CHEIRON *Classic Values, Innovative Advice*

Maine Public Employees Retirement System

Group Life Insurance Premium Study

Produced by Cheiron
July 2024

www.cheiron.us 1.877.CHEIRON (243.4766)

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Appendices

Via Electronic Mail

July 2, 2024

Board of Trustees
Maine Public Employees Retirement System
P.O. Box 349
Augusta, Maine 04332-0349

Re: Maine Public Employees Retirement System Group Life Insurance Premium Study Report

Dear Members of the Board:

At your request, in the spring of 2024, we completed the quadrennial study of premiums paid for the Maine Public Employees Retirement System (MainePERS) Group Life Insurance Benefits. Our study compared premiums collected vs. benefits paid for Basic, Supplemental, and Dependent Life Insurance for active participants and Basic Life Insurance for retirees. We analyzed results for participants in the Group Life Insurance Programs for the State Sponsored Plans, Teachers, and Participating Local Districts (PLDs). For this study, we looked at historical premium collection and life insurance claims for these groups, projected future claims, and income based on the future premium rates approved by the Board.

Section I summarizes the conclusions of this study.

Section II contains a historical summary of the premiums and claims for the Group Life Insurance obligations.

Sections III and IV contains the projections of claims and income based on current premiums and the future premiums approved by the Board. The projections are based on data through the valuation as of June 30, 2023 utilizing financial data through June 30, 2024 as projected for July 2024 rate setting. The changes to premiums will be effective on or after Fiscal Year Ending (FYE) 2026 but will be reflected in projections for the next full biennial valuation performed as of June 30, 2024 to the extent any changes are adopted by the Board.

Appendix A describes the Participant Data, Assumptions, and Methods used in the projections contained in Sections I-IV.

Appendix B contains the substantive plan provisions provided by the system.

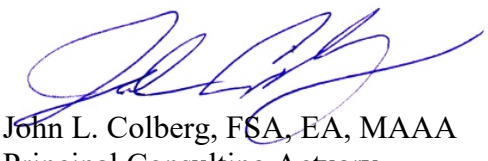
The purpose of this report is to present the study of premium adequacy for the Group Life Insurance program as of June 30, 2023, for MainePERS. This report was prepared exclusively for the use of the MainePERS. This report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

In preparing our report, we relied on information (some oral and some written) supplied by MainePERS. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

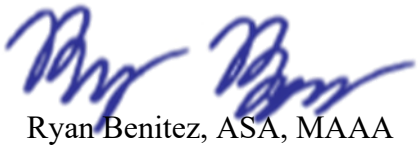
This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

If you have any questions, please contact us.

Sincerely,
Cheiron



John L. Colberg, FSA, EA, MAAA
Principal Consulting Actuary



Ryan Benitez, ASA, MAAA
Consulting Actuary

SECTION I – EXECUTIVE SUMMARY

Maine Public Employees Retirement System (MainePERS) engaged Cheiron to provide an analysis of the Group Life Insurance premium using data through June 30, 2023, and financial data through June 30, 2024 as projected for July 2024 rate setting. The primary purpose of this study is to analyze if the premiums being charged for the Group Life Benefits are sufficient to fund the Plan and to show the impact of the premium changes approved by the Board.

Below is a summary of key findings:

For all groups (State, Teachers, and PLDs), claim experience was significantly worse than expected over the experience period, especially the last 3 years. The active funds have seen a significant decrease in assets from 2021 levels. **We recommend the next experience study be conducted in 2026**, rather than waiting until 2028**.**

Since the establishment of separate active and retiree funds for Group Life Insurance benefits, claims for members on disability have been paid out of the active trust. Beginning in FYE 2025, these benefits will be paid out of the retiree trust. This will be consistent with how premiums are calculated for these members, since disability is a post-employment benefit.

State Employees

- Claim experience in the state active plan was 60% worse than expected over the experience period with experience over the final two years (FYE 2022 and 2023) more than 108% worse than expected after being lower than projected in 2020 study. Emerging experience for FYE 2024 appears to be similar to 2022 and 2023. This experience includes claims for disabled participants.

- **If experience in the active plan continues at the average of the past three years (2022 through 2024) with $4.0 million in average annual claims, the plan's assets for actives are in danger of being exhausted in FY 2028.** We recommend that premiums for State actives be increased from $0.09 to $0.12 bi-weekly per $1,000 of coverage effective beginning FY 2026, with a mid-period premium study conducted in 2026. Based on projected salaries, the increase of $0.03 bi-weekly per $1,000 of coverage is projected to cost the State approximately $652,000 in FY 2026 and $669,000 in FY 2027.

- Beginning in FYE 2024, the premiums for basic retiree coverage were increased to $0.36 bi-weekly per $1,000 of coverage based on the results of the 2020 premium study. We recommend keeping premiums at this level.

- The current age-based premiums for supplemental insurance are sufficient, and no change is recommended.

- The premiums for dependent coverage are sufficient, and no change is recommended.

SECTION I – EXECUTIVE SUMMARY

Teachers

- Claims experience in the Teachers active plan was 54% worse than expected over the experience period with experience over the final two years (FYE 2022 and 2023) 39% worse than expected, after being lower than projected in 2020 study. Emerging experience for FYE 2024 appears to be similar to 2022 and 2023.

- **If experience in the active plan continues at the average of the past three years (2022 through 2024) with $2.1 million in average annual claims, the plan's assets are still projected to exceed $2.3 million through FY 2030.**

- We recommend that premiums for active Teachers be increased from $0.05 to $0.06 bi-weekly per $1,000 of coverage effective beginning FY 2026.

- The State contributes the Actuarially Determined Contribution (ADC) for basic retiree coverage. No change is recommended to this method.

- The current age-based premiums for supplemental insurance are sufficient and no change is recommended.

- The premiums for dependent coverage are sufficient, and no change is recommended.

Participating Local Districts

- Claims experience in the PLD active plan was 27% worse than expected over the experience period with experience over the final two years (FYE 2022 and 2023) 50% worse than expected, after being lower than projected in 2020 study. Emerging experience for FYE 2024 appears to be more in line with historical trends.

- **If experience in the active plan continues at the average of the worst three years (2022 through 2024) with $2.0 million in average annual claims, the plan's assets are still projected to exceed $3.1 million through FYE 2030.**

- An increase in the overall rate from $0.23 to $0.24 is already scheduled for 2026. We recommend the active fund allocation being increased from $0.11 to $0.12 also in 2026. Additionally, an increase to $0.25 will likely be needed for 2028.

- The current age-based premiums for supplemental insurance are sufficient and no change is recommended.

- The premiums for dependent coverage are sufficient, and no change is recommended.

For all plans, we recommend reviewing the sufficiency of the premiums whenever the cash flows deviate significantly from the projections presented in this report and no less frequently than every four years.

The body of this report provides additional detail and support for our conclusions.

SECTION II – HISTORICAL SUMMARY

Cheiron has developed premiums for the MainePERS Group Life Insurance program since the 2005 premium study. This study developed recommendations that went into effect for Fiscal Year Ending 2008 when the State needed to record the liability for Other Post-Employment Benefits paid by the State on its financial statements for the implementation of GASB 43/45. Since then, Cheiron has conducted premium studies in 2012, 2016, 2020, and now 2024.

Premium rates have been set historically to ensure that the Unfunded Actuarial Liability is paid within 30 years, the maximum acceptable period that was established by GASB 43/45, as of the Fiscal Year Ending 2008 for State & Teachers. A 23-year period was used for PLDs, which was the projected period over which the current rates would amortize the UAL at that time.

Below is a historical summary of the premium rates paid for Maine's Basic Group Life Insurance benefits.

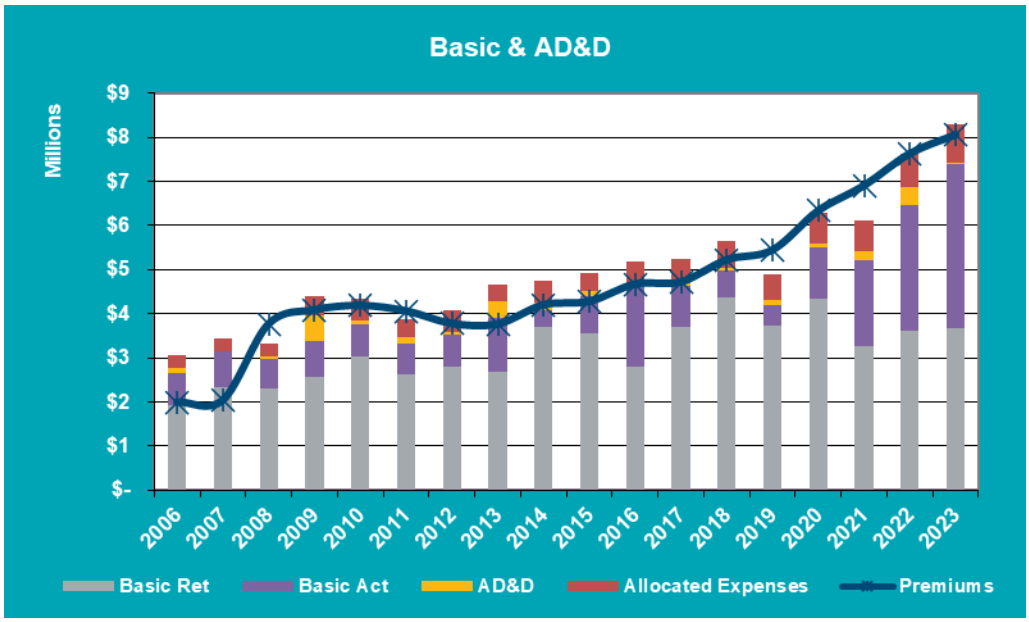
Bi-weekly per $1,000	State Active Basic	State Retiree Basic	Teacher Active Basic	Teacher Retiree Basic*	PLDs Active & Retiree Basic
FYE 2007	$0.14		$0.10		$0.21
FYE 2008	$0.06	$0.20	$0.05	ARC	$0.21
FYE 2010	$0.06	$0.20	$0.05	ARC	$0.21
FYE 2012	$0.06	$0.20	$0.05	ARC	$0.21
FYE 2014	$0.07	$0.22	$0.05	ARC	$0.21
FYE 2016	$0.07	$0.24	$0.05	ARC	$0.21
FYE 2018	$0.09	$0.26	$0.05	ADC	$0.21
FYE 2020	$0.09	$0.29	$0.05	ADC	$0.21
FYE 2022	$0.09	$0.33	$0.05	ADC	$0.22
FYE 2024	$0.09	$0.36	$0.05	ADC	$0.23

** The "Annual Required Contribution" (ARC) as defined by GASB 43/45 has changed to the "Actuarially Determined Contribution" (ADC) as defined by GASB 74/75.*

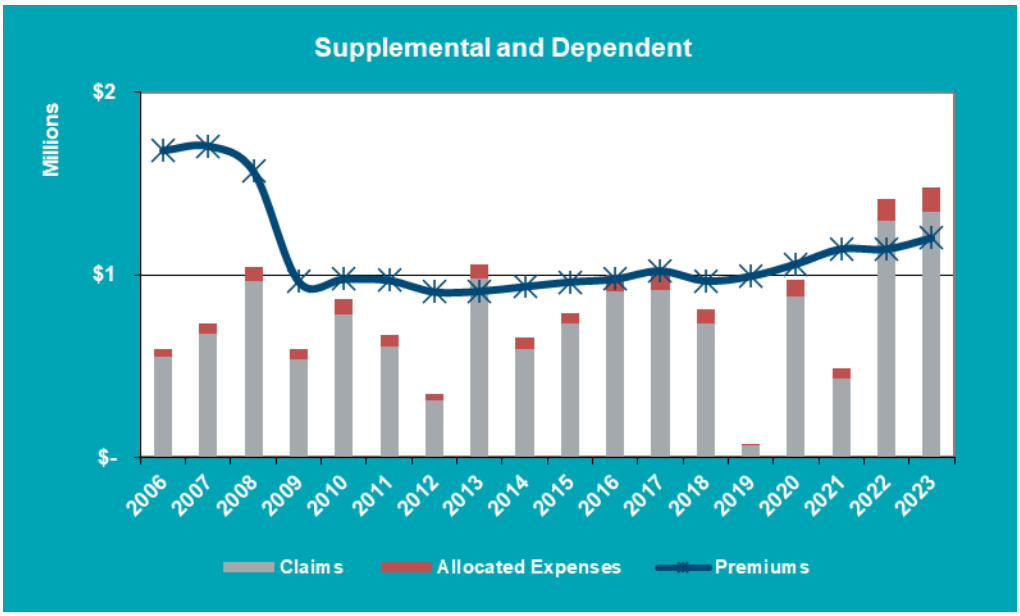
Contribution Year	Teacher Retiree ARC/ADC	Contribution Year	Teacher Retiree ARC/ADC
FYE 2008	$2,394,002	FYE 2017	$3,270,928
FYE 2009	$2,507,718	FYE 2018	$3,459,442
FYE 2010	$3,222,106	FYE 2019	$3,546,978
FYE 2011	$3,375,156	FYE 2020	$4,478,090
FYE 2012	$3,804,356	FYE 2021	$4,601,233
FYE 2013	$3,985,063	FYE 2022	$4,592,850
FYE 2014	$4,196,485	FYE 2023	$4,726,664
FYE 2015	$4,343,362	FYE 2024	$4,859,254
FYE 2016	$3,160,319	FYE 2025	$4,992,883

SECTION II – HISTORICAL SUMMARY

The chart below shows the historical premiums and claims for State Employees for Basic Active Life Insurance, Accidental Death and Dismemberment (AD&D), Basic Retiree Life Insurance, and expenses.

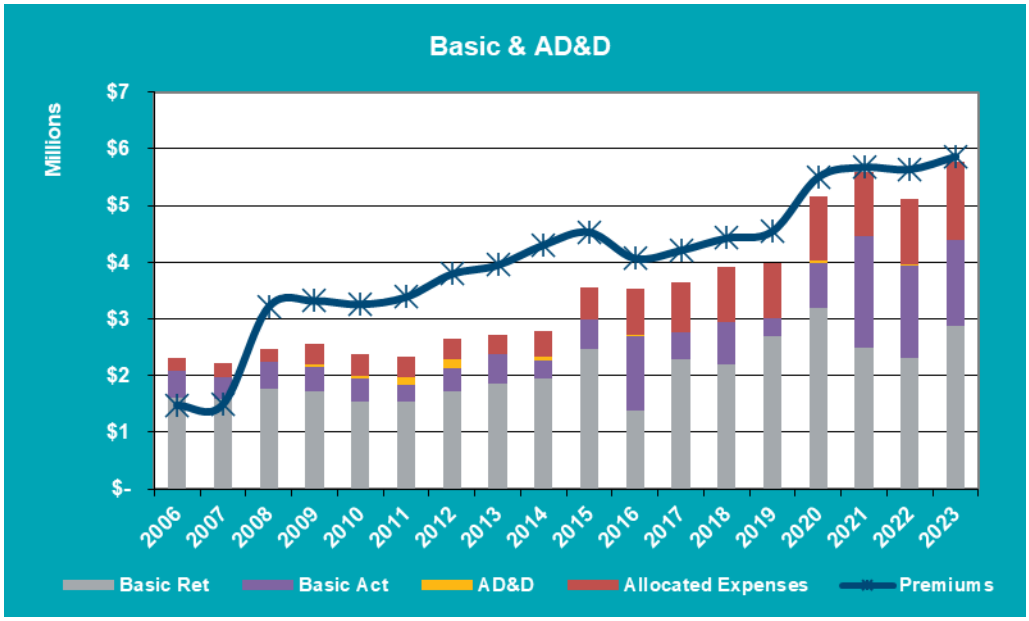


The chart below shows the historical premiums and claims for State Employees for Supplemental and Dependent Life Insurance and expenses.

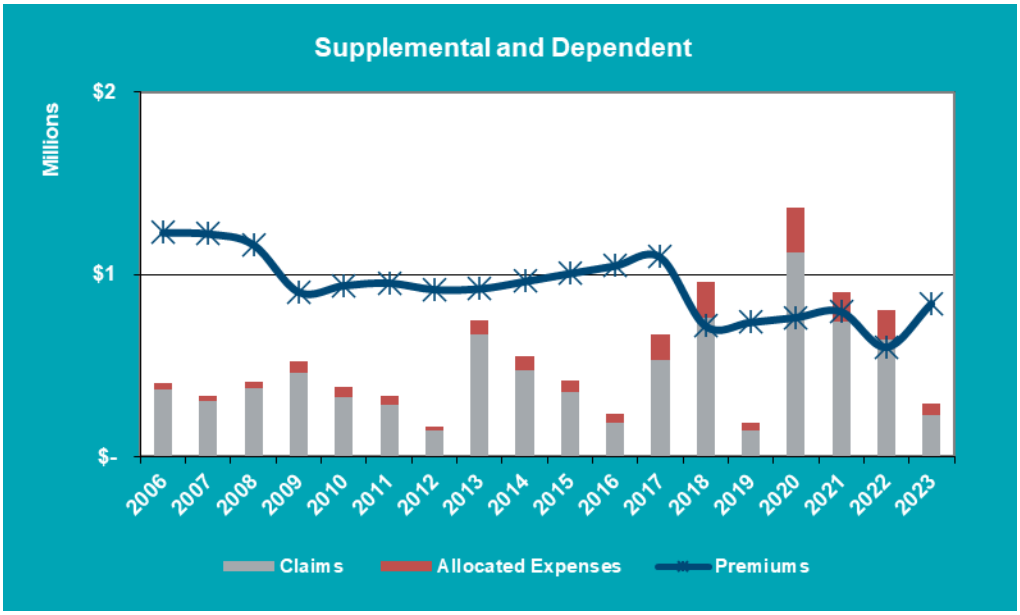


SECTION II – HISTORICAL SUMMARY

The chart below shows the historical premiums and claims for Teachers for Basic Active Life Insurance, Accidental Death and Dismemberment (AD&D), Basic Retiree Life Insurance, and expenses.

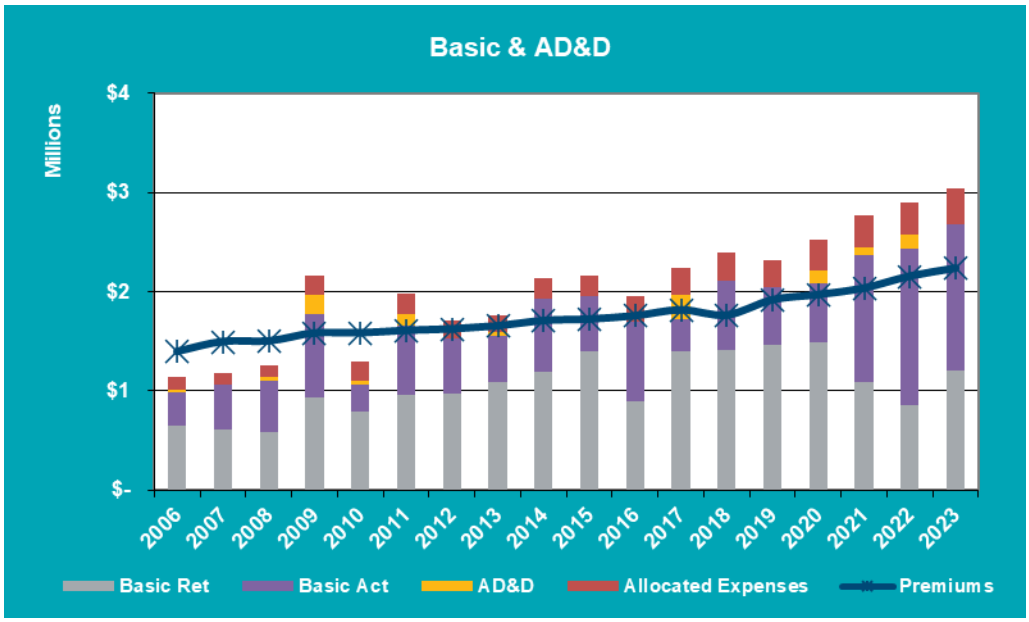


The chart below shows the historical premiums and claims for Teachers for Supplemental and Dependent Life Insurance and expenses.

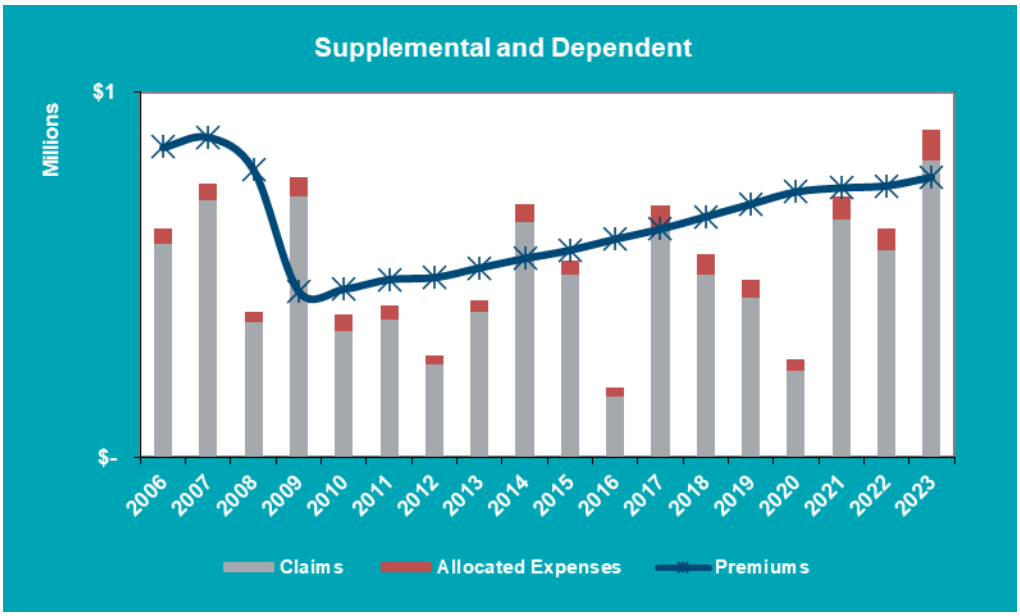


SECTION II – HISTORICAL SUMMARY

The chart below shows the historical premiums and claims for PLD employees for Basic Active Life Insurance, Accidental Death and Dismemberment (AD&D), Basic Retiree Life Insurance, and expenses.



The chart below shows the historical premiums and claims for PLD employees for Supplemental and Dependent Life Insurance and expenses.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

The premiums used for the Group Life Insurance benefits were last adjusted for the Fiscal Year ending 2024, developed from the 2020 experience study. For this study, we reviewed the premiums collected vs. the claims paid for the State, Teacher, and PLD Program life insurance benefits since 2007, and show projected claims and premiums for the next 10 years.

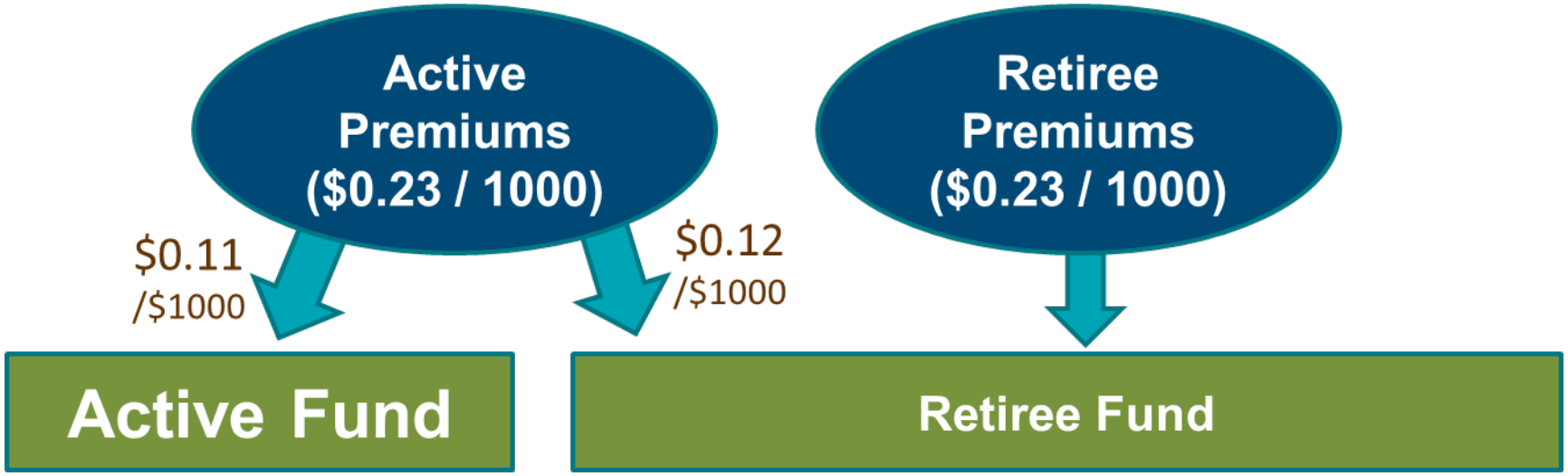
The fundamental principle underlying our analysis is that the cost of benefits should be related to the period in which benefits are earned. For active employees and dependents, the cost of coverage should be equal to the claims expected to be paid from the plan plus any expenses. If the premiums are expected to be less than claims, an increase in premiums is recommended.

To apply the fundamental principle to retirees, however, requires that the cost of coverage for a benefit that will be paid after retirement be funded during the active working life of participants (the period in which benefits are earned), rather than after retirement (the period of benefit distribution). The cost of retiree benefits is represented as the Actuarially Determined Contribution (ADC) calculated under the provisions of GASB Statements 74 and 75 and is the sum of two components: the normal cost and the amortization of the Unfunded Actuarial Liability (UAL). The *normal cost* is the annual amount which would be sufficient to fund the substantive plan benefits (net of contributions on the retiree's behalf) if it were paid from each employee's entry into the Plan until termination or retirement. The *actuarial liability* represents the portion of the value of the projected benefit at retirement that is allocated to service earned prior to the valuation date. The *Unfunded Actuarial Liability* (UAL) represents the excess of the actuarial liability over plan assets and is amortized as a level percent of pay over a period not to exceed 30 years. If premiums are expected to be less than the ADC, a premium increase is indicated.

SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

Due to the implementation of GASB 74/75, the State has established separate asset funds to pay for active benefits and retiree benefits.

For PLD funding, the same biweekly premium rate of $0.23/$1,000 (recommended to increase to $0.24 in FY26 based on the 2020 Premium Study) is paid on behalf of actives and retirees. For retirees, all of that goes into the Retiree Fund. The active PLD premium of $0.23 bi-weekly per $1,000 of coverage is currently allocated as $0.11 to the Active fund and $0.12 to the Retiree Fund. The graphic below illustrates this allocation.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

The chart below shows the current and recommended scheduled premium rates.

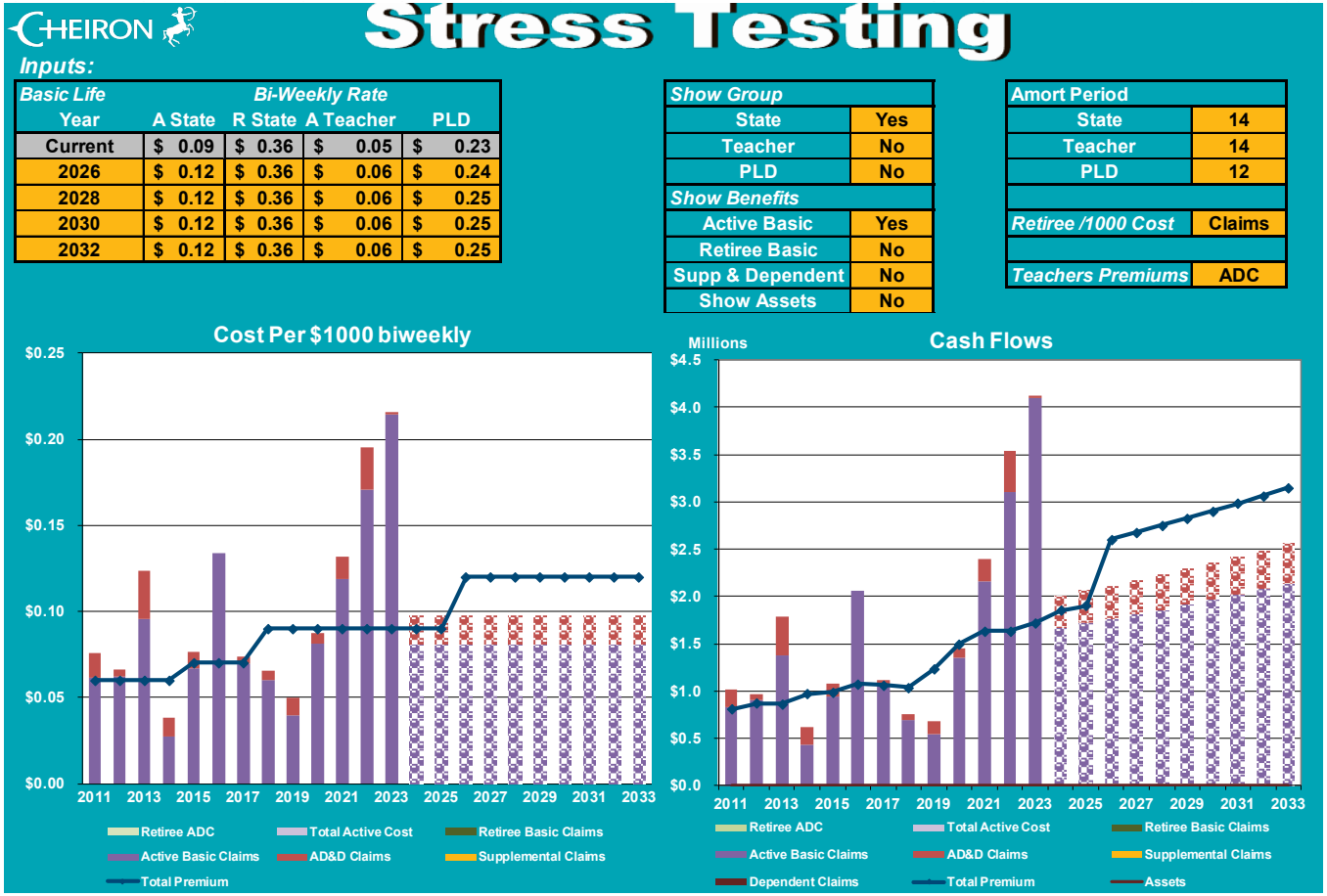
Rate Schedule - Bi-weekly Rates Per $1,000 of Coverage								
Current Rates				Rates as of Fiscal Year Ending 2026				
	State	Teacher	PLD		State	Teacher	PLD	
Active Basic	$ 0.09	$ 0.05	$ 0.23	**Active Basic**	$ 0.12	$ 0.06	$ 0.24	
Retiree Basic	$ 0.36	ADC		**Retiree Basic**	$ 0.36	ADC		
Supplemental				**Supplemental**				
Age <= 34	$ 0.02	$ 0.01	$ 0.02	Age <= 34	$ 0.02	$ 0.01	$ 0.02	
35-44	$ 0.02	$ 0.01	$ 0.03	35-44	$ 0.02	$ 0.01	$ 0.03	
45-49	$ 0.04	$ 0.02	$ 0.05	45-49	$ 0.04	$ 0.02	$ 0.05	
50-54	$ 0.06	$ 0.04	$ 0.07	50-54	$ 0.06	$ 0.04	$ 0.07	
55-59	$ 0.10	$ 0.07	$ 0.14	55-59	$ 0.10	$ 0.07	$ 0.14	
60-64	$ 0.15	$ 0.10	$ 0.20	60-64	$ 0.15	$ 0.10	$ 0.20	
65 plus	$ 0.20	$ 0.13	$ 0.40	65 plus	$ 0.20	$ 0.13	$ 0.40	
Dependent A	$ 0.89	$ 0.89	$ 0.89	**Dependent A**	$ 0.89	$ 0.89	$ 0.89	
Dependent B	$ 1.57	$ 1.57	$ 1.57	**Dependent B**	$ 1.57	$ 1.57	$ 1.57	

State Active Basic	Increase the Active Basic Premiums by $0.03 bi-weekly per $1,000 of coverage.
Teacher Active Basic	Increase the Active Basic Premiums by $0.01 bi-weekly per $1,000 of coverage.
PLD Active and Retiree Basic	Option selected in 2020 Premium Study included increase to $0.24 in 2026.

SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

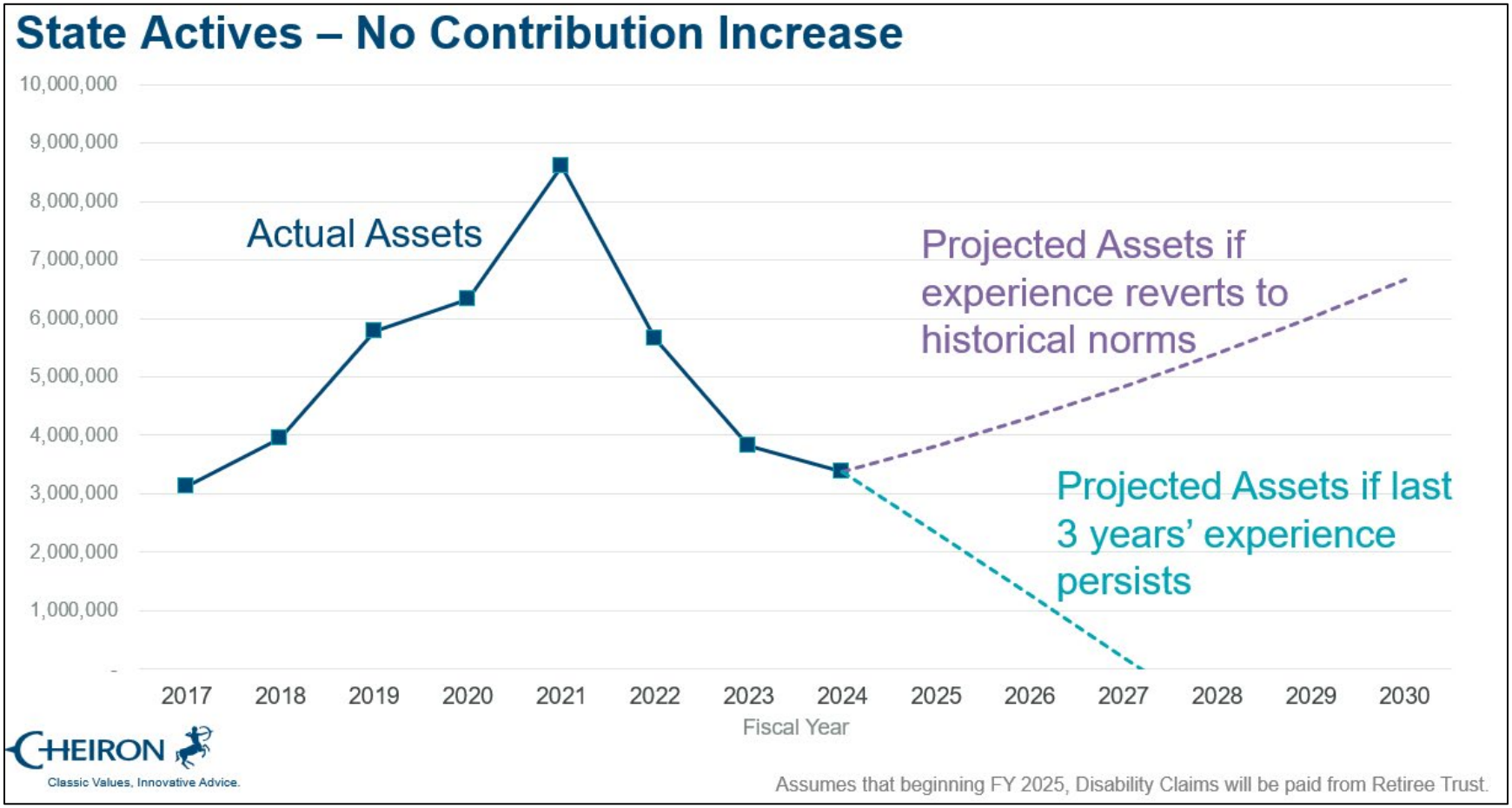
State Employees: Active Life Insurance (Basic and AD&D)
Current Premium Rate: $0.09 bi-weekly per $1,000 of coverage.

Due to the high incidence of active deaths in recent years, we are recommending increasing the premium rate from $0.09 to $0.12 bi-weekly per $1,000 of coverage along with an additional mid-term premium study in 2026. This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a fiscal year basis, with the increase effective in 2026 and assuming experience returns to historical norms.



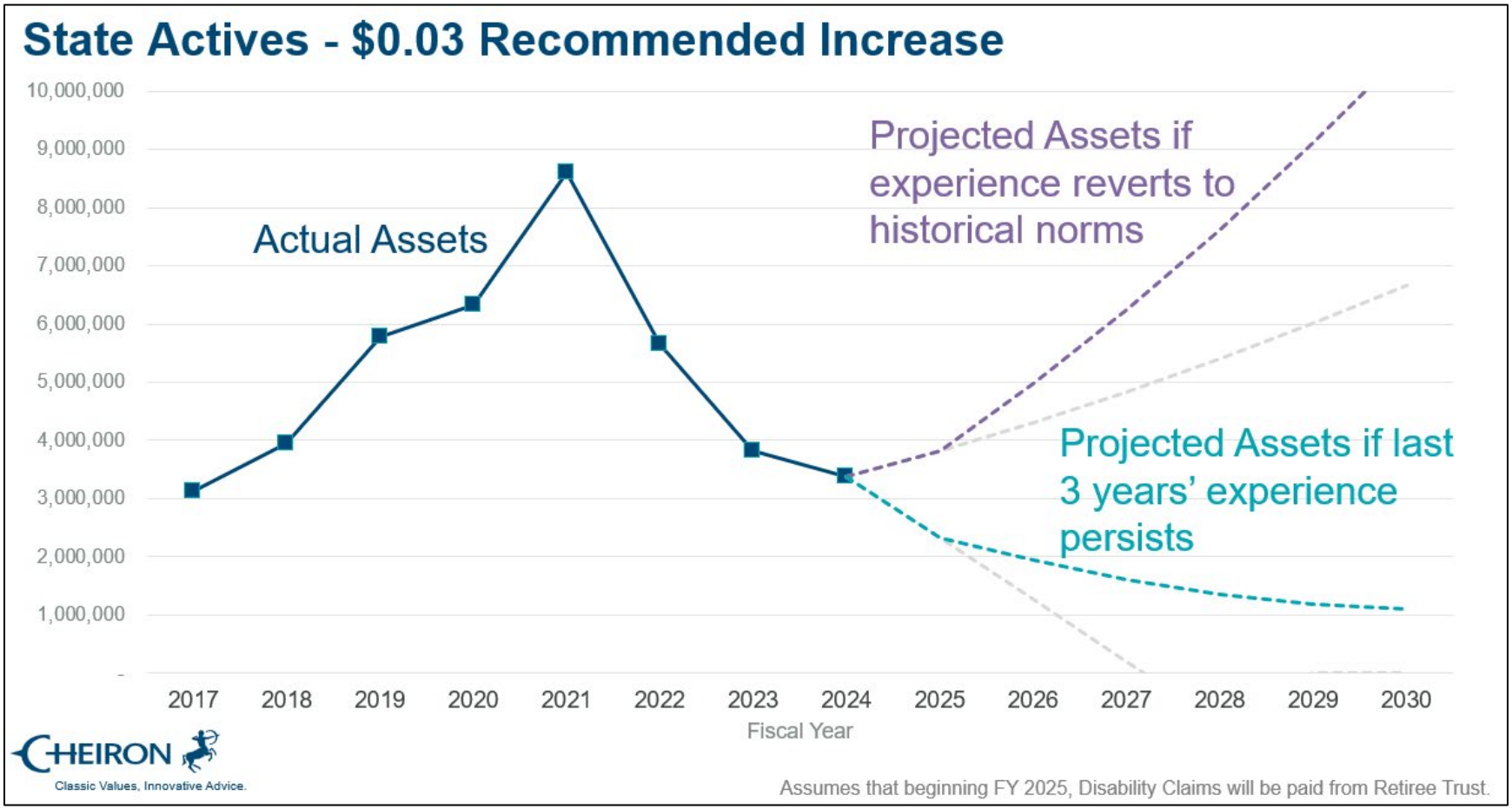
SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected State Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the State continues to contribute the $0.09 bi-weekly per $1,000 of coverage.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

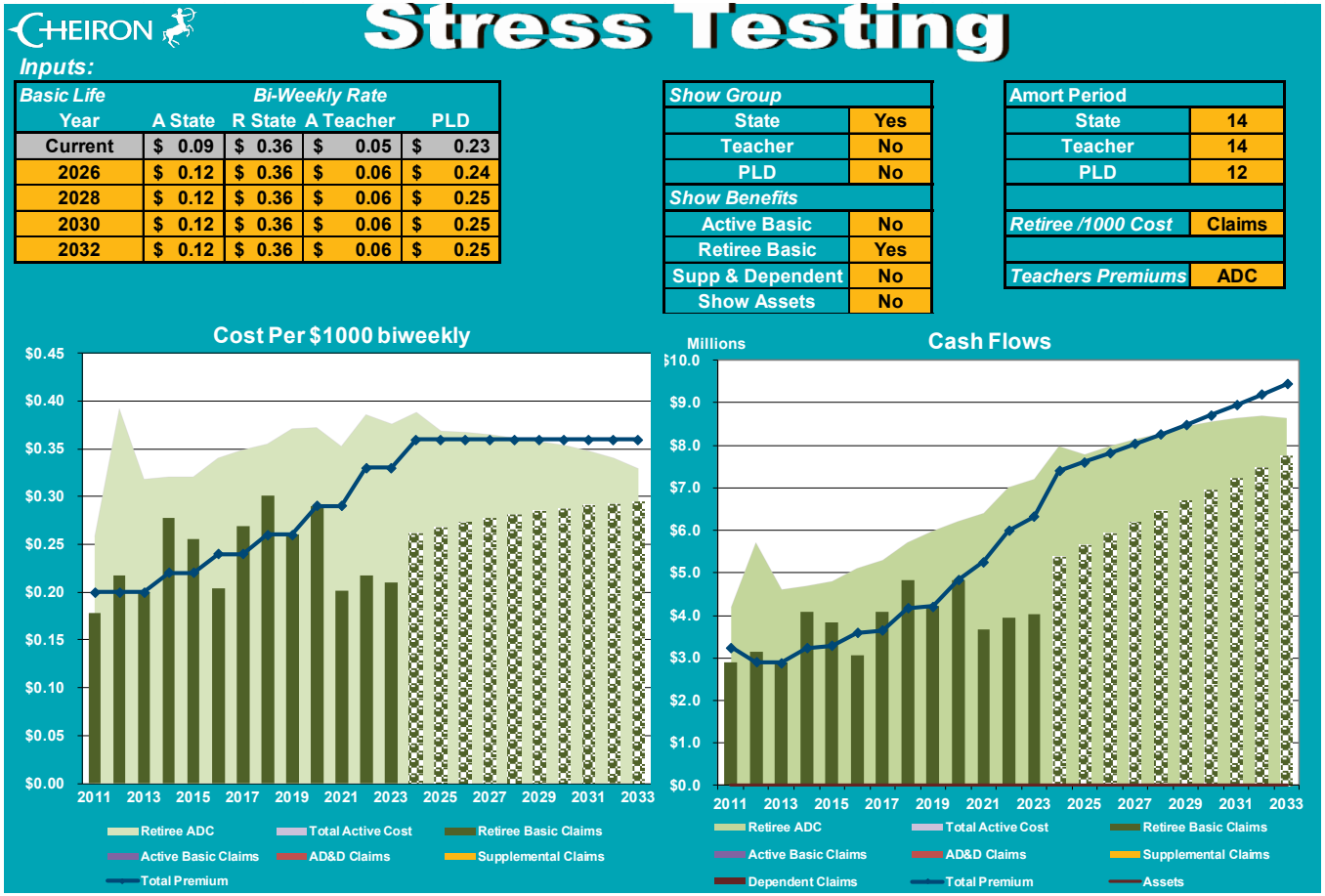
This chart displays the projected State Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the State increases the contribution to $0.12 bi-weekly per $1,000 of coverage in 2026. The dotted gray lines show results if the contribution remains at $0.09 as shown in the prior chart.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

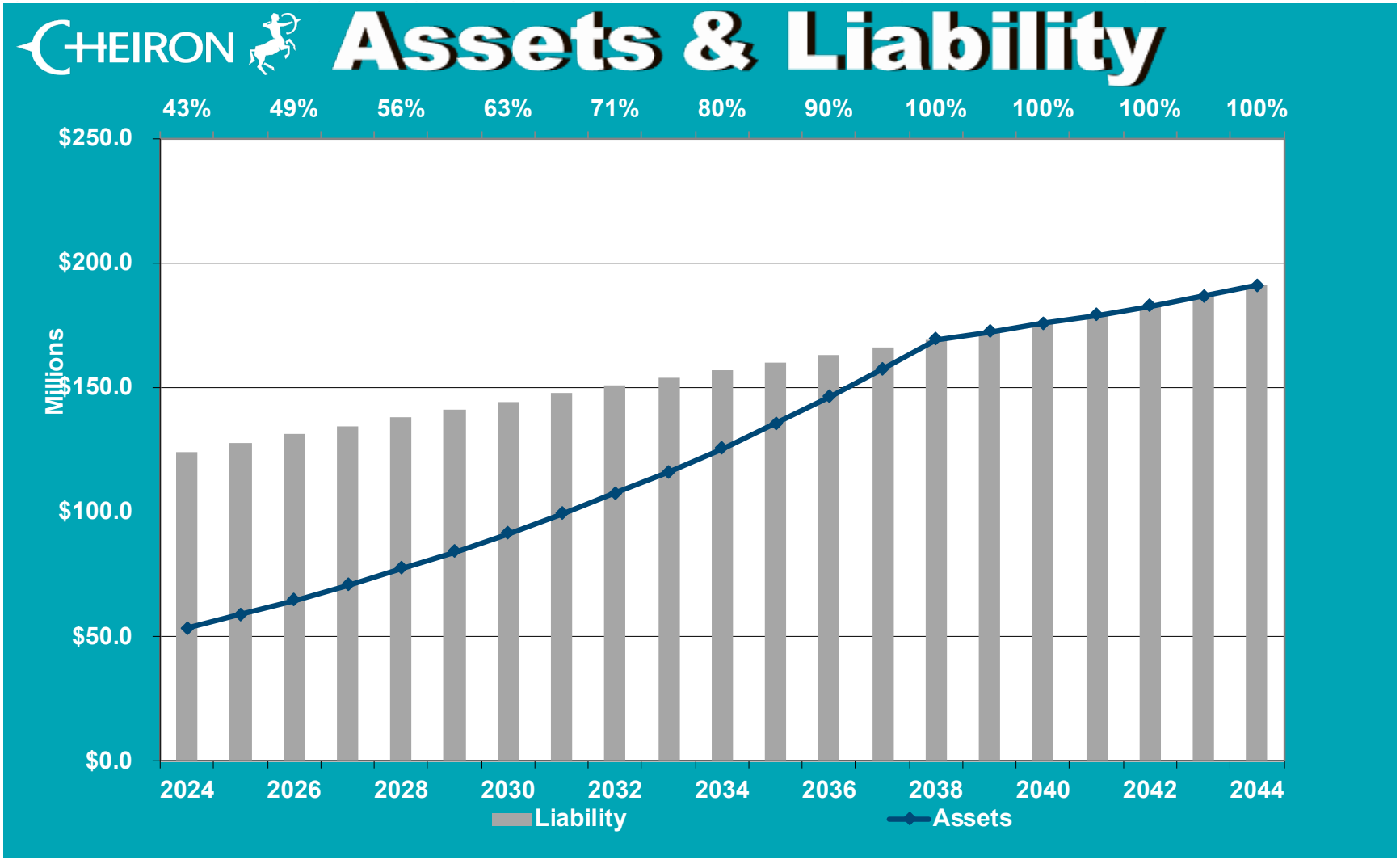
State: Basic Retiree Life Insurance

The current rate of $0.36 bi-weekly per $1,000 of coverage which became effective in 2024 based on the results of the 2020 Premium Study is sufficient to pay off the Unfunded Actuarial Liability in 18 years (by 2038), the funding target established by the Board. No further changes in premium are required at this time.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

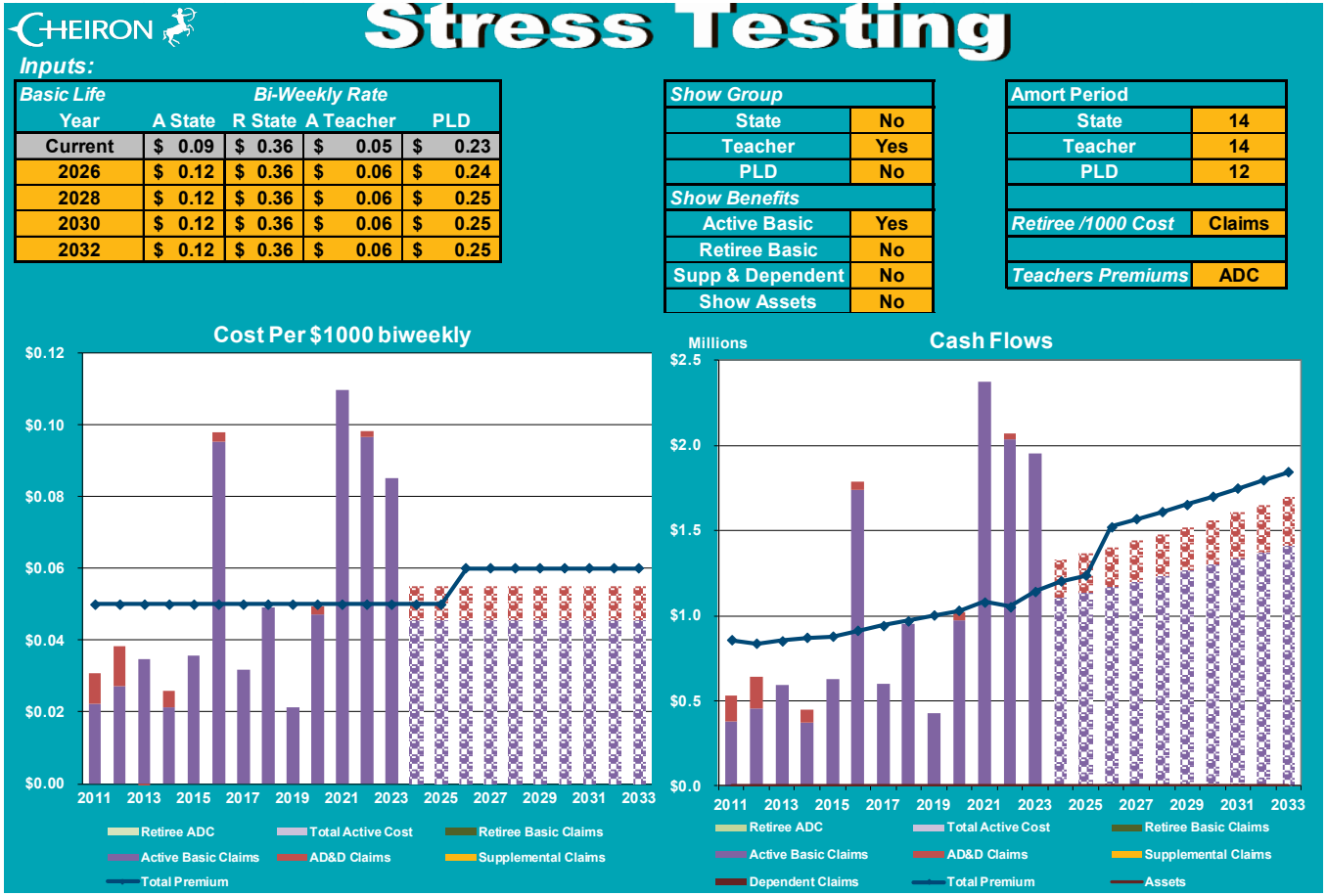
This chart displays the projected State Assets and Liabilities for Retiree Group Life Insurance under the current premium rate of $0.36 bi-weekly per $1,000 of coverage without increases.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

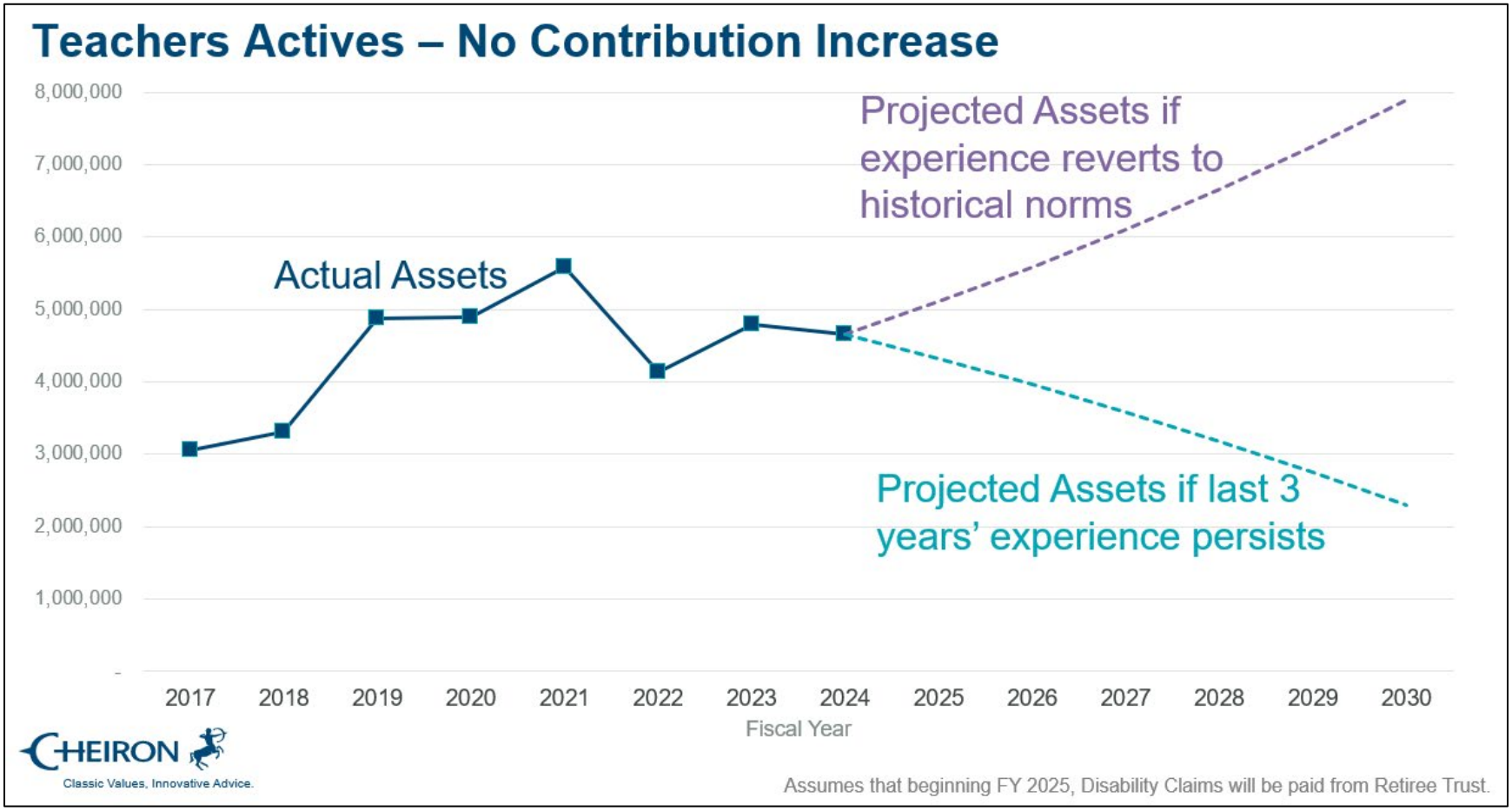
Teachers: Basic Active Life Insurance and AD&D
Current rate of $0.05 bi-weekly per $1,000 of coverage.

Due to the high incidence of active deaths in recent years, we are recommending increasing the premium rate from $0.05 to $0.06 bi-weekly per $1,000 of coverage. This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a fiscal year basis, with the increase effective in 2026 and assuming experience returns to historical norms.



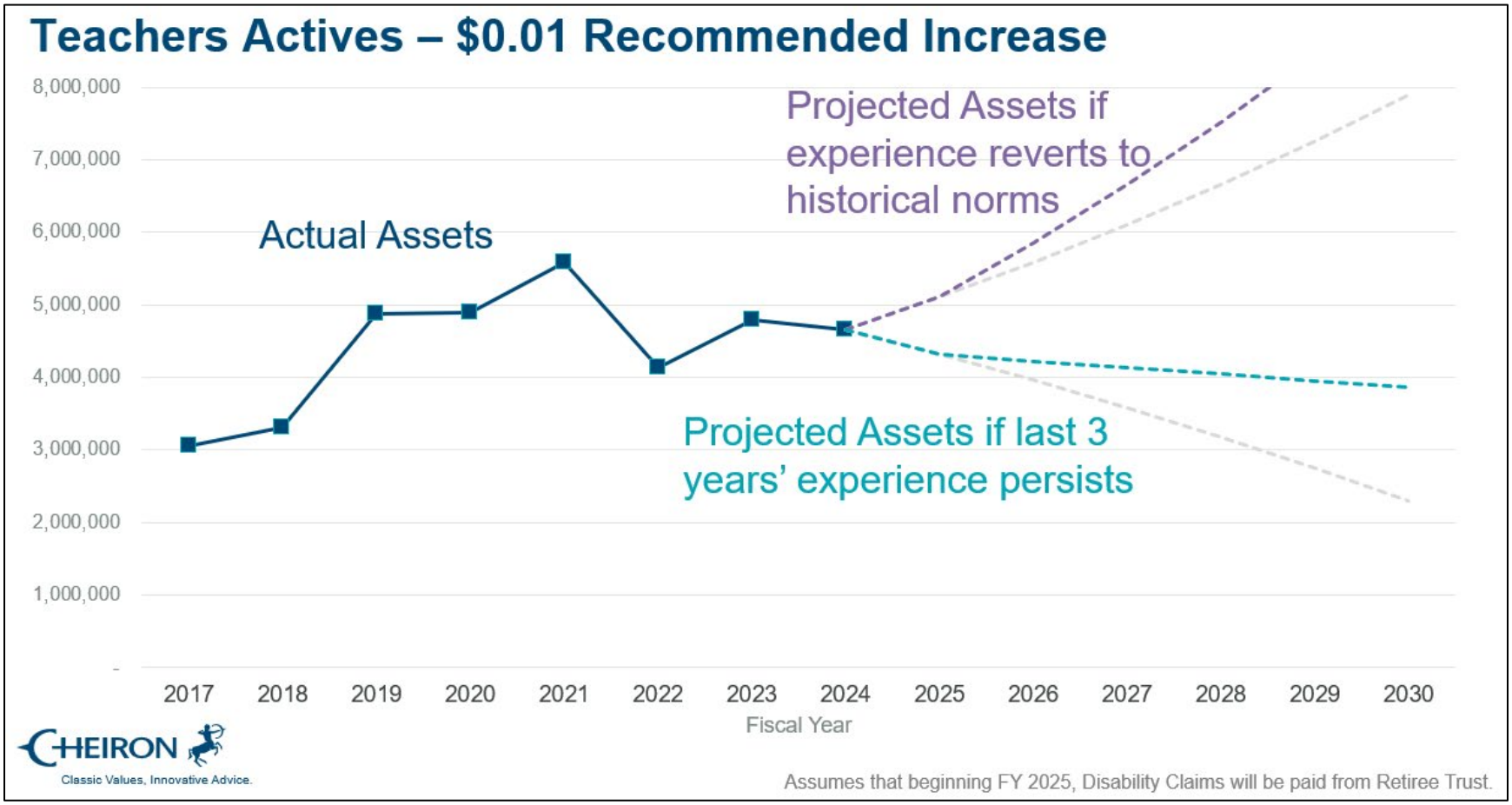
SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected Teachers Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the premium continues to be $0.05 bi-weekly per $1,000 of coverage.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected Teachers Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected, and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the premium increases to the recommended $0.06 bi-weekly per $1,000 of coverage in FY 2026. The dotted gray lines show results if the contribution remains at $0.05 as shown in the prior chart.

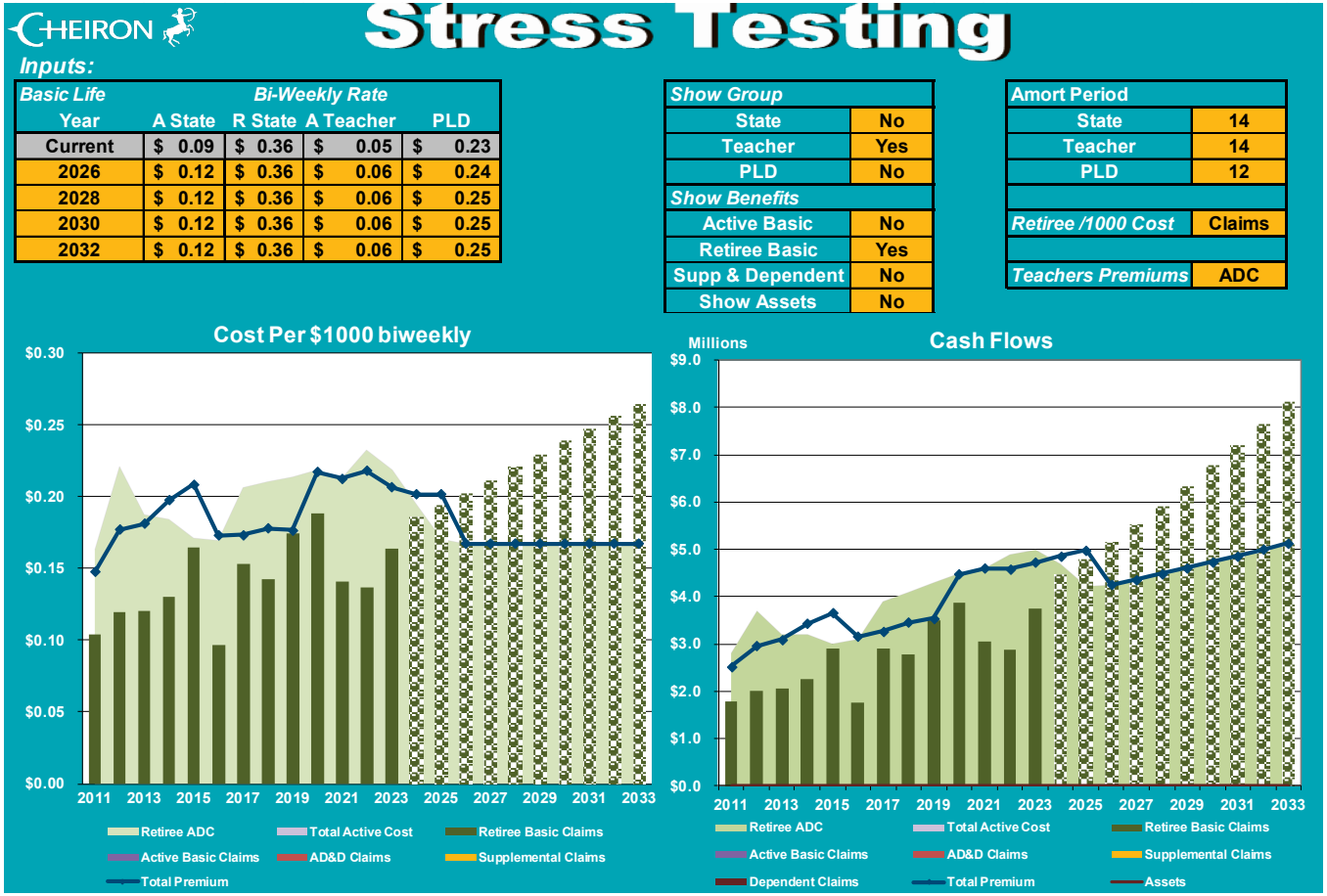


SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

Teachers: Basic Retiree Life Insurance

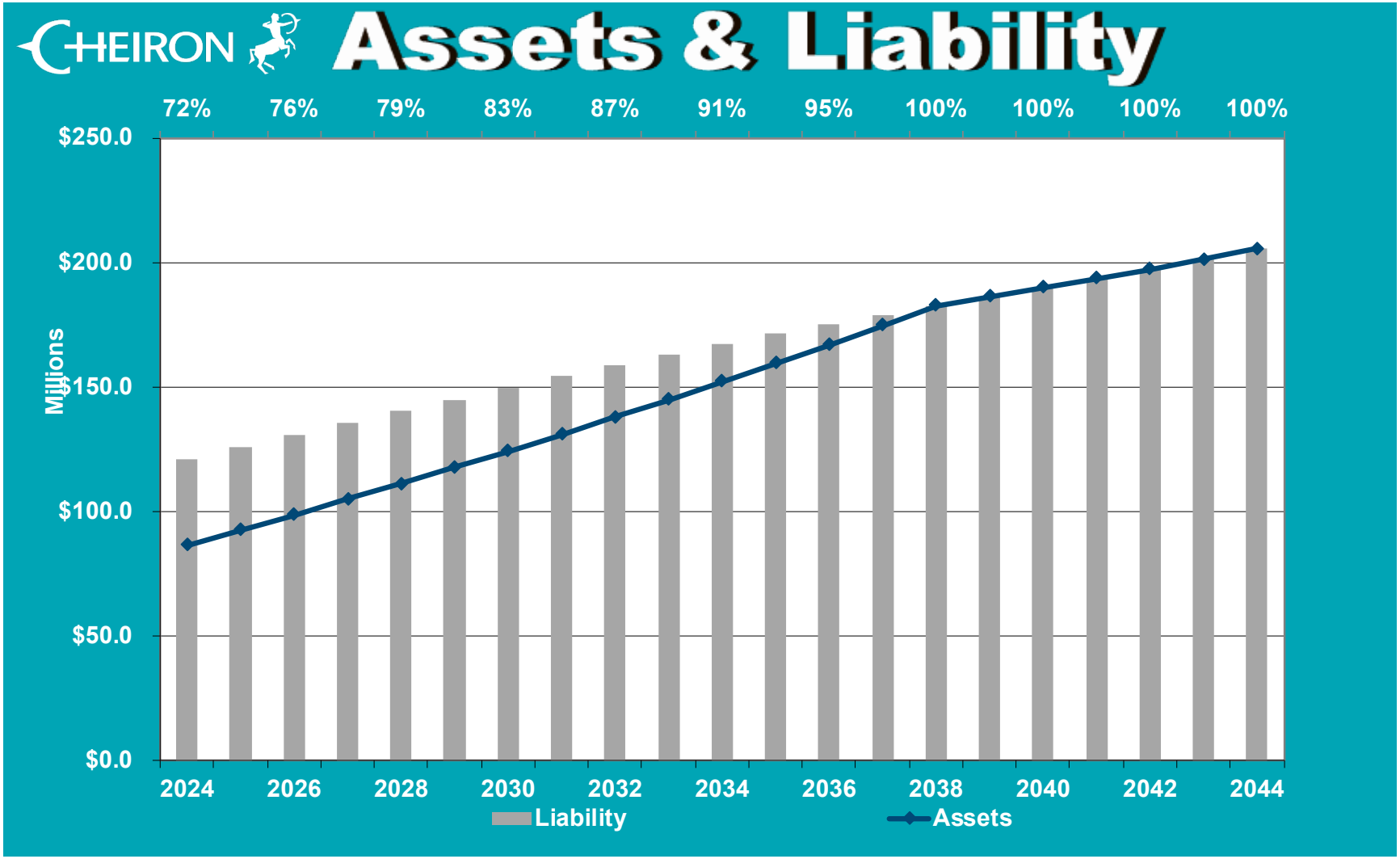
The premiums for the Teachers' Basic Retiree Life Insurance benefit are paid by the State as the dollar amount of each year's ADC. (This benefit is not funded using a rate per $1,000 of coverage.) This funding method is appropriate for funding the benefits, and a change is not indicated at this time.

This chart shows projected cost, historic and projected cash flows, and retiree ADC on a Fiscal Year basis.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

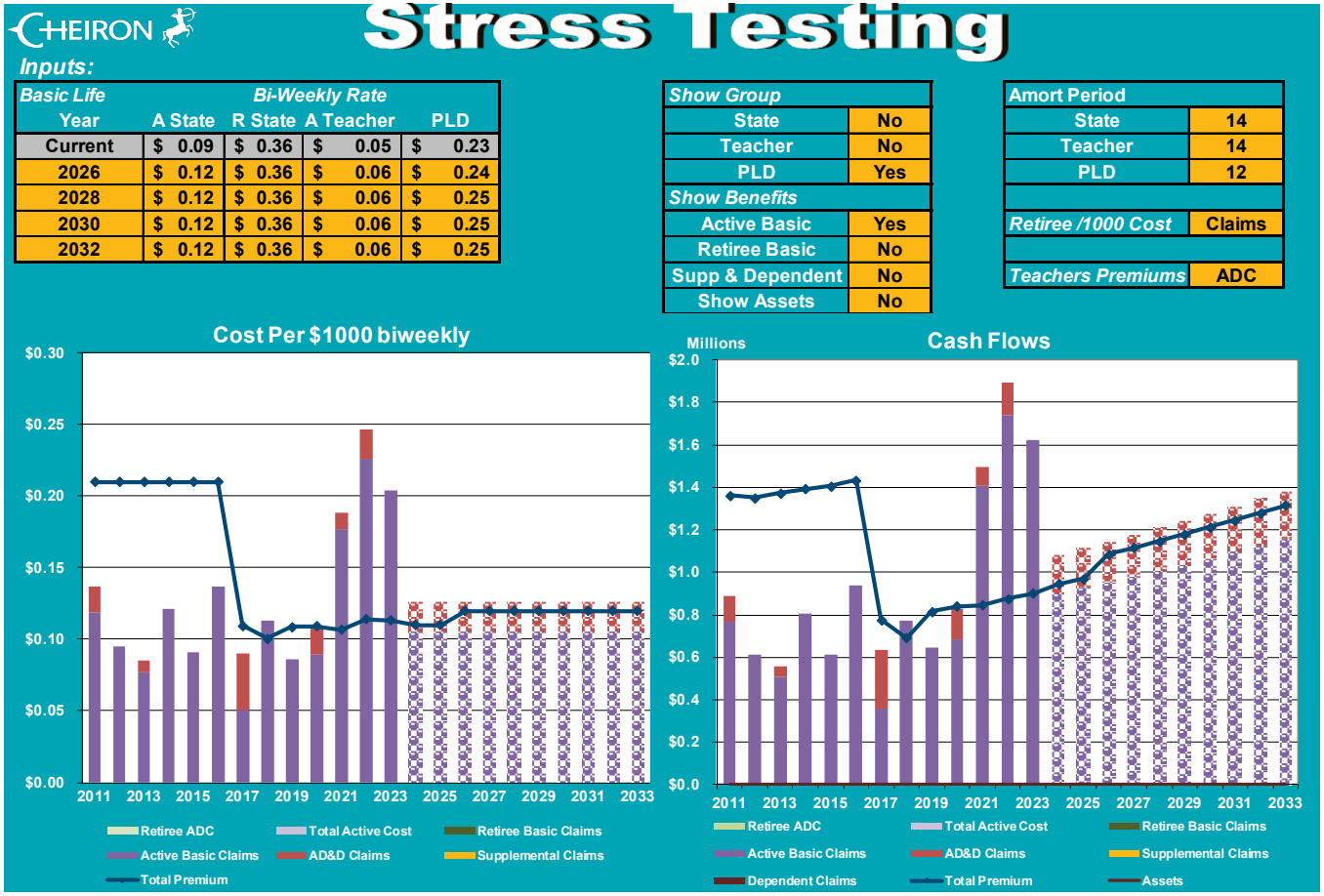
This chart displays the projected Teacher Assets and Liabilities for Retiree Group Life Insurance under the current method of funding the ADC.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

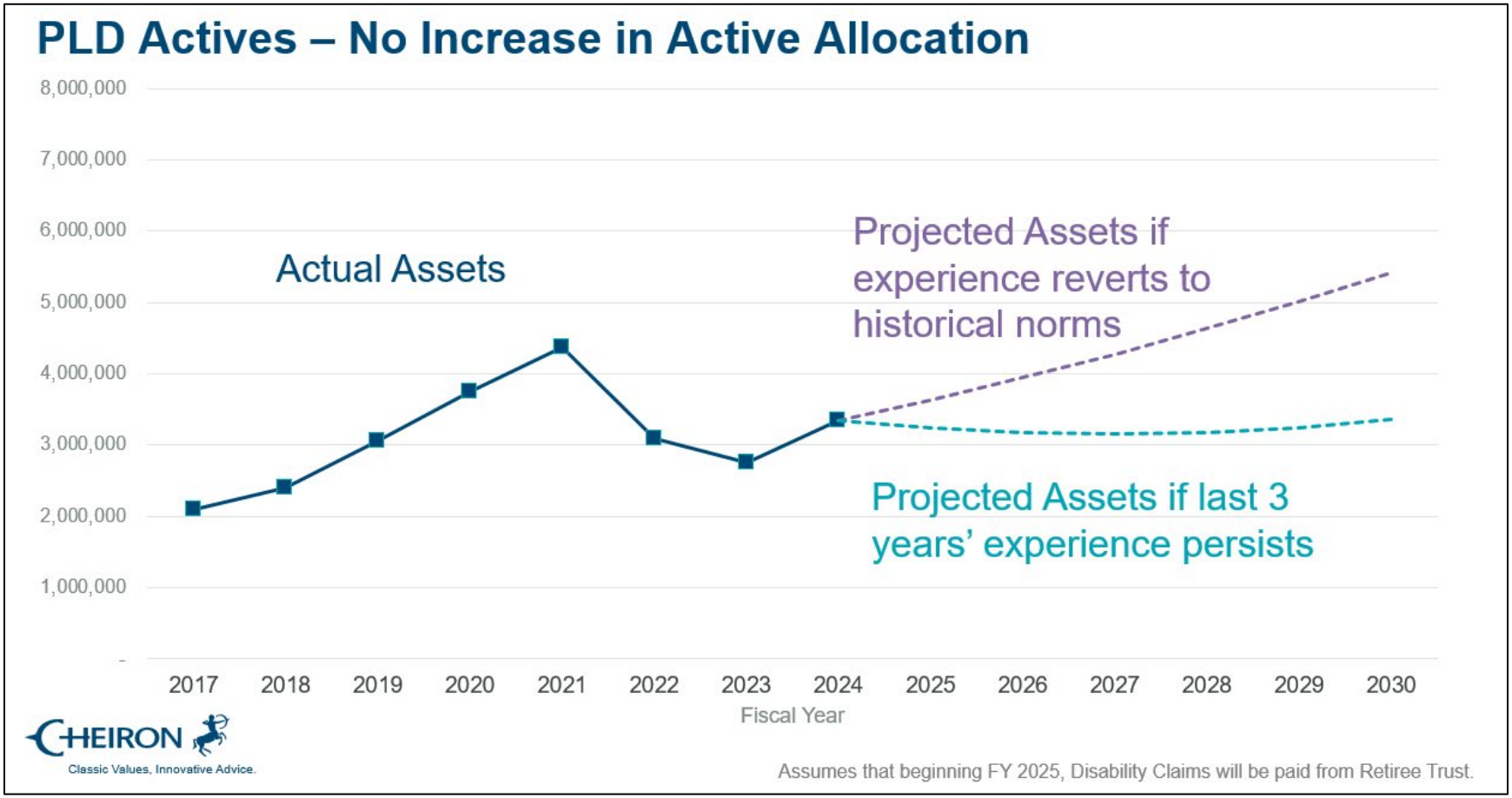
PLD: Basic Active Life Insurance and AD&D

Current rate of $0.23 bi-weekly per $1,000 of coverage scheduled to increase to $0.24 in 2026 based on the option selected from the 2020 Premium Study which was expected to be sufficient to pay the retiree UAL by 2036. For active employees, $0.11 is being used for current active benefits and $0.12 is being allocated for future retirement benefits. Due to the high incidence of active deaths in recent years, we are recommending increasing the amount allocated to fund active benefits from $0.11 to $0.12 bi-weekly per $1,000 of coverage. This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a fiscal year basis, with the increase effective in 2026 and an additional increase to $0.25 in 2028 and assuming experience returns to historical norms.



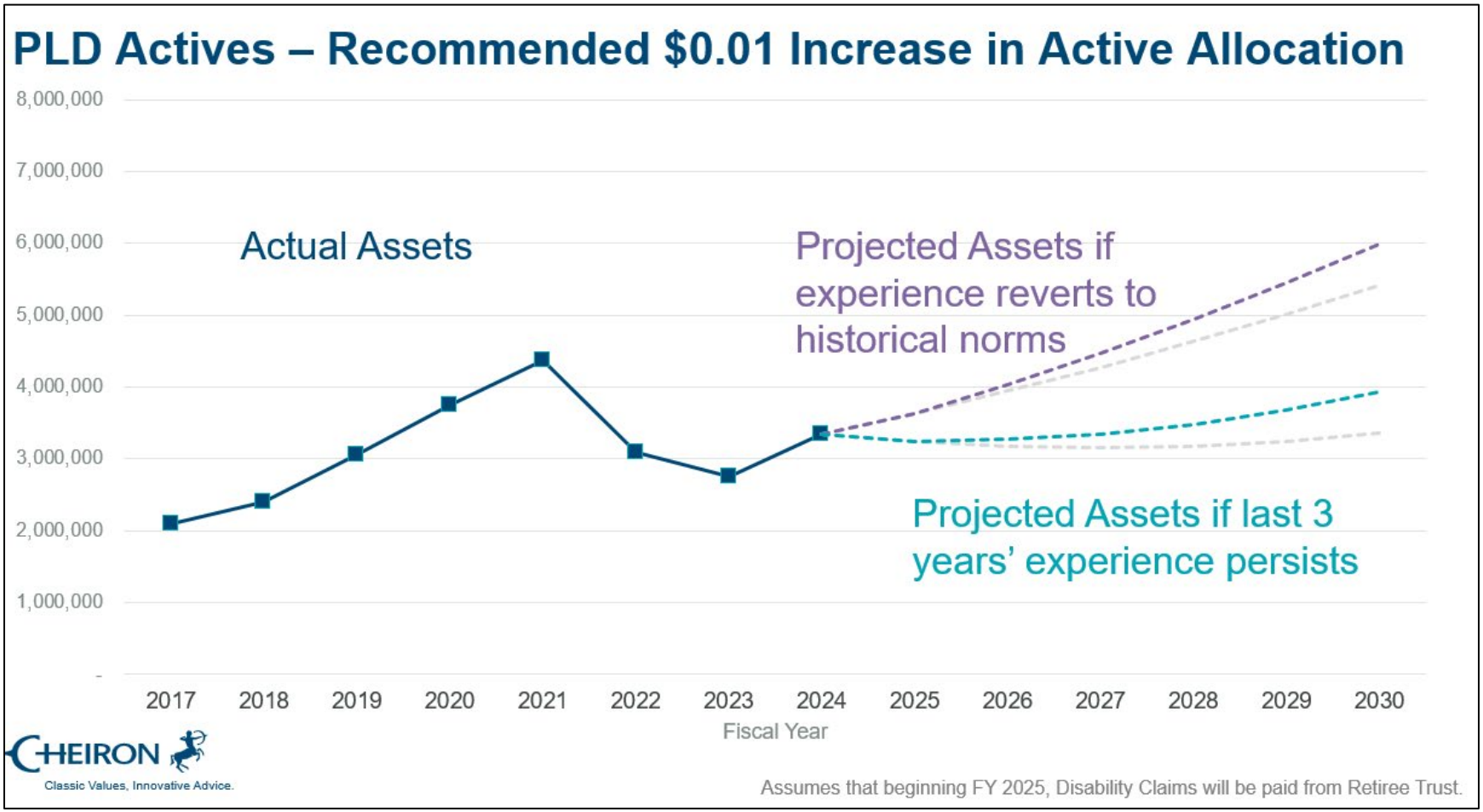
SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected PLDs Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the premium allocated to the active fund continues to be $0.11 bi-weekly per $1,000 of coverage.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected PLDs Assets for Active Group Life Insurance under two scenarios: mortality trends are as expected and mortality trends follow the average of the past three years which have been substantially higher than expected. This chart shows the two scenarios if the premium allocated to the active fund increases to the recommended $0.12 bi-weekly per $1,000 of coverage in FY 2026. The dotted gray lines show results if the contribution remains at $0.11 as shown in the prior chart.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

PLD: Basic Retiree Life Insurance

The following charts show the retiree portion of the active premium plus the retiree premium compared to the cost on a bi-weekly basis per $1,000 of retiree coverage, as well as historic and projected cash flows on a fiscal year basis for the current rate. With the recommended increase in the portion of the rate being directed to the active fund, the current premium rate will not be sufficient to pay off the Unfunded Actuarial Liability in the 12 years (by 2036) designated as a result of the 2020 Premium Study, but instead 13 years (by 2037).

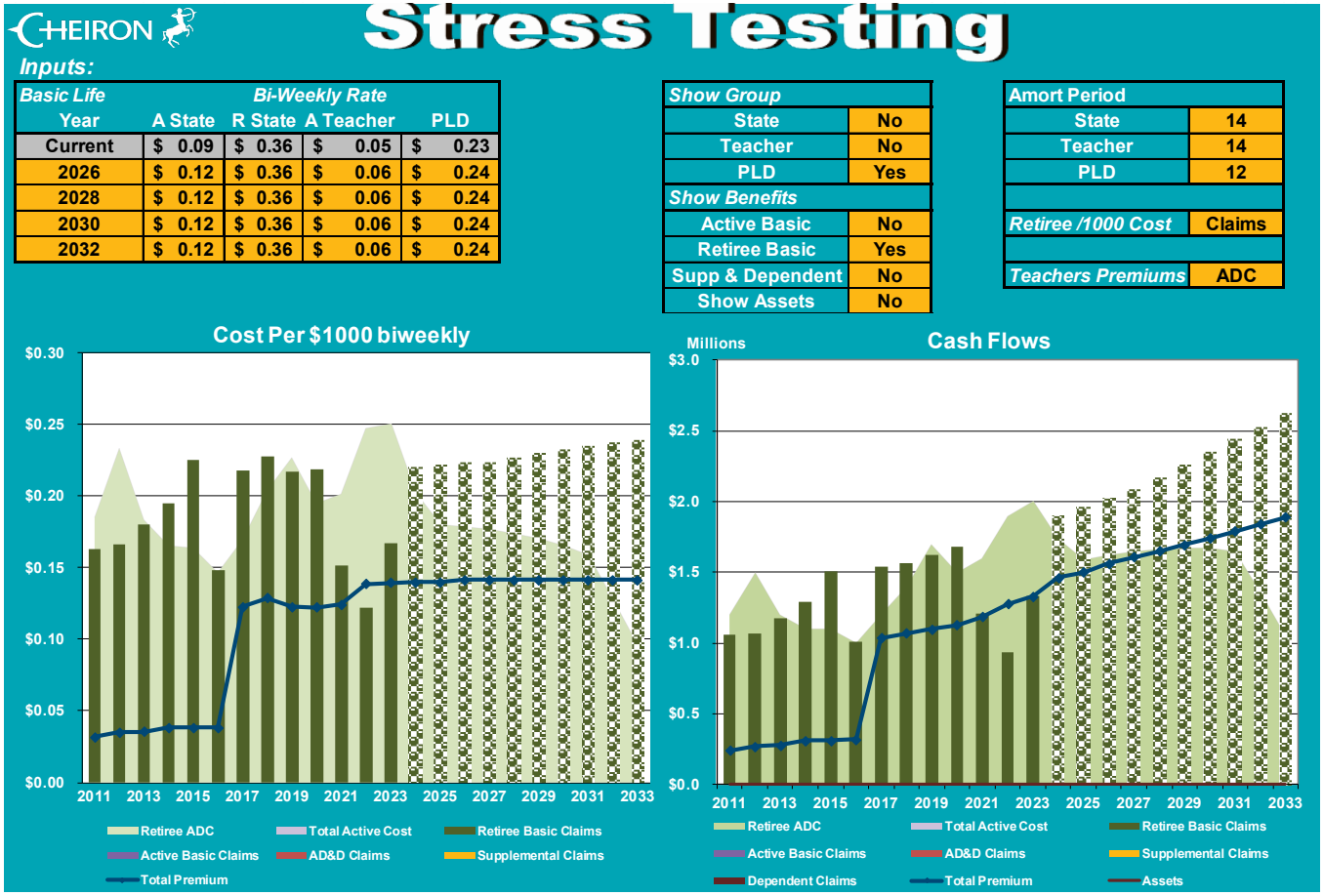
The following pages show two scenarios:

- Results if premiums continue at the increases designated from the 2020 Premium Study with no further increases, but active contribution is increase from $0.11 to $0.12 in 2026 (UAL is paid for in 13 years by 2037):
    - FYE 2024 - $0.23 for retirees with $0.12 of active premiums allocated to the Retiree Fund
        - Active Contribution is $0.23, with $0.11 allocated to the Active Fund
    - FYE 2026 - $0.24 for retirees with $0.12 of active premiums allocated to the Retiree Fund
        - Active Contribution is $0.24, with $0.12 allocated to the Active Fund
- Results if premiums continue at the increases designated from the 2020 Premium Study with an additional increase in 2028 to compensate for the increase in active premiums (UAL is paid for in 12 years by 2036):
    - FYE 2024 - $0.23 for retirees with $0.12 of active premiums allocated to the Retiree Fund
        - Active Contribution is $0.23, with $0.11 allocated to the Active Fund
    - FYE 2026 - $0.24 for retirees with $0.12 of active premiums allocated to the Retiree Fund
        - Active Contribution is $0.24, with $0.12 allocated to the Active Fund
    - FYE 2028 - $0.25 for retirees with $0.13 of active premiums allocated to the Retiree Fund
        - Active Contribution is $0.25, with $0.12 allocated to the Active Fund

SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

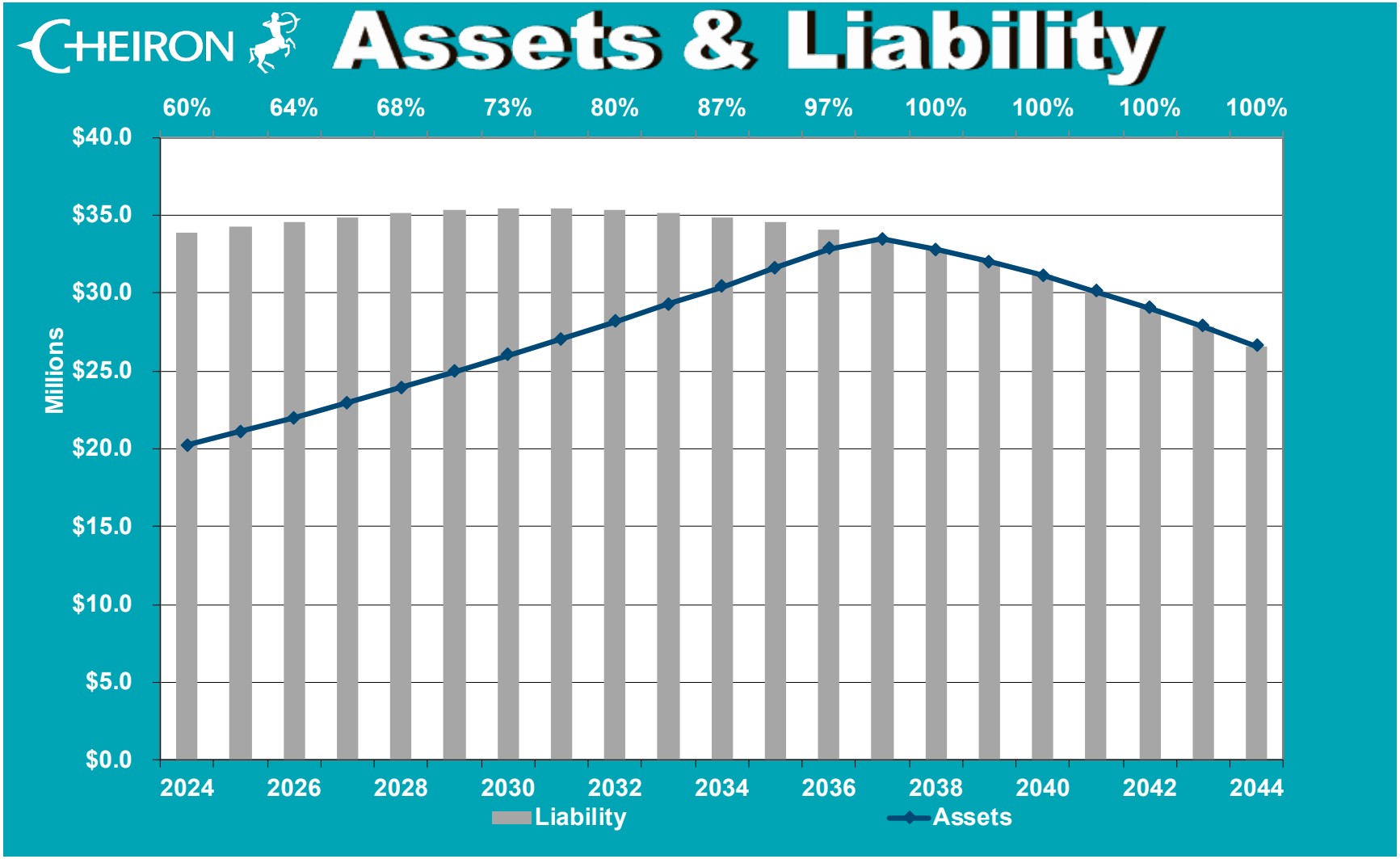
PLD: Basic Retiree Life Insurance – Continue at the current increase schedule
Current rate: $0.23 bi-weekly per $1,000 of coverage for current retirees plus $0.12 of active premium is allocated to the Retiree Fund.

This chart shows the retiree portion of the active premium plus the retiree premium compared to the cost on a bi-weekly basis per $1,000 of retiree coverage, as well as historic and projected cash flows on a fiscal year basis for the current rate. The current schedule is projected to pay off the Unfunded Actuarial Liability in 13 years (by 2037), one year behind the year designated based on the option selected from the 2020 Premium Study.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

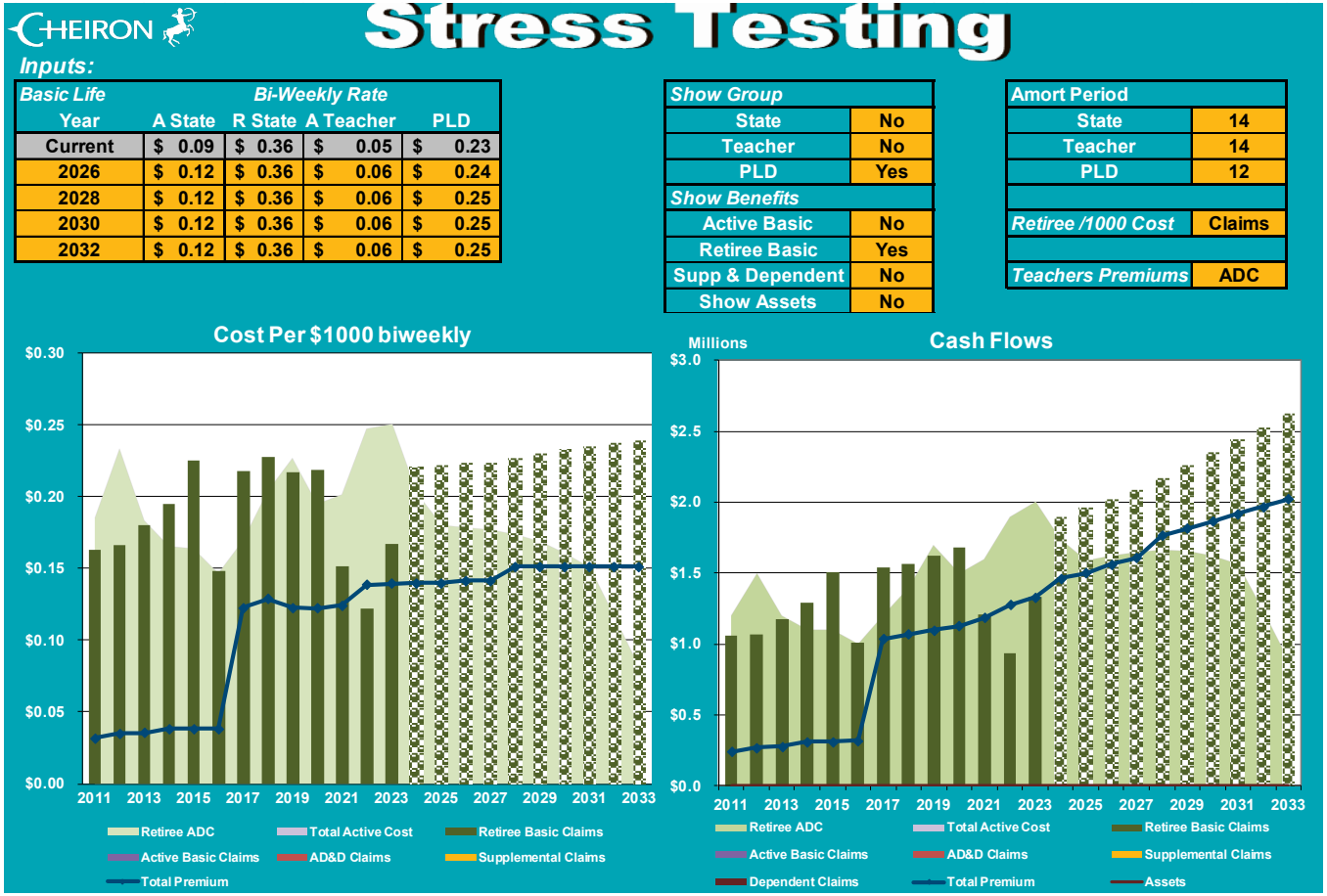
This chart displays the projected PLD Assets and Liabilities for the post-retirement life insurance benefit under the current premium rates of $0.23 bi-weekly per $1,000 of coverage for current retirees plus $0.12 of active premium is allocated to the Retiree Fund, including the scheduled increase in 2026 to $0.24 for current retirees plus $0.12 of active premium is allocated to the Retiree Fund.



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

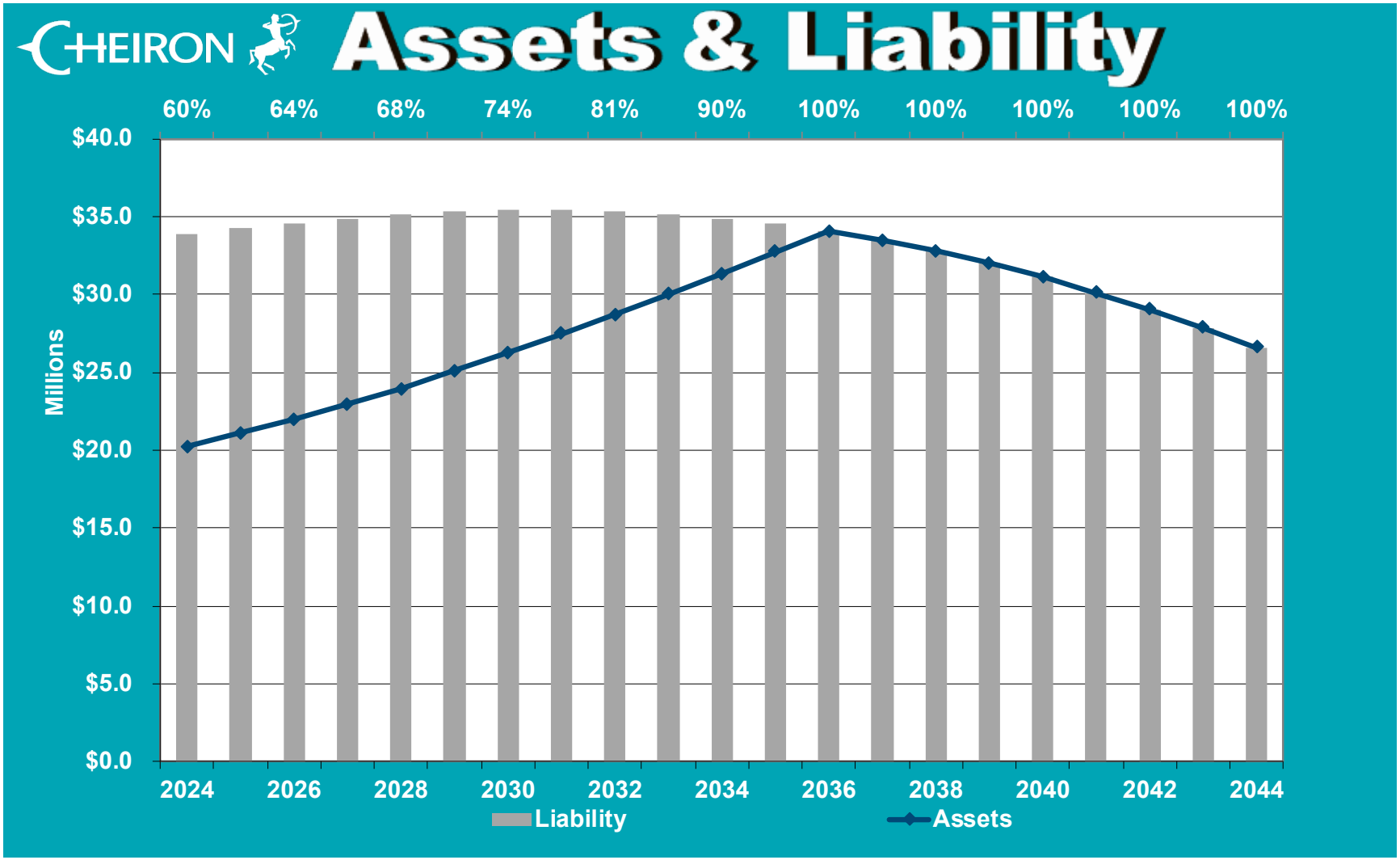
PLD: Basic Retiree Life Insurance – Current increase schedule plus $0.01 increase for 2028
Current rate: $0.23 bi-weekly per $1,000 of coverage for current retirees plus $0.12 of active premium is allocated to the Retiree Fund.

This chart shows the retiree portion of the active premium plus the retiree premium compared to the cost on a bi-weekly basis per $1,000 of retiree coverage, as well as historic and projected cash flows on a fiscal year basis for the current increase schedule with one additional increase in 2028. This schedule is projected to be sufficient to pay off the Unfunded Actuarial Liability in 12 years (by 2036).



SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

This chart displays the projected PLD Assets and Liabilities for the post-retirement life insurance benefit with premium rates of $0.23 bi-weekly per $1,000 of coverage for current retirees ($0.11 of active premium allocated to Retiree Fund), increasing in 2026 to $0.24 ($0.12 of active premium allocated to Retiree Fund) and in 2028 to $0.25 ($0.13 of active premium allocated to Retiree Fund).

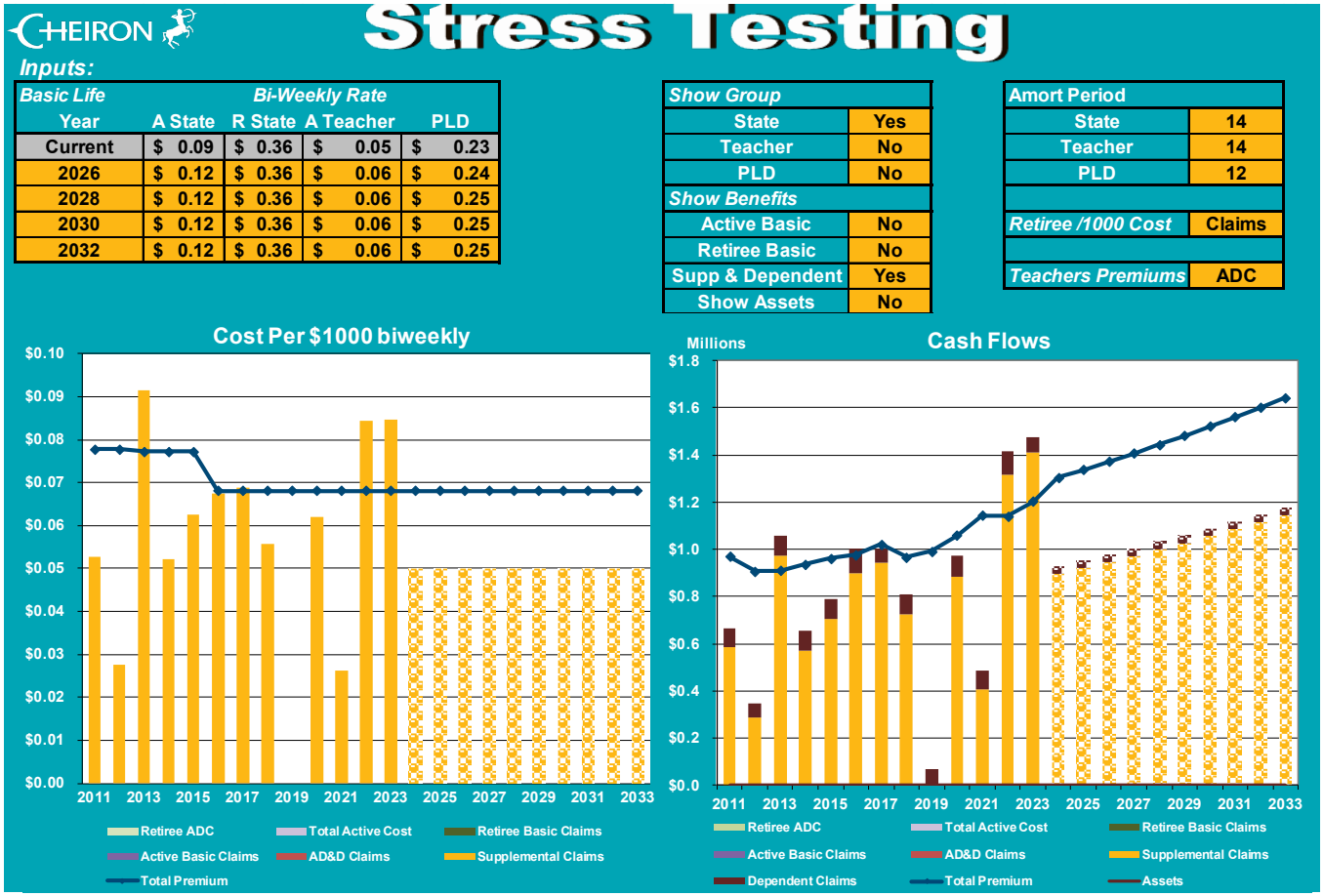


SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

State Active Supplemental and Dependent Life Insurance

The current supplemental and dependent rates are appropriate for funding the benefits, and a change is not indicated at this time.

This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a Fiscal Year basis, for the current rates.

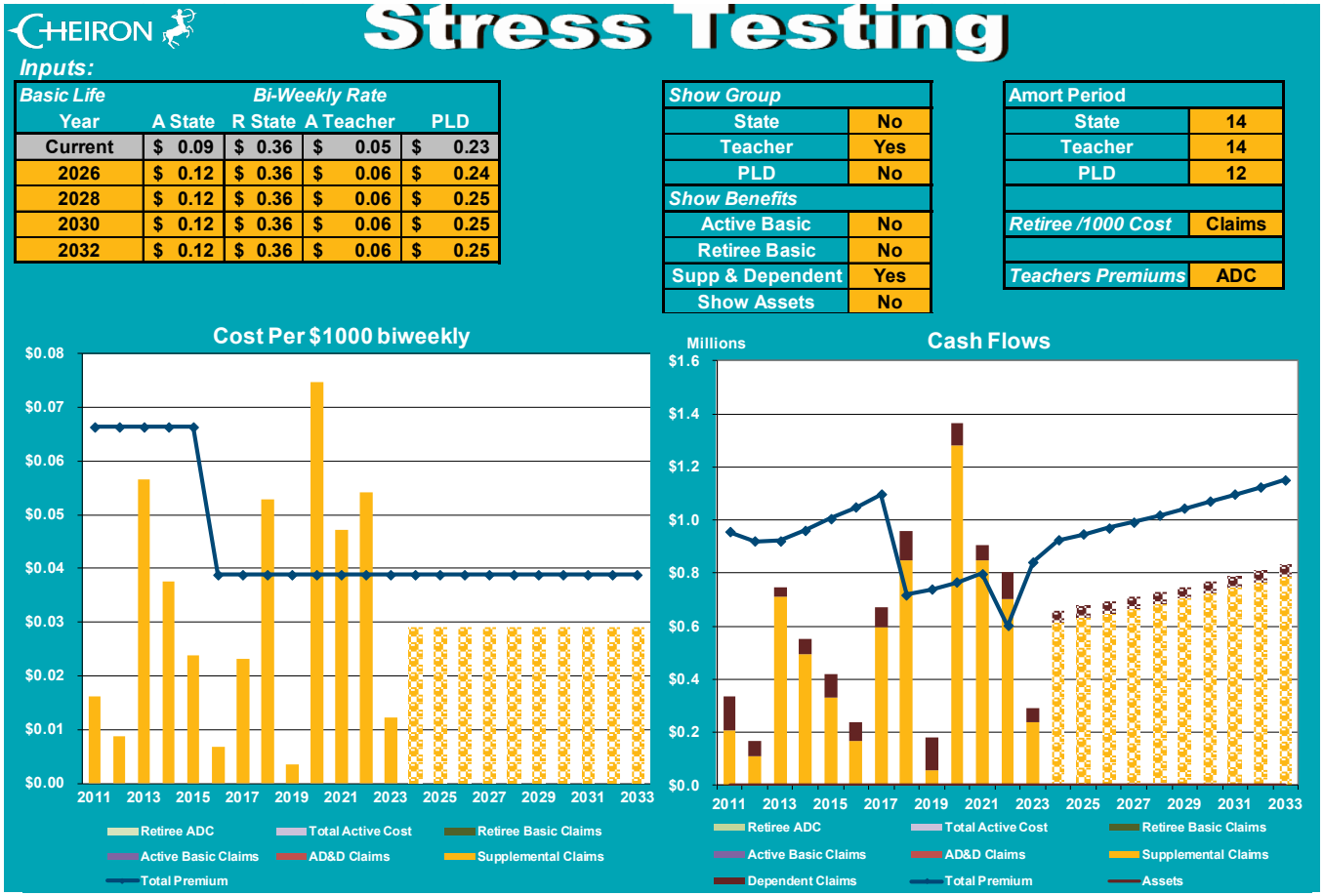


SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

Teacher Active Supplemental and Dependent Life Insurance

The current supplemental and dependent rates are appropriate for funding the benefits, and a change is not indicated at this time.

This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a Fiscal Year basis, for the current rates.

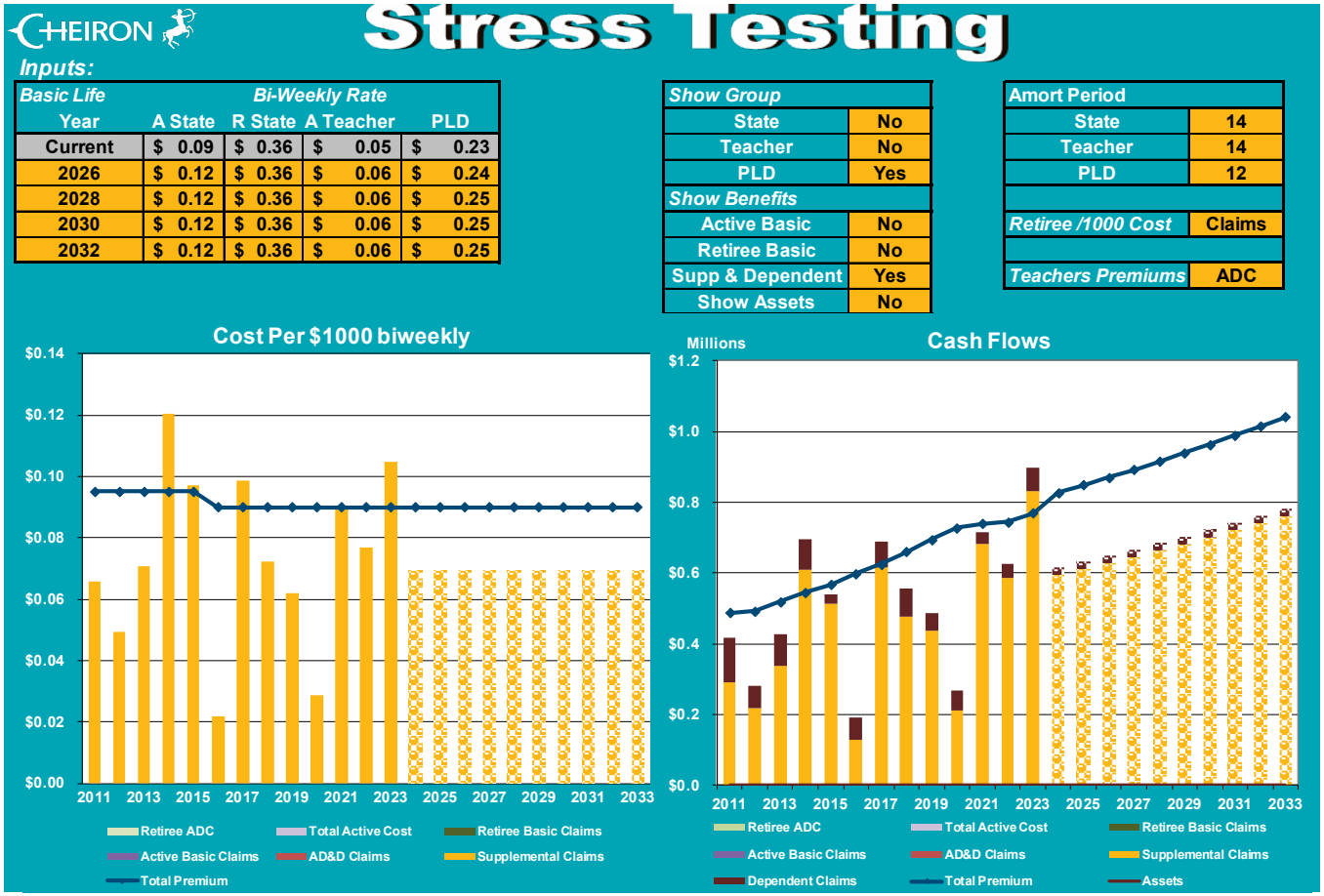


SECTION III – PREMIUM PROJECTIONS AND SCENARIOS

PLD Active Supplemental and Dependent Life Insurance

The current supplemental and dependent rates are appropriate for funding the benefits, and a change is not indicated at this time.

This chart shows premium and cost on a bi-weekly basis per $1,000 of coverage, historic and projected cash flows on a Fiscal Year basis, for the current rates.



SECTION IV – IMPACT ON CONTRIBUTIONS

The following tables show the impact on contributions for each recommended increase in the biweekly rate proposed based on the following amounts of Insurance in Force.

	Insurance in Force in 2023		
FYE (6/30)	State	Teachers	PLDs
Active Basic	$ 770,062,600	$ 901,119,000	$ 321,295,000
Active Sup	$ 692,457,600	$ 814,115,000	$ 331,298,000
Active Dep A	$ 4,325,000	$ 5,900,000	$ 3,040,000
Active Dep B	$ 14,460,000	$ 18,070,000	$ 9,400,000
Retiree Basic	$ 208,446,890	$ 192,128,801	$ 70,322,944

	State Basic Active - Increase Bi-weekly rate schedule by $0.03 in 2026		
FYE (6/30)	Current	Proposed	Difference
2024	$1,851,500	$1,851,500	$0
2025	$1,902,416	$1,902,416	$0
2026	$1,954,733	$2,606,310	$651,578
2027	$2,008,488	$2,677,984	$669,496
2028	$2,063,721	$2,751,628	$687,907
2029	$2,120,474	$2,827,298	$706,825
2030	$2,178,787	$2,905,049	$726,262
2031	$2,238,703	$2,984,938	$746,234
2032	$2,300,268	$3,067,023	$766,756
2033	$2,363,525	$3,151,367	$787,842

	Teacher Basic Active - Increase Bi-weekly rate schedule by $0.01 in 2026		
FYE (6/30)	Current	Proposed	Difference
2024	$1,203,670	$1,203,670	$0
2025	$1,236,771	$1,236,771	$0
2026	$1,270,782	$1,524,938	$254,156
2027	$1,305,728	$1,566,874	$261,146
2028	$1,341,636	$1,609,963	$268,327
2029	$1,378,531	$1,654,237	$275,706
2030	$1,416,440	$1,699,729	$283,288
2031	$1,455,393	$1,746,471	$291,079
2032	$1,495,416	$1,794,499	$299,083
2033	$1,536,540	$1,843,848	$307,308

SECTION IV – IMPACT ON CONTRIBUTIONS

	PLD Basic - Increase Bi-weekly rate schedule by $0.01 in 2026		
FYE (6/30)	Current	Proposed	Difference
2024	$2,406,277	$2,406,277	$0
2025	$2,472,449	$2,472,449	$0
2026	$2,540,442	$2,650,896	$110,454
2027	$2,610,304	$2,723,795	$113,491
2028	$2,682,087	$2,798,700	$116,612
2029	$2,755,845	$2,875,664	$119,819
2030	$2,831,630	$2,954,745	$123,114
2031	$2,909,500	$3,036,000	$126,500
2032	$2,989,512	$3,119,490	$129,979
2033	$3,071,723	$3,205,276	$133,553

	PLD Basic - Increase Bi-weekly rate schedule by $0.01 in 2026 and an additional $0.01 in 2028		
FYE (6/30)	Current	Proposed	Difference
2024	$2,406,277	$2,406,277	$0
2025	$2,472,449	$2,472,449	$0
2026	$2,540,442	$2,650,896	$110,454
2027	$2,610,304	$2,723,795	$113,491
2028	$2,682,087	$2,915,312	$233,225
2029	$2,755,845	$2,995,483	$239,639
2030	$2,831,630	$3,077,859	$246,229
2031	$2,909,500	$3,162,500	$253,000
2032	$2,989,512	$3,249,469	$259,958
2033	$3,071,723	$3,338,830	$267,106

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Participant Data as of June 30, 2022

ACTIVE MEMBER DATA				
Group	Count	Average Age	Average Service	Average Salary
State	11,286	47.9	12.3	$ 63,945
Teachers	15,374	46.4	13.3	56,620
Judges	59	60.0	14.5	140,627
Legislators	54	63.2	6.1	14,000
PLD	5,248	48.8	10.5	57,363
TOTAL	32,021	47.4	12.5	59,406

Note that Legislators are subject to eight-year term limits for each house. Therefore, it is assumed that no active Legislators will reach the 10 years of service required to be eligible for retiree life benefits. However, they are included in the counts for the above exhibit because they are included in the expected remaining service life.

NON-ACTIVE MEMBER DATA			
Group	Count	Average Age	Average Benefit[1]
State	8,909	73.2	$ 19,066
Teachers	8,039	74.3	21,496
Judges	55	76.0	46,642
Legislators	13	81.2	5,622
PLD	3,015	72.7	19,266
TOTAL	20,031	73.6	20,138

[1] Ultimate benefit (40% of initial base benefit)

Participant Data as of June 30, 2023

Group	Active Basic	Retiree Basic	Supplemental	Dependent A	Dependent B
State[1]	11,668	8,988	4,482	865	1,446
Teachers	15,403	8,004	6,145	1,180	1,807
PLDs	5,300	2,998	2,413	608	940
Total	32,371	19,990	13,040	2,653	4,193

[1] State Group including Judges and Legislators

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Economic Assumptions

Valuation Date: June 30, 2023, for the purposes of measuring active life insurance. June 30, 2022, for the purposes of measuring retiree life insurance cost.

Investment Return: 6.50% per year

Cost-of-Living Increases in Life Benefits:
N/A. Unlike pension benefits, life insurance benefits do not increase with Cost-of-Living.

Premium Expense and Conversion Assumption:
To reflect administrative expenses and conversion expenses associated with the distribution of benefits, the following loads have been added to the liabilities, normal cost, and benefit payments.

Expense Load
State Employees, Judges, and Legislators: 9.97%
Teachers: 18.08%
PLDs: 9.67%

Conversion Load
State Employees, Judges, and Legislators: 2.50%
Teachers: 2.48%
PLDs: 1.42%

Rates of Salary Increase
(Experience-based sample rates by service including both merit scale increase and yearly increase):

Service	State	Teachers	Judges & Legislators	PLD
0	9.43%	13.03%	2.75%	11.48%
5	6.24	5.83	2.75	3.78
10	5.32	4.81	2.75	3.26
15	3.98	4.29	2.75	3.01
20	3.78	3.26	2.75	2.75
25+	3.26	2.80	2.75	2.75

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Demographic Assumptions

Rates of Termination

(Experience-based sample rates by service):

Service	State	Teachers	PLDs Regular	PLDs Special
0	32.5%	26.0%	28.0%	17.9%
5	10.0	9.0	9.0	7.9
10	6.0	5.5	5.0	4.5
15	4.0	3.5	3.5	2.9
20	3.0	3.0	3.5	2.7
25	2.5	3.0	3.0	0.0

(Experience-based sample rates by age):

Age	Judges
25	7.0%
30	6.0
35	5.0
40	4.0
45	3.0
50	2.0
55	1.0

(Experience-based sample rates by service):

Service	Legislators
0	0.0%
1	5.0
2	10.0
3	15.0
4	20.0
5	25.0
6	30.0
7	40.0
8+	50.0

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Rates of Mortality
(Experience-based sample deaths per 10,000 members by age):

State and Teacher Healthy Annuitant

(showing values in 2022)				
	State Employees		Teachers	
Age	Male	Female	Male	Female
50	31	25	10	6
55	47	35	21	17
60	71	48	36	26
65	103	69	59	37
70	159	112	97	60
75	269	200	179	114
80	485	370	342	320
85	894	703	715	629
90	1,556	1,314	1,335	1,191
95	2,428	2,146	2,246	2,119

Rates for the State Group are based on 112.1% and 118.5% of the 2010 Public Plan General Benefits-Weighted Healthy Retiree Mortality Table, respectively, for males and females.

Rates for Teachers are based on the 2010 Public Plan Teacher Benefits-Weighted Healthy Retiree Mortality Table adjusted as follows:

- 98.1% and 87.5% respectively of the rates for males before age 85 and females before age 80
- 106.4% and 122.3% respectively of the rates for males on and after age 85 and females on and after age 80

Rates are projected generationally using the RPEC_2020 model, with an ultimate rate of 1.00% for ages 80 and under, grading down to 0.05% at age 95, and further grading down to 0.00% at age 115, along with convergence to the ultimate rates in the year 2027. All other parameters used in the RPEC_2020 model are those included in the published MP-2020 scale.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

State and Teacher Healthy Active Employees

(showing values in 2022)				
	State Employees		Teachers	
Age	Male	Female	Male	Female
20	3	1	3	1
25	3	1	2	1
30	4	2	3	2
35	6	3	4	3
40	7	4	5	3
45	9	5	7	4
50	12	7	10	6
55	18	11	15	10
60	28	17	25	16
65	39	25	41	24

Rates for the State Group are based on 83.5% and 88.6% of the 2010 Public Plan General Benefits-Weighted Employee Mortality Table, respectively, for males and females. Rates for Teachers are based on 93.1% and 91.9% of the 2010 Public Plan Teacher Benefits-Weighted Employee Mortality Table, respectively, for males and females. These rates are generationally projected using the same version of the RPEC_2020 model as described in the healthy annuitant mortality.

PLD Healthy Annuitant

	Showing values in 2022	
Age	Male	Female
50	31	25
55	47	35
60	71	48
65	103	69
70	159	112
75	269	200
80	485	370
85	894	703
90	1,556	1,314
95	2,428	2,146

Rates are based on 112.1% and 118.5% of the 2010 Public Plan General Benefits-Weighted Healthy Retiree Mortality Table, respectively, for males and females. Proposed rates are projected generationally using the RPEC_2020 model, with an ultimate rate of 1.00% for ages 80 and under, grading down to 0.05% at age 95, and further grading down to 0.00% at age 115, with convergence to the ultimate rates in 2027. All other parameters used in the RPEC_2020 model are those included in the published MP-2020 scale.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

PLD Healthy Active Employees

	(showing values in 2022)	
Age	Male	Female
20	3	1
25	3	1
30	4	2
35	6	3
40	7	4
45	9	5
50	12	7
55	18	11
60	28	17
65	39	25

Rates are based on 83.5% and 88.6% of the 2010 Public Plan General Benefits-Weighted Employee Mortality Table, respectively, for males and females. These rates are generationally projected using the same version of the RPEC_2020 model as described in the healthy annuitant mortality.

Disabled Mortality

	(showing values in 2022)			
	State and PLDs		Teachers	
Age	Male	Female	Male	Female
25	36	21	32	25
30	54	37	47	42
35	73	57	64	69
40	90	76	79	91
45	113	99	99	119
50	161	143	141	172
55	219	184	192	221
60	278	213	244	255
65	330	222	289	267
70	389	262	341	314

Rates for the State and PLDs are based on 107.3% and 103.2% of the 2010 Public Plan Non-Safety Benefits-Weighted Disabled Retiree Mortality Table, respectively, for males and females. Rates for Teachers are based on 94.2% and 123.8% of the 2010 Public Plan Non-Safety Benefits-Weighted Disabled Retiree Mortality Table, respectively, for males and females. These rates are generationally projected using the same version of the RPEC_2020 model described in the healthy annuitant mortality.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Rates of Retirement

(Experience-based sample retirements per 1,000 members by age)

Teachers and State Regular Plans

	State Regular Employees			Teachers		
Age	NRA 60	NRA 62	NRA 65	NRA 60	NRA 62	NRA 65
57	40	35	N/A	40	35	N/A
59	260	40	N/A	200	45	N/A
60	210	50	20	275	80	20
61	210	350	20	210	240	20
62	210	270	50	230	220	50
63	250	180	80	220	180	80
64	190	200	300	280	220	200
65	210	220	250	340	300	300
70	200	200	200	300	200	300
75	350	350	250	400	200	300
80	1,000	1,000	1,000	1,000	1,000	1,000

State Special Plans

Members of the 1998 Special Plan are assumed to retire at rates that vary by age and whether service is less than 25 years or not. Sample rates are as follows:

	1998 Special Plan Retirement	
Age	Service < 25	Service >= 25
55	20.0%	25.0%
57	10.0	25.0
60	20.0	30.0
62	30.0	30.0
65	23.4	30.0
67	36.8	50.0
70	100.0	100.0

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Members of the 25 & Out Plan are assumed to retire at rates that vary by service. Sample rates are as follows:

Service	Rate
<24	0.0%
25-29	25.0
30-31	25.0
32-34	40.0
35-37	40.0
38+	100.0

Members of State Special Plans other than the 25 & Out Plan and the 1998 Special Plan are all currently assumed to retire at a rate of 50% per year, beginning when they reach eligibility for unreduced benefits, with a 100% assumed rate at age 70. Rates are only applied when the member is at least age 50.

Judges:

Age	NRA 60	NRA 62	NRA 65
60-61	1,000	N/A	N/A
62	1,000	200	N/A
63	1,000	275	N/A
64	1,000	350	N/A
65	1,000	425	400
66	1,000	500	500
67	1,000	450	450
68	1,000	400	400
69	1,000	350	350
70	1,000	300	300
71-75	1,000	250	250
76-79	1,000	500	500
80+	1,000	1,000	1,000

Legislators:

Age	Fiscal Years Ending Even	Fiscal Years Ending Odd
57-69	0	250
70+	0	1,000

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

PLD Regular:

Age	NRA 60	NRA 65
60	120	60
65	250	200
70	1,000	250
75	1,000	1,000

PLD Special:

Service	Assumption
20	350
21	300
22	280
23	250
24	200
25	350
26	250
27	230
28	250
29	400
30-33	250
34	330
35+	1,000

Participants who are not members of MainePERS: Age 62

Rates of Disability
(Experience-based sample disablements per 10,000 members by service):

Age	State Regular	State Special	Teachers	Judges & Legislators	PLDs Regular	PLDs Special
25	2.5	5.4	1.1	0.0	0.9	2.3
30	3.1	6.5	1.2	0.0	1.2	3.0
35	9.3	9.9	1.2	0.0	1.8	4.5
40	14.0	15.8	1.6	0.0	4.2	10.5
45	16.0	24.4	3.1	0.0	8.7	21.8
50	18.0	36.4	6.6	0.0	16.5	41.3
55	25.0	42.6	22.1	0.0	28.5	70.0
60	43.4	46.4	22.2	0.0	30.0	70.0

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Rationale for Assumptions

The economic and demographic assumptions listed above were adopted by the Board of Trustees at their March 11, 2021 meeting. The revised discount rate was adopted by the Board of Trustees at their August 12, 2021 meeting. The demographic assumptions adopted are based on an experience study covering the period from July 1, 2015 through June 30, 2020, and the economic assumptions are based on this experience study along with advice of the MainePERS investment consultants.

Other Assumptions (Unique to this Valuation)

Conversion Charges:
Apply to the cost of Active Group Life Insurance, and not Retiree Group Life Insurance.

Form of Benefit Payment:
Lump Sum

Mortality Projections Cashflows shown in Section III:
For actives, the static tables of the above mortality assumptions were used, projected to the year 2020, and adjusted by factors of 1.5 for State, 1.12 for Teachers, and 1.74 for PLD. For retirees, the factors were 0.9, 1.0, and 0.98, respectively.

Child Assumption for Dependent Insurance:
We made an assumption for the number of eligible children covered under dependent insurance, based on the sample employee's age. Employees are assumed to have zero children prior to age 24, one child from ages 24-28, two children from ages 28-46, one child from ages 46-50, and no children after age 50. Child mortality was assumed to be one half of the mortality at age 15.

Probability of AD&D:
Probability of receiving AD&D insurance was assumed to be 10% of mortality for healthy employees for all three groups.

Participation Percent for Future Retirees:
100% of those currently enrolled.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Additional Disclosures regarding Models Used

ProVal: Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

Mortality Improvement Model: Cheiron utilized the RPEC_2014_v2020 Model Implementation Tool for the purposes of developing the customized version of MP-2020 used in this report. This tool is updated and published annually by the Society of Actuaries and their Retirement Plans Experience Committee and allows actuaries to develop customized versions of mortality improvement scales based on the parameters and data underlying the published MP-2020 scale but allowing practitioners to vary parameters from those used in the published MP-2020 scale.

We have reviewed this model and believe it is appropriate to our intended use in developing a customized mortality improvement scale for the Programs. Further, we are aware of no material inconsistencies that would limit our ability to use this model for its intended purpose.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS, AND METHODS

Actuarial Cost Method

To be consistent with past analyses and with the Pension Plan funding, the individual entry age normal method is used to determine liabilities. Under this funding method, a normal cost rate is calculated for each member. This rate is determined by taking the value, as of age at entry into the Plan, of the member's projected future benefits, and dividing it by the value, also as of the member's entry age of his expected future salary. The normal cost for each member is the product of annual salary and the normal cost rate. The normal cost for the group is the sum of the normal costs for all members.

The actuarial liability is defined as the present value of future benefits, less the present value of future normal costs. The UAL is the total of the actuarial liability for all members, less the actuarial value of the System's assets.

The discount rate used reflects the long term funding policy to fully fund the benefits on an actuarial basis by FY 2038 for State and Teachers and by FY 2036 for PLDs.

To amortize the UAL, we used amortization period to the beginning of FY 2038 for State and Teacher employees and to the beginning of FY 2036 year amortization period for PLD employees. Amortization payments are calculated using a level percent of pay with a 2.75% annual increase in payroll assumed and a discount rate of 6.5%.

Asset Valuation Method

Figures were reported by MainePERS without audit or change. Assets as of June 30, 2024 were projected by MainePERS for July 2024 rate setting.

Assumption Changes Implemented for Premium Study

None

APPENDIX B – SUMMARY OF KEY PLAN PROVISIONS

Active Employees

Membership

Actively at Work and a member of an Eligible Class, as defined in the Certificate of Coverage.

Basic Life Insurance

One times Annual Base Compensation, rounded to the next highest $1,000.

Basic AD&D Insurance

One times Annual Base Compensation, rounded to the next highest $1,000. See Schedule of Benefits in Certificate of Coverage for benefits by injury.

Supplemental Life Insurance

One, two, or three times Basic Life Insurance Amount.

Dependent Life Insurance

Option A:	$5,000 for spouse, $1,000 for dependent children under age six months, $5,000 for dependent children over age six months but under age 19, except for full-time, unmarried students under age 22
Option B:	$10,000 for spouse, $2,500 for dependent children under age six months, $5,000 for dependent children over age six months but under age 19, except for full-time, unmarried students under age 22

Employee Contributions

State Employees:	None for Basic; employee pays full premium for Supplemental and Dependent
Teachers:	Cost for Basic split between employer and employee, depending on employer; employee pays full premium for Supplemental and Dependent
PLDs:	Cost for Basic split between employer and employee, depending on employer; employee pays full premium for Supplemental and Dependent
Judges:	None for Basic; employee pays full premium for Supplemental and Dependent
Legislators:	None for Basic; employee pays full premium for Supplemental and Dependent

Portability and Conversion

Discontinued coverage may be ported to another group term product or converted to an individual policy. MainePERS is charged a fee for those active employees who convert to an individual policy upon termination from employment. Conversion charges are considered a cost of active, not retiree group life insurance.

APPENDIX B – SUMMARY OF KEY PLAN PROVISIONS

Retired Employees

Membership

Service Retirement:	A retiree must have participated in the group life insurance program for at least 10 years and possess coverage just prior to retirement
Disability Retirement:	An employee must have participated in the group life insurance program immediately prior to disablement

Basic Insurance

Average final compensation calculated for retirement purposes

Amount of Insurance for a Retiree

Service Retirement:	The Basic Insurance will be reduced by 15% per year until the amount equal to the greater of (a) 40% of the initial Basic Insurance, or (b) $2,500.
Disability Retirement:	The amount of basic life insurance in force prior to retirement will be continued until normal retirement age. At normal retirement age, the amount of insurance will be reduced as for service retirement.

Retiree Contributions

State Employees:	None
Teachers:	None
PLDs:	PLD must pay $0.46 per month per $1,000 of base benefit, based on the coverage amounts declining from 100% to 40%.
Judges:	None
Legislators:	None

Normal Retirement Age

The specified age, the years of service requirement, or any age and years of service combination at which a participant may become eligible for unreduced service retirement benefits.

Discontinued Coverages at Retirement

- Supplemental Life
- Accidental Death and Dismemberment
- Dependent Life

Portability and Conversion

Discontinued coverage may be ported to another group term product or converted to an individual policy. MainePERS is charged a fee for those active employees who convert to an individual policy upon termination from employment. Conversion charges are considered a cost of active, not retiree group life insurance. Therefore, it is not included in these liabilities.)

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