



Teachers' and State Employees' Retirement System of North Carolina

Actuarially Determined Employer Contributions (ADEC) Projections for the State System

January 25, 2024, Board of Trustees Meeting

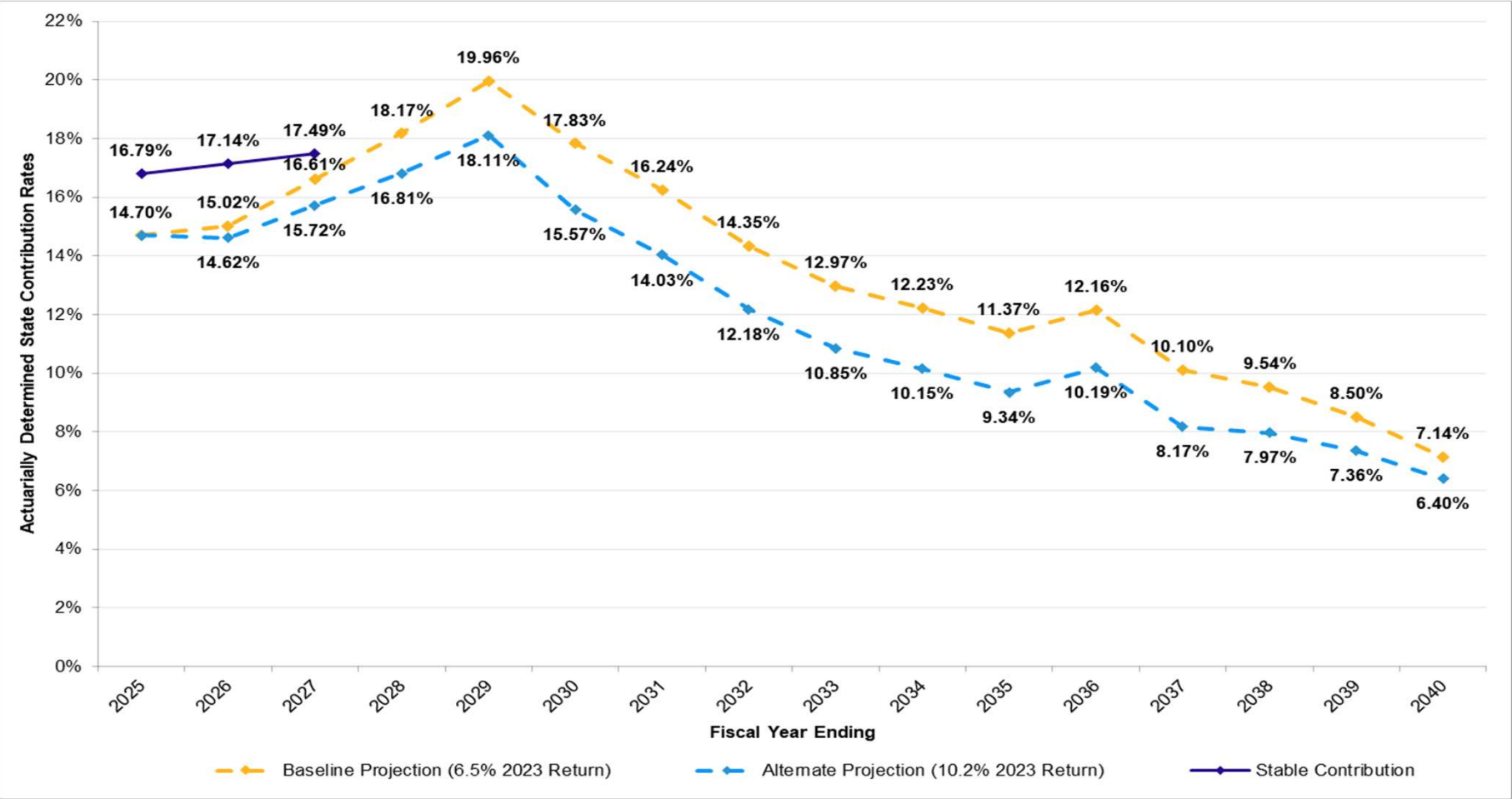
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Projections

- Projections of contribution requirements and funded status into the future can be helpful planning tools for stakeholders. This section provides such projections. The projections of the actuarial valuation are known as deterministic projections. Deterministic projections are based on one scenario in the future. The baseline deterministic projection is based on December 31, 2022 valuation results and assumptions.
- Key Projection Assumptions
 - Valuation interest rate of 6.50%
 - Direct-rate smoothing of the change in the employer contribution rate due to changes in assumptions and methods over a 5-year period beginning July 1, 2022
 - 6.50% investment return on market value of assets
 - Actuarial assumptions and methods as described in Appendix C of the December 31, 2022 valuation report. All future demographic experience is assumed to be exactly realized.
 - The contribution rate under the Employer Contribution Rate Stabilization Policy (ECRSP) is contributed until fiscal year ending 2027.
 - The actuarially determined employer contribution rate is contributed for fiscal years ending 2028 and beyond.
 - The employer contribution shall not be less than the employee contribution, which is currently 6%.
 - 0% increase in both the active population of TSERS and its subgroups: Teachers, Other Education, General Employees, and Law Enforcement Officers
 - To replace those assumed to leave active service, the age, gender and salary of future members assumed to be hired into TSERS are based on the demographic information of new TSERS hires over the past three (3) valuations
 - Demographic profiles of new entrants for each subgroup are based on new hires specific to that subgroup over the past three (3) valuations
 - 75% of new entrants are assumed to have rounded service of 0 when first valued, and 25% are assumed to have rounded service of 1 when first valued
 - No cost-of-living adjustments granted
 - Future pay increases based on long-term salary increase assumptions
- The ECRSP contribution rate is the Stable Contribution rate shown in the projections. See Appendix F of the December 31, 2022 valuation report for more detail on the ECRSP.
- In addition, we have provided one other alternate deterministic projection. This alternate deterministic projection is based on the same assumptions as the baseline deterministic projection except that it assumes a 10.2% asset return for calendar year 2023.

Projected Contribution Rates

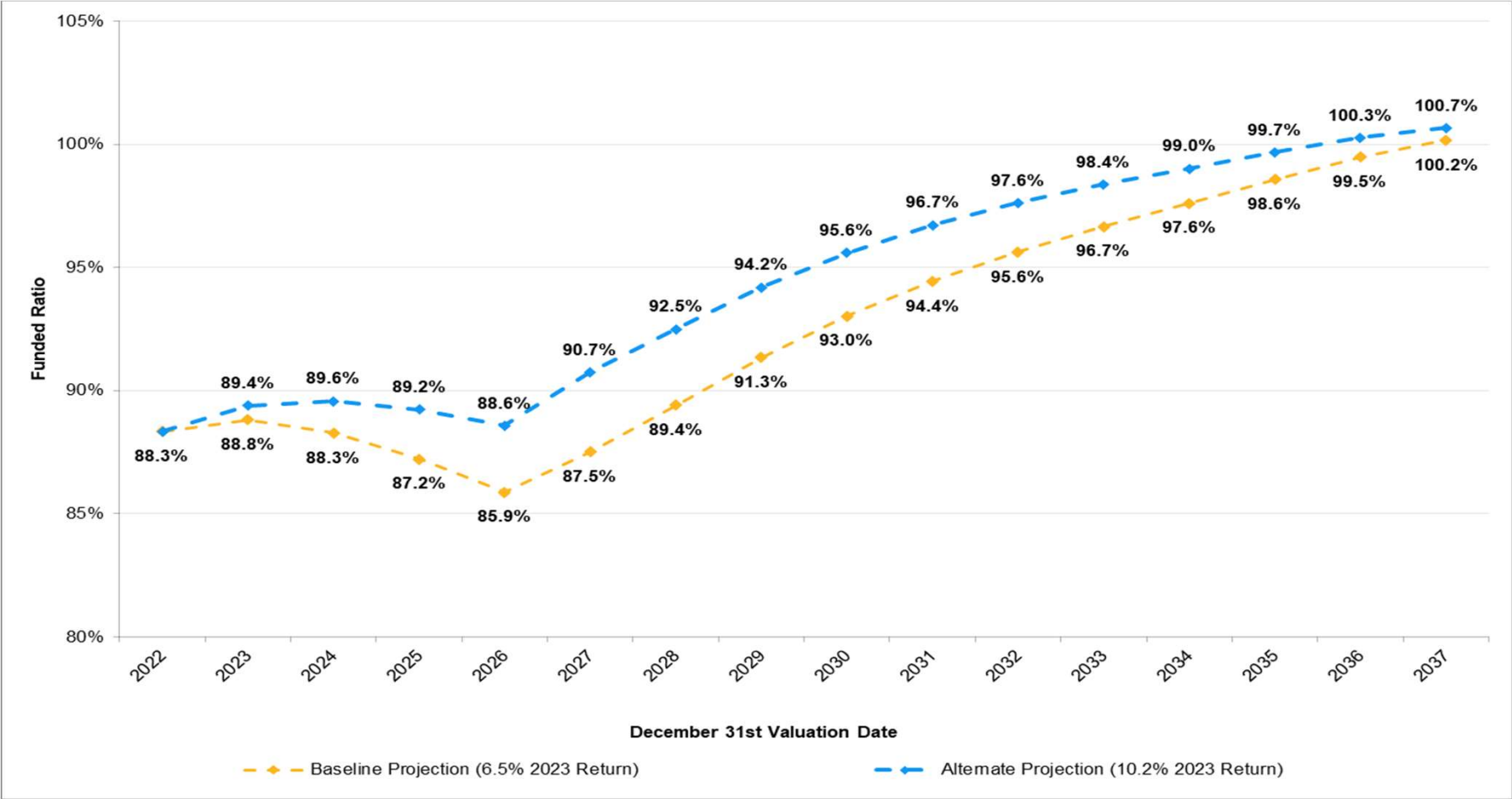


Alternate Projection utilizes estimated return of 10.2% for calendar year 2023 compared to Baseline Projection assumption of 6.5%.

The estimated return for the 2023 calendar year is 3.7% higher than expected, resulting in an estimated market value of assets \$2.8 billion higher than expected.

The unfunded actuarial accrued liability is projected to be lower than previously expected given this gain, resulting in lower employer contribution rates over the projection period.

Projected Funded Ratio



Given the greater than expected return for 2023, estimated market value of assets are \$2.8 billion higher than anticipated.

This asset gain will be phased into the funded status of the plan over a five-year period from December 31, 2023 to December 31, 2027, causing an incline in the funded status until the gain is fully recognized. Thereafter, the funded status of the plan continues to climb upward.

Certification

Future actuarial results may differ significantly from current measurements due to such factors as the following: fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. Such changes in law may include additional costs resulting from future legislated benefit improvements or cost-of-living pension increases or supplements, which are not anticipated in the actuarial valuation. Because of limited scope, Buck, A Gallagher Company (Buck) performed no analysis of the potential range of such future differences, except for some limited analysis in financial projections or required disclosure information.

The purpose of this presentation is to provide the Board of Trustees (“Board”) of the Teachers’ and State Employees’ Retirement System of North Carolina estimated future projections based on the December 31, 2022 valuation results for discussion during the January 25, 2024 Board meeting attended by the actuaries. This presentation is provided for informational purposes and should not be used as actual future funding contribution rates for the System.

Use of these presentation results for any other purpose or by anyone other than the Board, the State of North Carolina, or their respective staffs may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the presentation results for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advance review of any statement, document, or filing to be based on the results contained in this presentation. Buck will accept no liability for any such statement, document, or filing to be made without its prior review.

Unless otherwise noted, the data, assumptions, methods, plan provisions, and model associated with the development of these results are the same as those described in the December 31, 2022 valuation report prepared October 2023. Risks inherent in the measurements herein are also the same as those described in that report.

This report was prepared under our supervision and in accordance with all applicable Actuarial Standards of Practice. We are Fellows of the Society of Actuaries, Enrolled Actuaries, Members of the American Academy of Actuaries, and Fellows of the Conference of Consulting Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. We are available to discuss this report with you at your convenience.

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Appendix

Fiscal Year Contribution Projection

Alternate Projection (10.2% Return in 2023, 6.50% Return Thereafter)

Fiscal Year Ending	Employer Contribution Rate	Employer Contribution (\$)	Member Contribution (\$)	Benefit Payments (Val Year) (\$)	Payroll (\$)
6/30/2025	16.79%	3,028,917,000	1,082,400,000	-5,927,678,000	18,040,003,000
6/30/2026	17.14%	3,150,140,000	1,102,733,000	-5,910,311,000	18,378,878,000
6/30/2027	17.49%	3,277,869,000	1,124,483,000	-6,105,464,000	18,741,392,000
6/30/2028	16.81%	3,215,106,000	1,147,569,000	-6,313,295,000	19,126,150,000
6/30/2029	18.11%	3,537,086,000	1,171,867,000	-6,527,856,000	19,531,120,000
6/30/2030	15.57%	3,106,755,000	1,197,208,000	-6,754,409,000	19,953,466,000
6/30/2031	14.03%	2,861,472,000	1,223,723,000	-6,993,279,000	20,395,384,000
6/30/2032	12.18%	2,540,848,000	1,251,649,000	-7,231,629,000	20,860,825,000
6/30/2033	10.85%	2,316,269,000	1,280,886,000	-7,469,127,000	21,348,102,000
6/30/2034	10.15%	2,218,475,000	1,311,414,000	-7,706,201,000	21,856,893,000
6/30/2035	9.34%	2,091,216,000	1,343,393,000	-7,808,276,000	22,389,890,000
6/30/2036	10.19%	2,338,570,000	1,376,979,000	-8,036,337,000	22,949,654,000
6/30/2037	8.17%	1,923,213,000	1,412,396,000	-8,261,109,000	23,539,936,000
6/30/2038	7.97%	1,925,711,000	1,449,720,000	-8,476,291,000	24,162,000,000
6/30/2039	7.36%	1,827,085,000	1,489,472,000	-8,687,855,000	24,824,530,000
6/30/2040	6.40%	1,633,724,000	1,531,616,000	-8,877,781,000	25,526,931,000

Asset and Liability Projection

Alternate Projection (10.2% Return in 2023, 6.50% Return Thereafter)

Valuation Date	Market Value of Assets (\$)	Actuarial Value of Assets (\$)	Accrued Liability (\$)	Unfunded Accrued Liability (\$)	Funded Ratio
12/31/2022	77,445,237,000	85,406,884,000	96,675,256,000	11,268,371,000	88.3%
12/31/2023	83,465,865,000	88,389,692,000	98,887,110,000	10,497,418,000	89.4%
12/31/2024	87,074,608,000	90,749,631,000	101,313,777,000	10,564,146,000	89.6%
12/31/2025	90,747,799,000	92,559,783,000	103,743,743,000	11,183,960,000	89.2%
12/31/2026	94,595,514,000	94,028,781,000	106,167,295,000	12,138,514,000	88.6%
12/31/2027	98,529,626,000	98,529,626,000	108,579,549,000	10,049,922,000	90.7%
12/31/2028	102,642,004,000	102,642,004,000	110,971,458,000	8,329,454,000	92.5%
12/31/2029	106,749,179,000	106,749,179,000	113,331,877,000	6,582,697,000	94.2%
12/31/2030	110,554,198,000	110,554,198,000	115,662,261,000	5,108,063,000	95.6%
12/31/2031	114,098,049,000	114,098,049,000	117,964,383,000	3,866,334,000	96.7%
12/31/2032	117,375,515,000	117,375,515,000	120,238,596,000	2,863,080,000	97.6%
12/31/2033	120,624,308,000	120,624,308,000	122,625,078,000	2,000,770,000	98.4%
12/31/2034	123,765,220,000	123,765,220,000	125,004,398,000	1,239,178,000	99.0%
12/31/2035	126,971,643,000	126,971,643,000	127,383,419,000	411,776,000	99.7%
12/31/2036	130,117,526,000	130,117,526,000	129,776,346,000	-341,180,000	100.3%
12/31/2037	133,071,451,000	133,071,451,000	132,190,955,000	-880,496,000	100.7%

