment 2

University of California Public Employees' Retirement System Voluntary Early Retirement Incentive Program

Actuarial Valuation and Review

As of July 1, 2024

Segal

Segal

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October 28, 2024

Cheryl Lloyd
Vice President, Human Resources
University of California, Office of the President
1111 Franklin Street, 10th Floor
Oakland, California 94607

Dear Vice President Lloyd:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2024 for the University of California-Public Employees' Retirement System Voluntary Early Retirement Incentive Program ("UC PERS Plus 5 Plan" or "UC-VERIP" or "the Plan"). It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for fiscal year 2024-2025 and determines the funded ratio for purposes of the July 1, 2025 annual COLA.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the University of California to assist in administering the Plan. The census information and financial information on which our calculations were based was prepared by the UC HR Staff. That assistance is gratefully acknowledged.

Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. To the extent we can, however, Segal does review the data for reasonableness and consistency. Based on our review of the data, we have no reason to doubt the substantial accuracy of the information on which we have based this report and we have no reason to believe there are facts or circumstances that would affect the validity of these results.

The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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 methodology used for these measurements; and changes in plan provisions or applicable law.

The actuarial calculations were directed under the supervision of Eva Yum, FSA, MAAA, Enrolled Actuary. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the

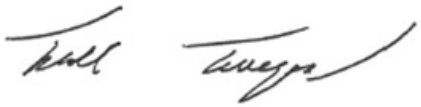
actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The assumptions used in this actuarial valuation were selected by the Regents based upon our analysis and recommendations. In our opinion, the assumptions are reasonable and take into account the experience of the Plan and reasonable expectations. In addition, in our opinion, the combined effect of these assumptions is expected to have no significant bias.

Segal makes no representation or warranty as to the future status of the Plan and does not guarantee any particular result. This document does not constitute legal, tax, accounting or investment advice or create or imply a fiduciary relationship. The Regents are encouraged to discuss any issues raised in this report with the Plan's legal, tax and other advisors before taking, or refraining from taking, any action.

We look forward to reviewing this report at the November 2024 Regents meeting and to answering any questions.

Sincerely,

Segal



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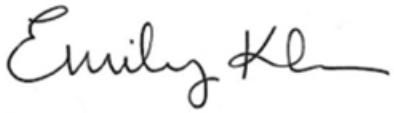

Emily Klare, ASA, MAAA, EA
Senior Actuary

JT/jl

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Section 1: Actuarial Valuation Summary

Purpose and basis

This report has been prepared by Segal to present a valuation of the University of California PERS Plus 5 Plan – University of California Voluntary Early Retirement Incentive Program ("UC PERS Plus 5 Plan" or "UC-VERIP" or "the Plan") as of July 1, 2024 for eligible employees with PERS membership related to employment at the University. The UC PERS Plus 5 Plan, established in 1991, is a frozen plan covering a closed group of members, all of whom are in retirement status. The valuation was performed to determine whether the assets and contributions (if applicable) are sufficient to provide the prescribed benefits.

The contribution requirements presented in this report are based on:

- The benefit provisions of the UC-VERIP;
- The characteristics of retired members and beneficiaries as of July 1, 2024, provided by the UC HR Staff;
- The assets of the Plan as of June 30, 2024, provided by the UC Finance staff;
- Economic assumptions regarding future investment earnings adopted by the Regents for the July 1, 2024 valuation; and
- Other actuarial assumptions regarding death and administrative expenses, etc. adopted by the Regents for the July 1, 2024 valuation.

Certain disclosure information required by Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 as of June 30, 2024 is provided in a separate report.

Valuation highlights

Contributions

1. The Plan covers a closed group of retired members. Because no additional benefits will accrue, the Plan has no normal cost. Moreover, because the Plan has an overfunded actuarial accrued liability, the Actuarially Determined Contribution (ADC) for the University is $0 for the 2024–2025 Plan Year.

2. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies contributions that are ultimately enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance of that liability. Given the current funding status of the Plan, no contributions have been required for several years and the Plan meets this standard.

Assets

3. The market value of assets increased from $68.0 million as of July 1, 2023 to $74.7 million as of July 1, 2024. For this plan, the actuarial value of assets is set equal to the market value of assets.
4. During the 2023–2024 Plan Year, the rate of return on the market value of assets was approximately 14.2% as shown in *Section 2, Subsection C* on page 18. The rate of return on the actuarial value of assets was also 14.2%. This resulted in an actuarial gain when compared to the assumed rate of return of 6.75% for the 2023–2024 Plan Year (based on the July 1, 2023 valuation).
5. The actuarial valuation report as of July 1, 2024 is based on financial information as of June 30, 2024. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the Plan, while increases will decrease the actuarial cost of the Plan.

Actuarial experience

6. The net actuarial gain of $5.1 million, or 35.6% of Actuarial Accrued Liability (AAL), is due to an investment gain of $5.0 million, or 34.9% of AAL, and a net gain from sources other than investments of $0.1 million, or 0.7% of the AAL.

Funded ratio

7. The Plan's funded ratio for valuation purposes (the ratio of the actuarial value of assets to actuarial accrued liability; herein referred to as the "funded ratio") has been determined as of the current valuation date and includes all future assumed 2% annual cost-of-living adjustments (COLAs) in the calculation of the actuarial accrued liability. For purposes of granting an annual COLA as of July 1, 2025, an additional funded ratio has been developed that does not include any future annual COLAs in the calculation of the actuarial accrued liability. This additional funded ratio is herein referred to as the "funded ratio for COLA purposes."

8. The funded ratio increased from 421.4% as of July 1, 2023 to 523.1% as of July 1, 2024, due to the reasons noted in item 6 above. This ratio is one measure of funding status, and its history is a measure of funding progress. This measurement is not necessarily appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for, or the amount of, future contributions. The Plan is in an overfunded position as the actuarial value of assets exceeds the actuarial accrued liability by $60.4 million. A history of the Plan's funded ratio is shown in *Section 2, Subsection F* starting on page 21.

COLA test for 2024

9. The Plan's funded ratio for COLA purposes as of July 1, 2024 is 567.9% as shown on page 9. Since this ratio is greater than 100%, it is our understanding that a July 1, 2025 COLA can be granted in a percentage equal to that determined under the University of California Retirement Plan (UCRP) formula for UCRP annuitants whose retirement income commenced July 2, 1991 through and including July 1, 1992.

Future expectations

10. Plan assets exceed liabilities by $60.4 million. Since the Plan covers only retired members and beneficiaries, the Plan's current assets along with future assumed investment returns are expected to be sufficient to fund all expected future Plan benefit payments based on current Plan provisions (including all future assumed 2% annual COLAs that have been reflected in this valuation as noted earlier). Therefore, no future contributions are expected to be necessary. Furthermore, the funded ratio is expected to remain well above 100% assuming there are no future significant actuarial losses. Based on projections under the current actuarial assumptions, it is estimated that the Plan will be paying benefits through 2082.

Demographic experience

11. The Plan has 267 retired members and beneficiaries currently receiving benefits, a decrease of 29 from 2023. Total annual benefits in pay status as of July 1, 2024 was $2.7 million. Additional demographic information can be found in *Section 3, Exhibit A* on page 26.

Risk

12. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2024. The Plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Segal is available to prepare projections of potential outcomes of market conditions and other demographic experience upon request.

13. Because the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. While we have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Plan's future financial condition, we have included a brief discussion of some risks that may affect the Plan in *Section 2, Subsection G*, beginning on page 23. This discussion of risks is included to satisfy the disclosures required by the Actuarial Standard of Practice No. 51 (ASOP 51).

14. The risk assessment in *Section 2, Subsection G* also includes the disclosure of a "Low-Default-Risk Obligation Measure" (LDROM). This disclosure, along with commentary on the significance of the LDROM, is a requirement under Actuarial Standard of Practice No. 4 (ASOP 4) for all pension funding actuarial valuation reports and can be found beginning on page 24.

GASB

15. This report constitutes an actuarial valuation for the purpose of determining the ADC under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability and Pension Expense under GASB Statements No. 67 and No. 68, for inclusion in the Plan's and employer's financial statements as of June 30, 2024, will be provided separately. The accounting disclosures will utilize different methodologies from those employed in the funding valuation, as required by the GASB. However, the ADC in this valuation is expected to be used as the ADC for GASB financial reporting.

Summary of key valuation results

Valuation Results as of July 1

Line Description	2024	2023
University contribution		
• Actuarially determined contribution	$0	$0
Actuarial accrued liability		
• Actuarial Accrued Liability (AAL)[1,2]	$14,284,621	$16,134,818
• Normal cost for plan year beginning July 1	0	0
Assets		
• Market Value of Assets (MVA)	$74,728,720	$67,989,037
• Actuarial Value of Assets (AVA)[3]	74,728,720	67,989,037
• AVA as a percentage of MVA	100.00%	100.00%
Funded status		
• Overfunded actuarial accrued liability	$(60,444,099)	$(51,854,219)
• Funded ratio (AVA ÷ AAL)	523.14%	421.38%
Funded status for COLA purposes		
• AAL for COLA purposes (AAL COLA)[2,4]	$13,158,400	$14,826,200
• Funded ratio for COLA purposes (AVA ÷ AAL COLA)	567.92%	458.57%
Key assumptions		
• Net investment return	6.75%	6.75%
• Inflation rate	2.50%	2.50%
• Cost-of-living adjustments	2.00%	2.00%

[1] Reflects all future assumed 2.00% annual COLAs.
[2] Includes present value of administrative expenses equal to one percent of AAL.
[3] The actuarial value of assets is equal to the market value of assets.
[4] Excludes all future assumed 2.00% annual COLAs.

Demographic Data as of July 1

Demographic Data	2024	2023	Change
Retired members and beneficiaries			
• Number of members	267	296	(9.8%)
– Service retired	155	177	(12.4%)
– Beneficiaries	112	119	(5.9%)
• Average age	89.6	89.0	0.6
• Average monthly benefit	$829	$817	1.5%

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Input Item	Description
Plan provisions	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Member information	An actuarial valuation for a plan is based on data provided to the actuary by the University of California (UC). Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Financial information	Part of the cost of a plan will be paid from existing assets — the balance will need to come from future contributions (If applicable) and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the UC. A snapshot as of a single date may not be an appropriate value for determining a single year's contribution requirement, especially in volatile markets. Plan sponsors often use an "actuarial value of assets" that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements. Given the funded status of the Plan, the actuarial value of assets has been set equal to the market value of assets.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan members for the rest of their lives and the lives of their beneficiaries. This requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of members in each year (as applicable), as well as forecasts of the plan's benefits for each of those events. In addition, the benefits forecasted for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments (as applicable). The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions are selected within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the UC. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- If the UC is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting or tax advice and is not acting as a fiduciary to the Plan. This valuation is based on Segal's understanding of applicable guidance in these areas and of the Plan's provisions, but they may be subject to alternative interpretations. The UC should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Regents upon delivery and review. The UC should notify Segal immediately of any questions or concerns about the final content.

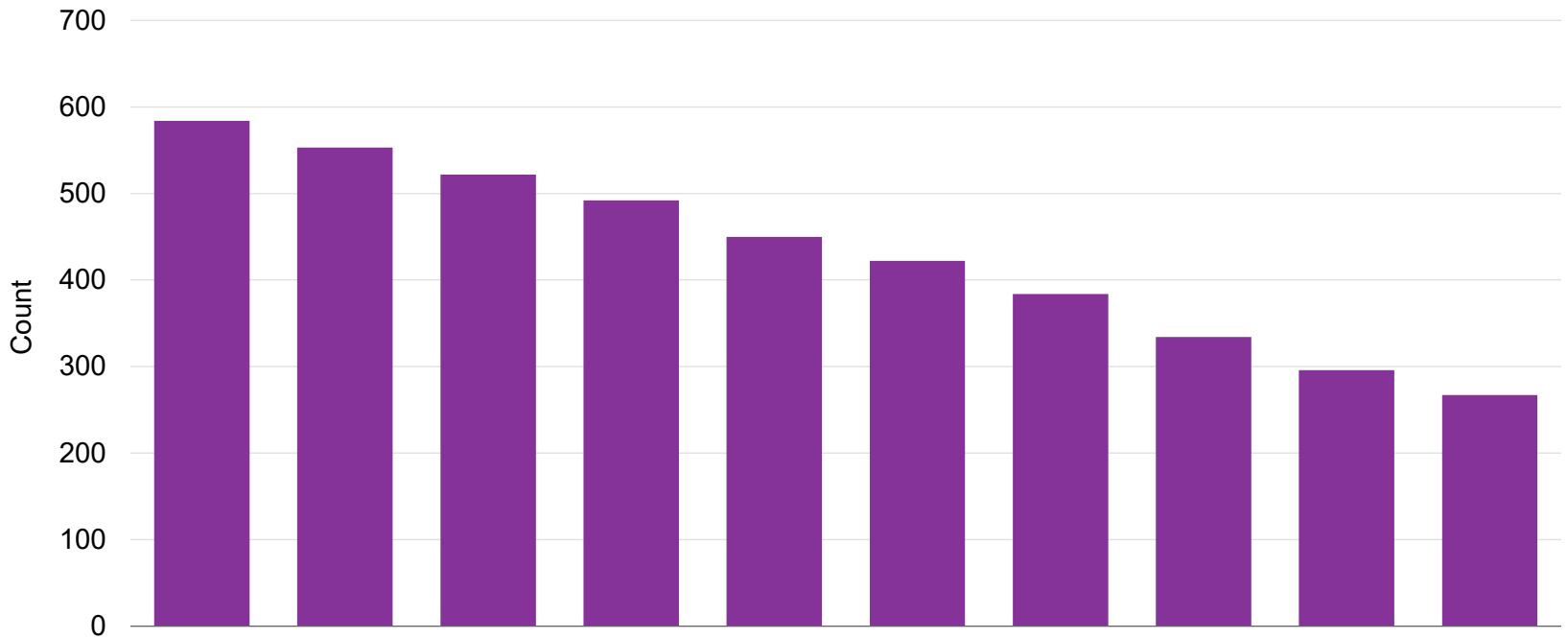
Section 2: Actuarial Valuation Results

A. Member information

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including retired members and beneficiaries.

This section presents a summary of significant statistical data on these member groups. More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibit A*.

Member Population as of July 1



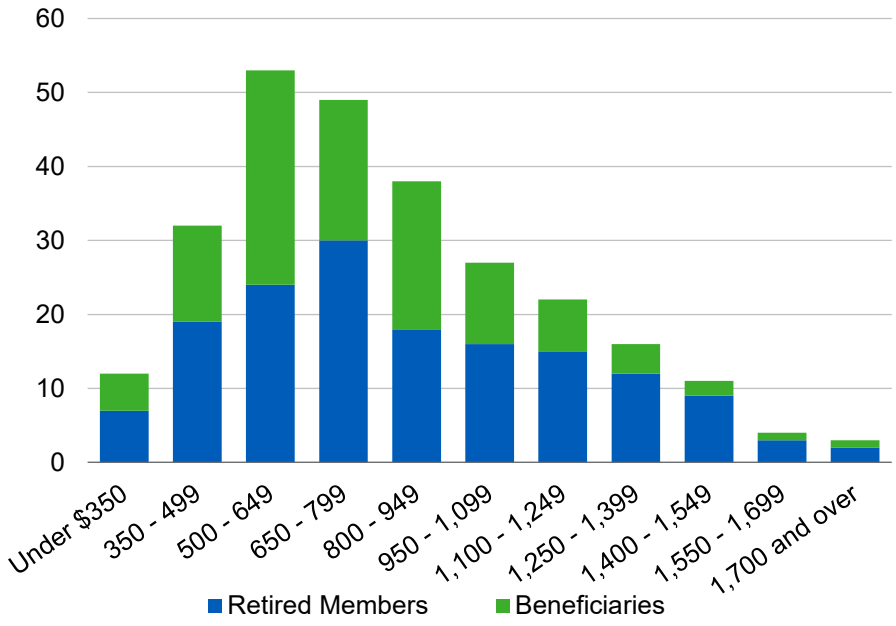
Category	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
In Pay Status	584	553	522	492	450	422	384	334	296	267

Retired members and beneficiaries

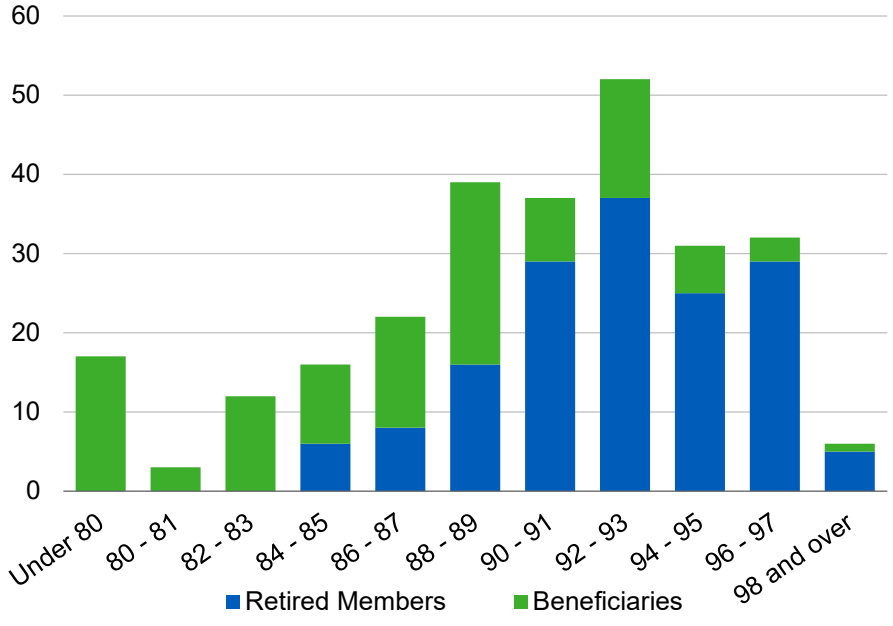
Demographic Data	As of July 1, 2024	As of July 1, 2023	Change
Retired members	155	177	(12.4%)
Beneficiaries	112	119	(5.9%)
Average age	89.6	89.0	0.6
Average monthly amount	$829	$817	1.5%
Total monthly amount	$221,279	$241,703	(8.5%)

Distribution of Retired Members and Beneficiaries as of July 1, 2024

By Type and Monthly Amount



By Type and Age



B. Financial information

Retirement plan funding anticipates that, over the long term, both contributions (if applicable) and investment earnings (less investment fees) will be needed to cover benefit payments and administrative expenses. Retirement plan assets change as a result of the net impact of these income and expense components.

The Regents have approved an asset valuation method that uses the market value of assets as the actuarial value of assets. The entire market value investment return is treated as income, which may be positive or negative.

Statement of Net Position of Market Value of Assets as of June 30

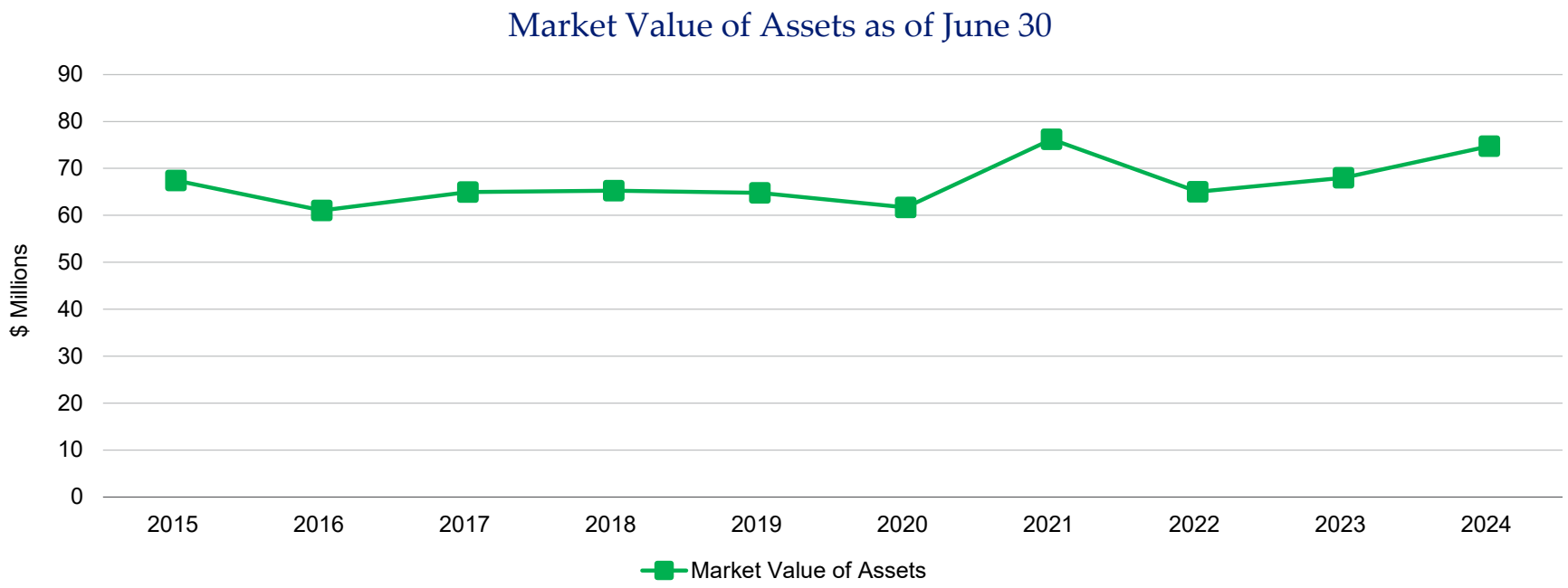
	2024	2023
Total investments	$74,829,839	$67,722,885
Receivables[1]	448,944	691,615
Payables for securities purchased and other	(550,063)	(425,463)
Net assets	**$74,728,720**	**$67,989,037**

Change in Market Value of Assets for Years Ended June 30

	2024	2023
Value as of the beginning of the year	$67,989,037	$65,024,097
University contributions	0	0
Administration expenses	(2,745)	(3,080)
Benefit payments	(2,744,692)	(2,986,883)
Net investment return	9,487,120	5,954,903
Value as of the end of the year	**$74,728,720**	**$67,989,037**

[1] Represents securities traded and allotted to UC PERS Plus 5 Plan as of the valuation date, not tied to contributions.

Asset history



C. Actuarial experience

To calculate any actuarially determined contribution (and to calculate the surplus of assets over liabilities of the Plan), assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the actuarially determined contribution will decrease from the previous year (the surplus of assets over liabilities will increase from the previous year). On the other hand, the actuarially determined contribution will increase (the surplus of assets over liabilities will decrease) if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years. There are no changes in actuarial assumptions reflected in this valuation.

The actuarial experience for the year can be found below and a discussion of the major components can be found on the following pages.

Actuarial Experience for Year Ended June 30, 2024

	Source	Amount
1.	Net (gain)/loss from investments[1]	$(4,990,586)
2.	Net (gain)/loss from other experience	(99,134)
3.	**Net experience (gain)/loss**	**$(5,089,720)**

[1] Details on next page.

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on UCRP's investment policy.

For valuation purposes, the assumed rate of return on the market value of assets is 6.75% based on the July 1, 2023 valuation. The actual rate of return on the market value of assets for the 2023–2024 Plan Year was 14.24%.Since the actual return for the year was more than the assumed return, the Plan experienced an actuarial gain during the year ended June 30, 2024 with regard to its investments.

Investment Experience for Year Ended June 30, 2024

	Line Description	Market Value
1.	Net investment income	$9,487,120
2.	Average value of assets[1]	66,615,319
3.	Rate of return: **1 ÷ 2**	14.24%
4.	Assumed rate of return	6.75%
5.	Expected investment income: **2 × 4**	$4,496,534
6.	**Investment gain/(loss): 1 − 5**	**$4,990,586**

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- Mortality experience (more or fewer than expected deaths),
- Cost-of-living adjustments (COLAs) higher or lower than anticipated, and
- Administrative expenses different than assumed.

The net gain from this other experience for the year ended June 30, 2024 amounted to $0.1 million, which is 0.7% of the actuarial accrued liability. See *Section 2, Subsection E* for a detailed development of the unfunded actuarial accrued liability.

[1] Assumes that non-investment cash-flows (i.e., benefit payments and administrative expenses) all occur at mid-year on average.

D. Other changes impacting the actuarial accrued liability

The actuarial accrued liability as of July 1, 2024 is $14.3 million, a decrease of $1.9 million, or 11.5%, from the actuarial accrued liability as of the prior valuation date. The liability is expected to grow each year with interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial assumptions and methods

There were no changes in actuarial assumptions or methods since the prior valuation.

Details on actuarial assumptions and methods are in *Section 4, Exhibit 1*.

Plan provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in *Section 4, Exhibit 2*.

E. Unfunded/(overfunded) actuarial accrued liability

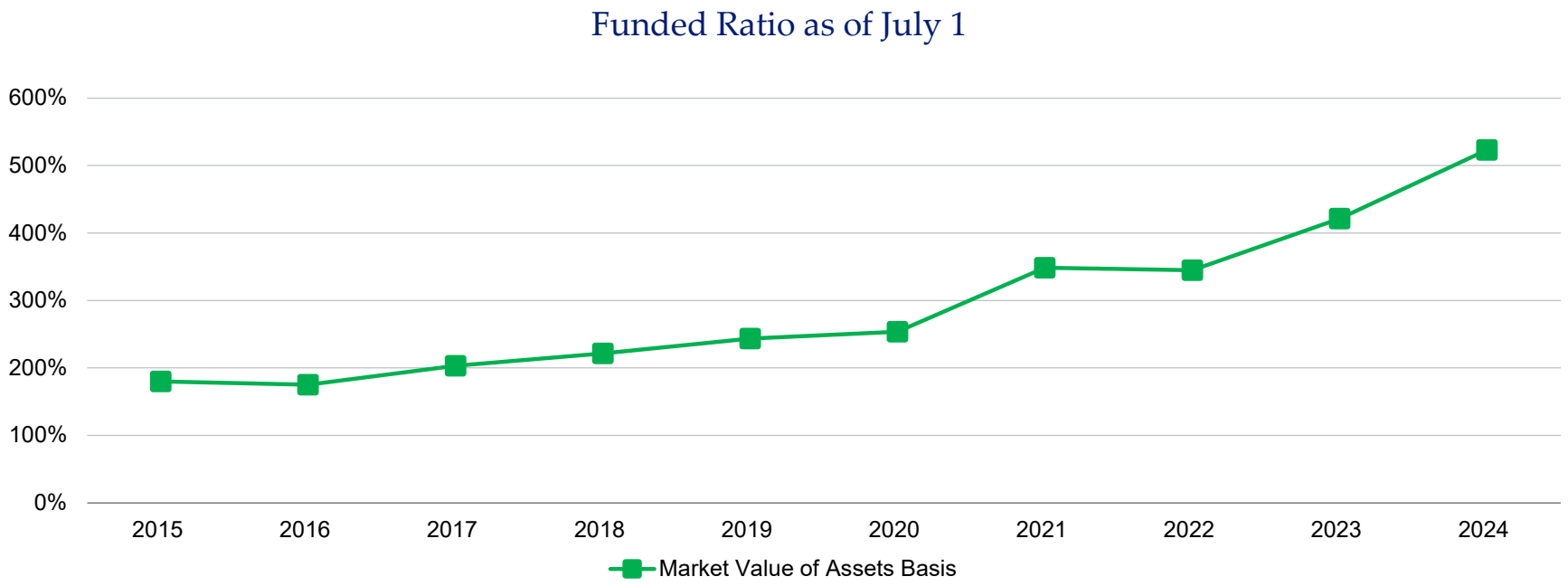
Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2024

	Line Description	Amount
1.	Unfunded actuarial accrued liability at beginning of year	$(51,854,219)
2.	Normal cost at beginning of year	0
3.	Expected employer and member contributions	0
4.	Interest	(3,500,160)
5.	**Expected unfunded/(overfunded) actuarial accrued liability at end of year**	**$(55,354,379)**
6.	**Changes due to:**	
a.	Investment return greater than expected	$(4,990,586)
b.	Other net experience gain	(99,134)
c.	**Total changes**	**$(5,089,720)**
7.	**Unfunded/(overfunded) actuarial accrued liability at end of year: 5 + 6c**	**$(60,444,099)**

F. Funded status

A commonly reported piece of information regarding the Plan's financial status is the funded ratio. This ratio compares the market value of assets to the actuarial accrued liability of the Plan. Higher ratios indicate a relatively well-funded plan while lower ratios may indicate recent changes to actuarial assumptions, funding of the plan below actuarial requirements, poor asset performance, or a variety of other causes.

The funded status measure shown in this valuation are appropriate for assessing the need for or amount of future contributions. However, they are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.



Section 2: Actuarial Valuation Results

Schedule of Funding Progress

As of July 1	Market Value of Assets (a)	Actuarial Accrued Liability[1] (b)	Unfunded/(Overfunded) Actuarial Accrued Liability (b) – (a)	Funded Ratio (a) ÷ (b)
2015	$67,424,239	$37,411,714	$(30,012,525)	180.22%
2016	61,056,375	34,818,010	(26,238,365)	175.36%
2017	64,980,452	31,997,188	(32,983,264)	203.08%
2018	65,250,647	29,460,992	(35,789,655)	221.48%
2019	64,778,034	26,603,031	(38,175,003)	243.50%
2020	61,680,862	24,296,489	(37,384,373)	253.87%
2021	76,204,012	21,861,816	(54,342,196)	348.57%
2022	65,024,097	18,845,820	(46,178,277)	345.03%
2023	67,989,037	16,134,818	(51,854,219)	421.38%
2024	74,728,720	14,284,621	(60,444,099)	523.14%

[1] Includes present value of administrative expenses equal to one percent of actuarial accrued liability and reflects all future assumed 2.00% annual COLAs.

G. Risk

Because the actuarial valuation results are dependent on a fixed set of assumptions and data as of a specific date, there is risk that emerging results may differ, perhaps significantly, as actual experience is fluid and will not exactly track current assumptions. This potential divergence may have a significant impact on the future financial condition of the plan.

This section does not contain a detailed analysis of the potential range of future measurements, but does include descriptions and basic assessments of the primary risks that are likely to have an ongoing influence on the Plan's financial health, as well as a discussion of historical trends and maturity measures.

Risk assessments

- **Asset/Liability Mismatch Risk** (the potential that future plan experience does not affect asset and liability values in the same way, causing them to diverge)

  The most significant asset/liability mismatch risk to the Plan is investment risk, as discussed below. In fact, investment risk has the potential to impact asset/liability mismatch in two ways. The first is evident in annual valuations; when asset values deviate from assumptions they are typically independent from liability changes. The second can be caused when systemic asset deviations from assumptions may signal the need for an assumption change, which causes liability values and contribution rates to move in the opposite direction from any change in the expected experience of asset growth rates.

  Asset/liability mismatch can also be caused by demographic assumption risk such as longevity, which affects liabilities but has no impact on asset levels. This risk is also discussed below.

- **Investment Risk** (the risk that investment returns will be different than expected)

  The investment return assumption is a long-term, static assumption for valuation purposes even though in reality market experience can be quite volatile in any given year. That volatility can cause significant changes in the financial condition of the Plan, affecting funded status. The inherent year-to-year volatility can have a sizable impact since this Plan uses the market value of assets when determining funding status.

  The year-by-year market value rate of return over the last 10 years has ranged from a low of -10.53% to a high of 30.56%.

- **Longevity Risk** (the risk that mortality experience will be different than expected)

  The actuarial valuation includes current life expectancy assumptions and an expectation of future improvement in life expectancy, which are significant assumptions given the relatively long duration of liabilities for pension plans. Emerging plan experience that does not match these expectations will result in increases or decreases in the actuarially determined contribution over time. This

risk can be reduced by using tables appropriate for the Plan (public experience tables) that are weighted by benefit levels, and by using generational mortality projections. The Regents have adopted mortality tables based on this methodology.

- **Contribution Risk** (the risk that actual contributions will be different from the actuarially determined contribution)

  While some plans have contribution risk, given the current funded status of the Plan, no contributions have been required in recent years so contribution risk is minimal.

Evaluation of historical trends

Past experience can help demonstrate the sensitivity of key results to the Plan's actual experience. Over the past ten years:

- The funded percentage on the actuarial value of assets basis has increased from 180.2% to 523.1%. This is primarily due to the continued decline in the number of members receiving benefits and interest earned on the surplus of assets over liabilities. For a more detailed history see *Section 2, Subsection F, Funded status* starting on page 21.

Maturity measures

The Plan only covers retired members and beneficiaries and is very mature. The Plan has negative cash flows as the Plan is paying benefit payments, but no contributions are being made. For the prior year, benefits paid were about $2.7 million. Plans with high levels of negative cash flows have a need for a larger allocation to income generating assets, which can create a drag on investment return. However, for the Plan the annual benefit payments are about 3.7% of total Plan assets, which is a relatively small percentage.

Low-Default-Risk Obligation Measure (LDROM)

In December 2021, the Actuarial Standards Board issued a revision of Actuarial Standard of Practice No. 4 (ASOP 4) *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. One of the revisions to ASOP 4 requires the disclosure of a Low-Default-Risk Obligation Measure (LDROM) when performing a funding valuation. The LDROM presented in this report is calculated using the same methodology and assumptions used to determine the AAL used for funding, except for the discount rate. The LDROM is required to be calculated using "a discount rate…derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid in the future."

The LDROM is a calculation assuming a plan's assets are invested in an all-bond portfolio, generally lowering expected long-term investment returns. The discount rate selected and used for this purpose is the Bond Buyer General Obligation 20-year Municipal Bond Index Rate, published at the end of each week. The last published rate in June of the measurement period, by The Bond Buyer, is 3.93% for use effective July 1, 2024. This is the rate used to determine the discount rate for valuing reported public pension plan liabilities in accordance with Governmental Accounting Standards when plan assets are projected to be insufficient to make

projected benefit payments, and the 20-year period reasonably approximates the duration of plan liabilities. The LDROM is not used to determine a plan's funded status or actuarially determined contribution rates. The plan's expected return on assets, currently 6.75%, is used for these calculations.

As of July 1, 2024, the LDROM for the Plan is $16.4 million.[1] The difference between the Plan's AAL of $14.3 million and the LDROM can be thought of as the increase in the AAL if the entire portfolio were invested in low-default-risk securities. Alternatively, this difference could also be viewed as representing the expected savings from investing in the Plan's diversified portfolio compared to investing only in low-default-risk securities.

ASOP 4 requires commentary to help the intended user understand the significance of the LDROM with respect to the funded status of the plan, plan contributions, and the security of member benefits. In general, if plan assets were invested exclusively in low-default-risk securities, the funded status would be lower and the actuarially determined contribution would be higher. While investing in a portfolio with low-default-risk securities may be more likely to reduce investment volatility and the volatility of employer contributions, it also may be more likely to result in higher employer contributions or lower benefits.

[1] For comparison purposes, as of July 1, 2023, the LDROM was $18.9 million based on a discount rate of 3.65%, while the Plan's AAL was $16.1 million.

Section 3: Supplemental Information

Exhibit A: Table of plan demographics

Demographic Data by Status	As of July 1, 2024	As of July 1, 2023	Change
Retired members			
• Number	155	177	(12.4%)
• Average age	92.5	91.6	0.9
• Total monthly benefit	$134,644	$150,559	(10.6%)
• Average monthly benefit	$869	$851	2.1%
Beneficiaries			
• Number	112	119	(5.9%)
• Average age	85.7	85.1	0.6
• Total monthly benefit	$86,635	$91,144	(4.9%)
• Average monthly benefit	$774	$766	1.0%
Total Members			
• Number	267	296	(9.8%)
• Average age	89.6	89.0	0.6
• Total monthly benefit	$221,279	$241,703	(8.5%)
• Average monthly benefit	$829	$817	1.5%

Exhibit B: Actuarial assets and liabilities

Actuarial Assets and Liabilities as of July 1

Line Description	2024	2023
Plan Assets		
• Market value of assets	$74,728,720	$67,989,037
• Present value of future contributions	0	0
Total Plan assets	**$74,728,720**	**$67,989,037**
Actuarial Accrued Liability[1]		
• Retired members	$7,505,866	$8,873,670
• Beneficiaries	6,637,323	7,101,397
• Present value of future expenses	141,432	159,751
Total actuarial accrued liability	**$14,284,621**	**$16,134,818**
Actuarial Accrued Liability for COLA Purposes[2]		
• Retired members	$7,009,249	$8,262,274
• Beneficiaries	6,018,870	6,417,132
• Present value of future expenses	130,281	146,794
Total actuarial accrued liability for COLA purposes	**$13,158,400**	**$14,826,200**
Actuarial Statistics		
• Funded ratio	523.14%	421.38%
• Overfunded actuarial accrued liability	$(60,444,099)	$51,854,219
• Funded ratio for COLA purposes	567.92%	458.57%

[1] Reflects all future assumed 2.00% annual COLAs.
[2] Excludes all future assumed 2.00% annual COLAs.

Section 4: Actuarial Valuation Basis

Exhibit 1: Actuarial assumptions, methods and models

Rationale for assumptions

The information and analysis used in selecting the assumptions that have a significant effect on this actuarial valuation are shown in the UCRP July 1, 2018 through June 30, 2022 Actuarial Experience Study dated June 15, 2023. These assumptions were adopted by the Regents.

Inflation

Increase of 2.50% per year

Net investment return

6.75%; net of investment expenses (including 2.50% for inflation).

Cost-of-living adjustments

Increase of 2.00% per year.

For valuation purposes, all future assumed 2.00% annual COLAs have been reflected, unless otherwise noted.

Administrative expenses

1.0% load added to the actuarial accrued liability

Post-retirement mortality rates

The Pub-2010 mortality tables and adjustments as shown below reasonably reflect the mortality experience as of the measurement date. These mortality tables were adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Healthy retirees

- **Faculty members**
  - Pub-2010 Teacher Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), decreased by 15% for males and decreased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Staff and Safety members**
  - Pub-2010 Teacher Healthy Retiree Amount- Weighted Above-Median Mortality Table (separate tables for males and females), unadjusted for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.

Beneficiaries

- **In pay status as of valuation**
  - Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Table (separate tables for males and females) unadjusted for males and decreased by 10% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.
- **Not in pay status as of valuation**
  - Pub-2010 Teacher Healthy Retiree Amount-Weighted Above-Median Mortality Table (separate tables for males and females), unadjusted for males and increased by 5% for females, projected generationally with the two-dimensional mortality improvement scale MP-2021.

Notes

The above listed table for Teacher Healthy Retiree only provides rates for ages 55 and older. To develop mortality rates for ages 45 through 55, we have smoothed the difference between the rates at age 45 from the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Tables and the rates at age 55 from the Pub-2010 Teacher Healthy Retiree Amount-Weighted Above-

Median Mortality Tables. To develop the mortality rates before age 45, we have used the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Tables rates.

The above listed table for Contingent Survivor only provides rates for ages 45 and older. To develop mortality rates for ages 35 through 45, we have smoothed the difference between the rates at age 35 from the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Tables and the rates at age 45 from the Pub-2010 Contingent Survivor Amount-Weighted Above-Median Mortality Tables. To develop the mortality rates before age 35, we have used the Pub-2010 Teacher Employee Amount-Weighted Above-Median Mortality Tables rates.

This methodology for developing extended annuitant mortality tables is similar to the method used by the IRS to develop the base mortality table for determining minimum funding standards for single-employer defined benefit pension plans under Internal Revenue Code Section 430. While Section 430 is not applicable to the Plan, we believe this is a reasonable method for developing annuitant mortality rates at earlier ages.

Unknown data for members

Same as those exhibited by members with similar known characteristics.

Actuarial methods

Actuarial cost method

Unit Credit Actuarial Cost Method

Actuarial value of assets

Market Value

Actuarial models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user

control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Justification for change in actuarial assumptions, methods or models

There have been no changes in actuarial assumptions, methods or models since the prior valuation.

Exhibit 2: Summary of plan provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions. If the University of California should find the plan summary not in accordance with the actual provisions, the University of California should alert the actuary so they can both be sure the proper provisions are valued.

Effective date

October 1, 1991. Includes amendments through July 1, 2024.

Plan year

July 1 through June 30

Covered members

Active employees on October 1, 1991 who were active members of, and who were eligible to retire from the California Public Employee's Retirement System (PERS), whose age plus service equaled 75 or more (80 or more for Faculty members), and who elected to retire from the University effective October 1, 1991.

Retirement date

October 1, 1991.

Transition assistance

Single payment on November 1, 1991 equal to three times the June 30, 1990 covered compensation, multiplied by 1.07.

Service retirement benefits

Provision Type	Service Retirement Plan Provision
UC PERS Plus 5 average pay	Average monthly full-time-equivalent base compensation rate received during the 36 consecutive month period prior to June 30, 1990, multiplied by 1.07 (Average Pay).
Service credit	Each eligible member was granted five years of service credit.
Benefit amount	Basic retirement income (BRI). The basic retirement income formula for all members varies by retirement age, as shown in the table below.
Form of payment	Single life annuity.
Optional form of payment	Full continuance to contingent annuitant.

Service retirement benefit formula

Retirement Age	Service Retirement Benefit Formula
50	1.09% × Average Pay × Service Credit
51	1.16% × Average Pay × Service Credit
52	1.22% × Average Pay × Service Credit
53	1.30% × Average Pay × Service Credit
54	1.38% × Average Pay × Service Credit
55	1.50% × Average Pay × Service Credit
56	1.60% × Average Pay × Service Credit
57	1.70% × Average Pay × Service Credit
58	1.80% × Average Pay × Service Credit
59	1.90% × Average Pay × Service Credit
60	2.00% × Average Pay × Service Credit
61	2.13% × Average Pay × Service Credit
62	2.27% × Average Pay × Service Credit
63 and over	2.41% × Average Pay × Service Credit

Post-retirement automatic survivor benefit

None.

Cost-of-Living Adjustment (COLA)

Provision Type	Cost-of-Living Adjustment Plan Provision
Annual	The lesser of: • The same percentage increase for UCRP annuitants whose retirement income commenced July 2, 1991 through and including July 1, 1992, and • The percentage that the Plan's funded ratio for COLA purposes (determined as of the previous July 1) exceeds 100%. The UCRP COLA is 100% of the annual Consumer Price Index (CPI) increase up to 2% per year, plus generally 75% of the annual CPI increase above 4%. The COLA cannot exceed 6% per year.
Ad Hoc	A one-time ad hoc COLA of 25% was provided to all annuitants as of July 1, 2002. A one-time ad hoc COLA of 15.19% was provided to all annuitants as of April 1, 2011.

University contributions

The actuarial cost of the University of California PERS Plus 5 Plan was determined for each University location. Each location could elect to contribute their cost in a lump sum, over two, three or five years. The last contributions were made in 1995.

Changes in plan provisions

There have been no changes in plan provisions since the prior valuation.

Appendix A: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Term	Definition
Actuarial accrued liability for actives	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial accrued liability for retirees and beneficiaries	Actuarial present value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial cost method	A procedure allocating the actuarial present value of future benefits to various time periods; a method used to determine the normal cost and the actuarial accrued liability that are used to determine the actuarially determined contribution.
Actuarial gain or loss	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates. To the extent that actual experience differs from that assumed, actuarial accrued liabilities emerge which may be the same as forecasted or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially equivalent	Of equal actuarial present value, determined as of a given date and based on a given set of actuarial assumptions.
Actuarial present value	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Appendix A: Definition of Pension Terms

Term	Definition
Actuarial present value of future benefits	The actuarial present value of benefit amounts expected to be paid at various future times under a particular set of actuarial assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The actuarial present value of future benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial valuation	The determination, as of a valuation date, of the Normal cost, actuarial accrued liability, actuarial value of assets, and related actuarial present values for a plan, as well as actuarially determined contributions.
Actuarial value of assets	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially determined contribution.
Actuarially determined	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially determined contribution	The employer's contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The actuarially determined contribution consists of the employer normal cost and the amortization payment.
Amortization method	A method for determining the amortization payment. The most common methods used are level dollar and level percentage of payroll. Under the level dollar method, the amortization payment is one of a stream of payments, all equal, whose actuarial present value is equal to the unfunded actuarial accrued liability. Under the level percentage of pay method, the amortization payment is one of a stream of increasing payments, whose actuarial present value is equal to the unfunded actuarial accrued liability. Under the level percentage of pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization payment	The portion of the pension plan contribution, or actuarially determined contribution, that is intended to pay off the unfunded actuarial accrued liability.

Appendix A: Definition of Pension Terms

Term	Definition
Assumptions or actuarial assumptions	The estimates upon which the cost of the Plan is calculated, including: **Investment return** — the rate of investment yield that the Plan will earn over the long-term future; **Mortality rates** — the rate or probability of death at a given age for employees and retirees; **Retirement rates** — the rate or probability of retirement at a given age or service; **Disability rates** — the rate or probability of disability retirement at a given age; **Withdrawal rates** — the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; **Salary increase rates** — the rates of salary increase due to inflation, real wage growth and merit and promotion increases.
Closed amortization period	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See “open amortization period.”
Decrements	Those causes/events due to which a member’s status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined benefit plan	A retirement plan in which benefits are defined by a formula based on the member’s compensation, age and/or years of service.
Defined contribution plan	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan’s earnings are allocated to each account, and each member’s benefits are a direct function of the account balance.
Employer normal cost	The portion of the normal cost to be paid by the employer. This is equal to the normal cost less expected member contributions.
Experience study	A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.
Funded ratio	The ratio of the valuation value of assets to the actuarial accrued liability. Plans sometimes also calculate a market funded ratio, using the market value of assets, rather than the valuation value of assets.
GASB 67 and GASB 68	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.

Appendix A: Definition of Pension Terms

Term	Definition
Investment return	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Negative amortization	Negative amortization is a result of an increase in the unfunded actuarial accrued liability when the amortization payment is less than the interest accrued on the unfunded actuarial accrued liability.
Net pension liability	The net pension liability is equal to the total pension liability minus the plan fiduciary net position.
Normal cost	The portion of the actuarial present value of future benefits and expenses, if applicable, allocated to a valuation year by the actuarial cost method. Any payment with respect to an unfunded actuarial accrued liability is not part of the normal cost (see “amortization payment”). For pension plan benefits that are provided in part by employee contributions, normal cost refers to the total of member contributions and employer normal cost unless otherwise specifically stated.
Open amortization period	An open amortization period is one which is used to determine the amortization payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the amortization period.
Plan fiduciary net position	Market value of assets.
Service costs	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
Total pension liability	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded actuarial accrued liability	The excess of the actuarial accrued liability over the valuation value of assets. This value may be negative, in which case it may be expressed as a negative unfunded actuarial accrued liability, also called the funding surplus or an overfunded actuarial accrued liability.
Valuation date or actuarial valuation date	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.
Valuation value of assets	The actuarial value of assets reduced by the value of non-valuation reserves.

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