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Amortization Policies

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Funding Policies

- Establishment of a funding policy is prudent for establishing a proper metric for determining if revenues received by the fund are sufficient
- Determines how much should be contributed each year by employers and participants to provide for the secure funding of benefits in a systematic fashion



Funding Policies

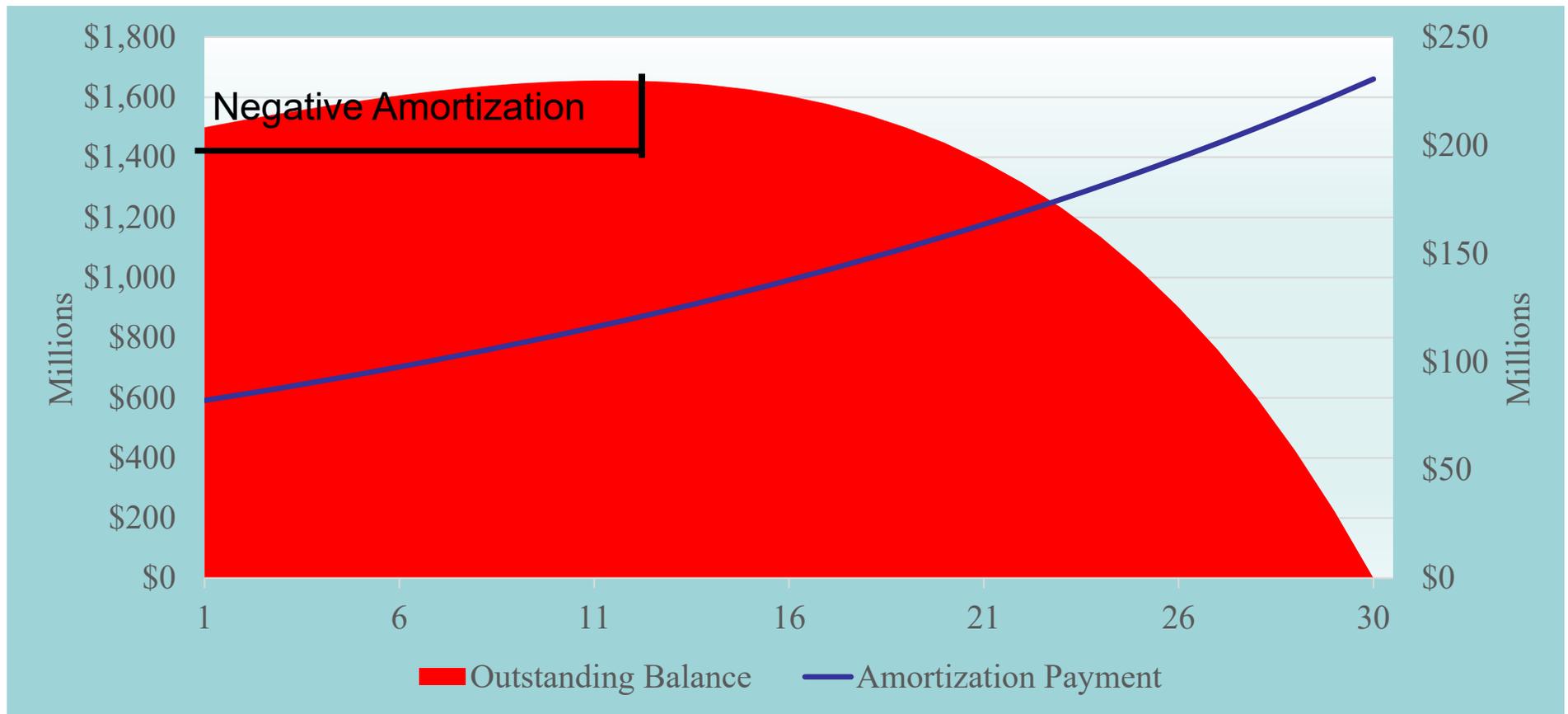
- Comprehensive actuarial funding policy includes three components
 - Actuarial Cost Method
 - Method used to allocate the pension costs (and contributions) over an employee's career
 - Asset Smoothing Method
 - Method used to recognize gains and losses in pension assets over some period of time to reduce the effects of market volatility and provide stability to contributions
 - **Amortization Policy**
 - **Determines the length of time and structure of payments required to systematically fund accrued employee benefits not covered by actuarial value of assets**



Amortization Policy

- Should be funded over periods consistent with an appropriate balance between the policy objectives of demographic matching and volatility management
- Should emerge as a level percentage of member compensation while reflecting explicit consideration to the level and duration of negative amortization
- Should reflect different sources
 - Experience gains/losses
 - Assumptions and method changes
 - Benefit or plan changes

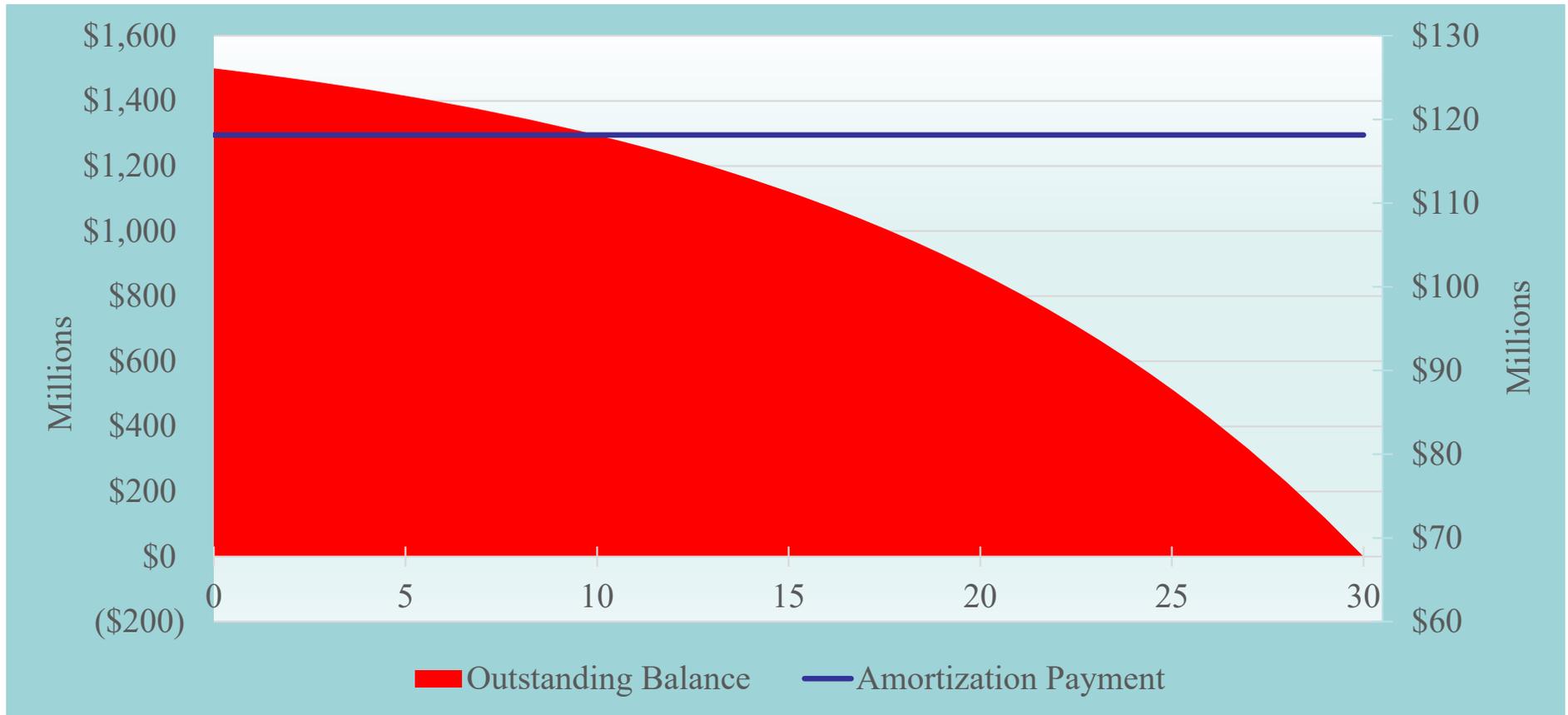
Level Percentage of Pay Amortization Method



Initial Balance	\$1.500 Billion
Interest Paid	\$2.741 Billion
Total Amount Paid	\$4.241 Billion



Level Dollar Amortization Method



Initial Balance	\$1.500 Billion
Interest Paid	\$2.044 Billion
Total Amount Paid	\$3.554 Billion



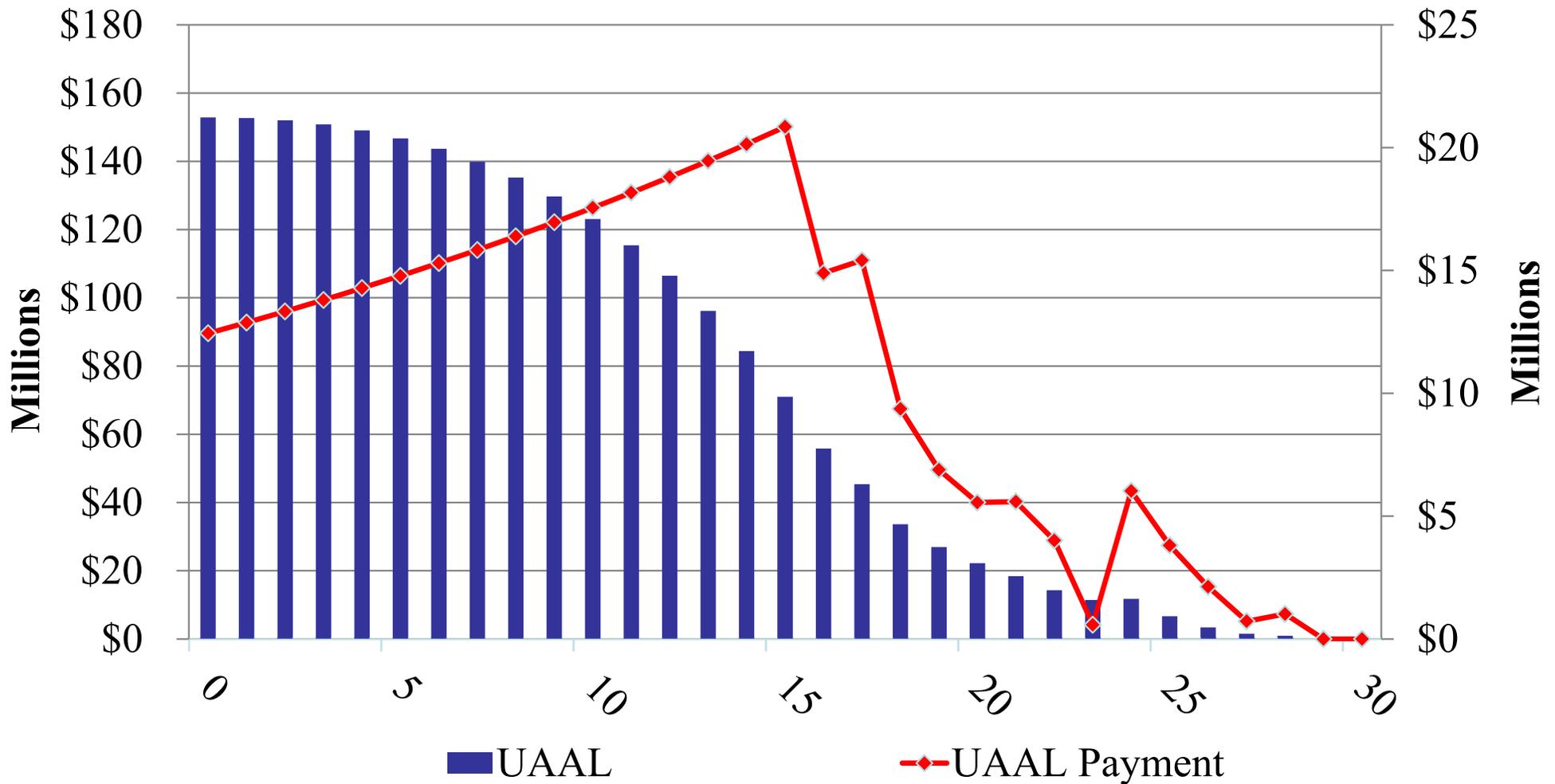
Layered Amortization Method

Amortization Bases	Original Amount	July 1, 2021 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2021	Annual Contribution*
2006 UAAL Base	\$ 845,226,412	15	7/1/2036	\$ 778,967,808	\$ 69,880,075
2007 Experience Base	(163,793,512)	16	7/1/2037	(156,509,005)	(13,398,072)
2008 Experience Base	54,258,200	17	7/1/2038	53,565,817	4,392,426
2009 Experience Base	370,759,908	18	7/1/2039	377,025,332	29,713,324
2010 Experience Base	427,955,512	19	7/1/2040	447,062,194	33,962,545
2011 Experience Base	287,237,896	20	7/1/2041	307,520,556	22,579,169
2012 Experience Base	497,977,442	21	7/1/2042	545,245,241	38,784,635
2013 Experience Base	57,652,106	22	7/1/2043	64,436,596	4,450,060
2014 Experience Base	(514,341,070)	23	7/1/2044	(568,577,347)	(38,197,273)
2015 Experience Base	(534,298,489)	24	7/1/2045	(583,137,751)	(38,176,062)
2016 Experience Base	(140,025,390)	25	7/1/2046	(150,639,107)	(9,625,773)
2017 Assumption Change Base	853,085,886	26	7/1/2047	903,277,842	56,420,762
2017 Experience Base	(361,516,559)	26	7/1/2047	(382,786,661)	(23,909,714)
2018 Experience Base	(201,647,779)	27	7/1/2048	(210,860,092)	(12,892,025)
2019 Experience Base	(144,680,227)	28	7/1/2049	(149,222,995)	(8,941,586)
2020 Experience Base	(136,044,073)	29	7/1/2050	(138,237,779)	(8,127,535)
2021 Assumption Change Base	(155,121,129)	25	7/1/2046	(155,121,129)	(9,912,173)
2021 Experience Base	(612,344,486)	25	7/1/2046	(612,344,486)	(39,128,547)
Total				\$ 369,665,034	\$ 57,874,236

* Contribution amount reflects mid-year timing.



Layered Amortization Method



“Actuarial Funding Policies and Practices for Public Pension Plans”



➤ Model Practices

- Layered fixed period amortization by source
- Level percent of pay amortization
- Amortization periods
 - Active plan amendments – lesser of future working average lifetime or 15 years
 - Inactive plan amendments – Lesser of average remaining lifetime or 10 years
 - Experience gains/losses – 15 to 20 years
 - Assumption or method changes – 15 to 25 years
 - Early retirement incentives – 5 years or less

“Actuarial Funding Policies and Practices for Public Pension Plans”



➤ Acceptable practices

- Layered fixed period amortization by source or level dollar amortization
- Amortization periods
 - Active plan amendments – lesser of future working average lifetime or 15 years
 - Inactive plan amendments – Lesser of average remaining lifetime or 15 years
 - Experience gains/losses – 15 to 20 years
 - Assumption or method changes – 15 to 25 years
 - Early retirement incentives – 5 years or less

“Actuarial Funding Policies and Practices for Public Pension Plans”



- Acceptable practices, with conditions
 - Up to 25 year layered fixed period amortization by source, for all sources of UAL
 - Rolling amortization of a single combined gain/loss layer with an amortization period that does not entail any negative amortization
- Transition to model practices
 - Legacy unfunded accrued liabilities



State of Montana

- Contribution rates are fixed in statute
- Benefit provisions are fixed in statute
- The unfunded actuarial accrued liability is amortized as one single base
- For fixed rate plans, the contribution rate does not adjust to reflect recent experience. This leads to the amortization period decreasing or increasing based on gains and losses due to experience different than the actuarial assumptions.
- Sources of Gains & Losses
 - Investment Experience
 - Demographic Experience
 - Mortality Experience
 - Benefit Provision Changes



- Steps have been taken to improve sustainability
 - Plan provision changes
 - Different benefit structures for new hires
 - Increases the amount of the employer contribution that will be used to liquidate the unfunded actuarial accrued liability as more new hires are added to the System
 - Supplemental Contributions



TRS Funding Policy

1. If the amortization period is greater than 30 years, the actuary will recommend the single contribution rate increase that can reasonably expect to fully amortize the UAAL over a closed 30-year period effective July 1, following the next regular legislative session.
2. If the amortization period is less than 30 years, but greater than 0, and it is projected to continue to decline over the remainder of the closed period, the actuary will not recommend a change in the statutory contribution rates.
3. If the amortization period is less than 30 years but has increased over prior valuations and is projected to continue to grow, the actuary will recommend a contribution rate increase that is reasonably expected to reverse the recent trend and reestablish a closed amortization period equal to that of the last valuation.



TRS Funding Policy

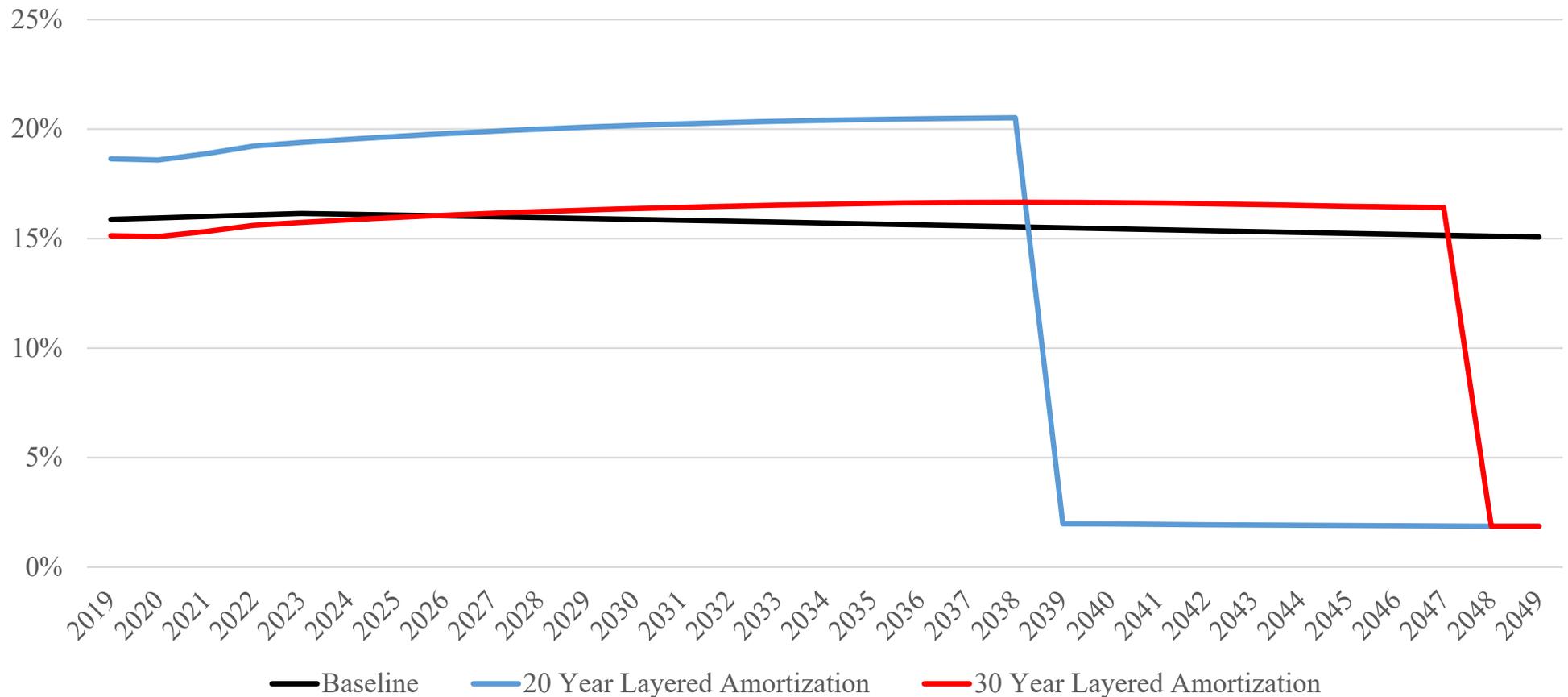
➤ Amortization policy

“...any unfunded liabilities will be amortized over a closed period of no more than 30 years and funded as a level percent of pay. At such time as the System becomes fully funded and has a stabilization reserve of at least 10% of the actuarial accrued liability, the allowed amortization period for any subsequent unfunded liabilities will be reduced to a closed period of not greater than 20 years.”



TRS Alternate Funding Policies

Alternative Amortization Policy
Actuarial Determined Contributions



* Assumes all assumptions are met.



Public Employees' Retirement System

➤ Funding Policy

- The primary objectives are to:
 - 1) ensure that the system is financially sound and pay all benefits promised using assets accumulated from required employer and member contributions and investment income; and
 - 2) achieve a well-funded status with a range of safety to absorb market volatility without creating additional unfunded actuarial accrued liabilities.

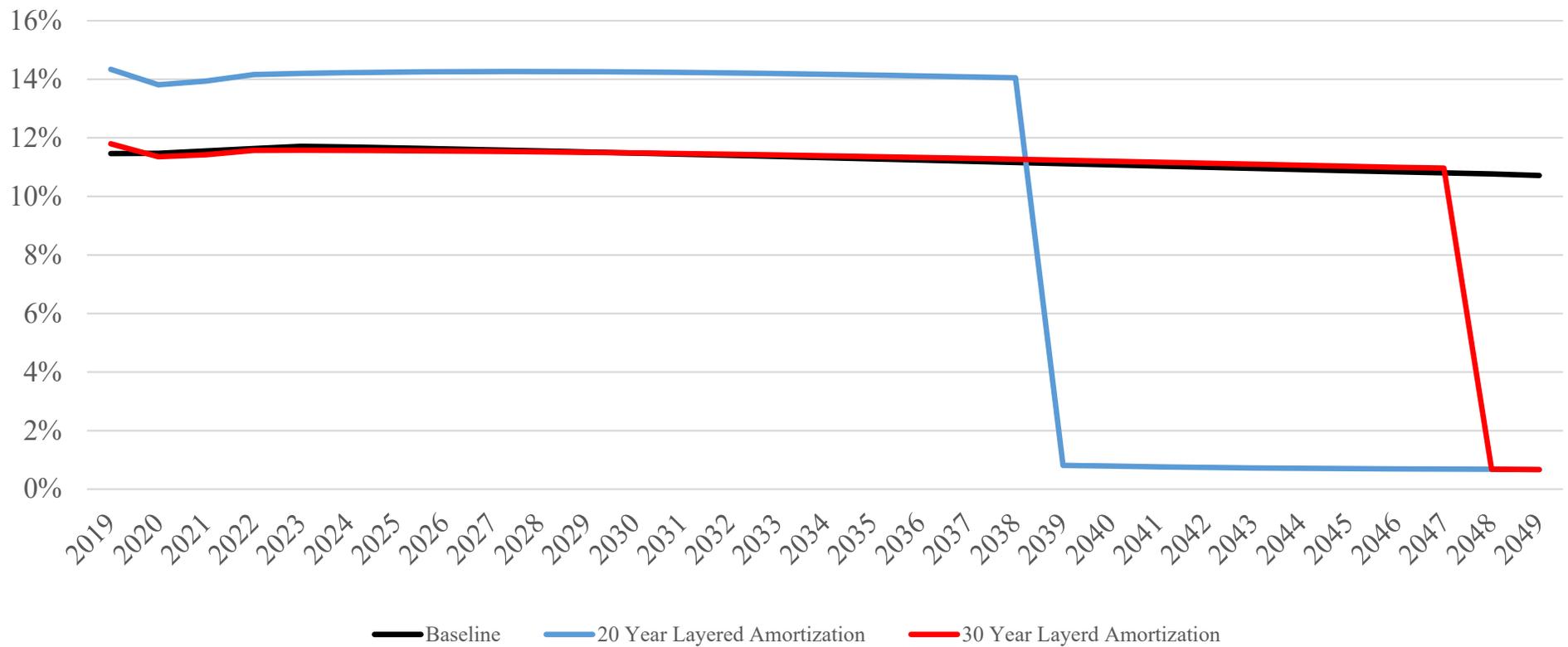
➤ Amortization policy

- “...the systems unfunded actuarial accrued liability should be amortized over a reasonable period of time and should not exceed 30 years on a rolling basis.”



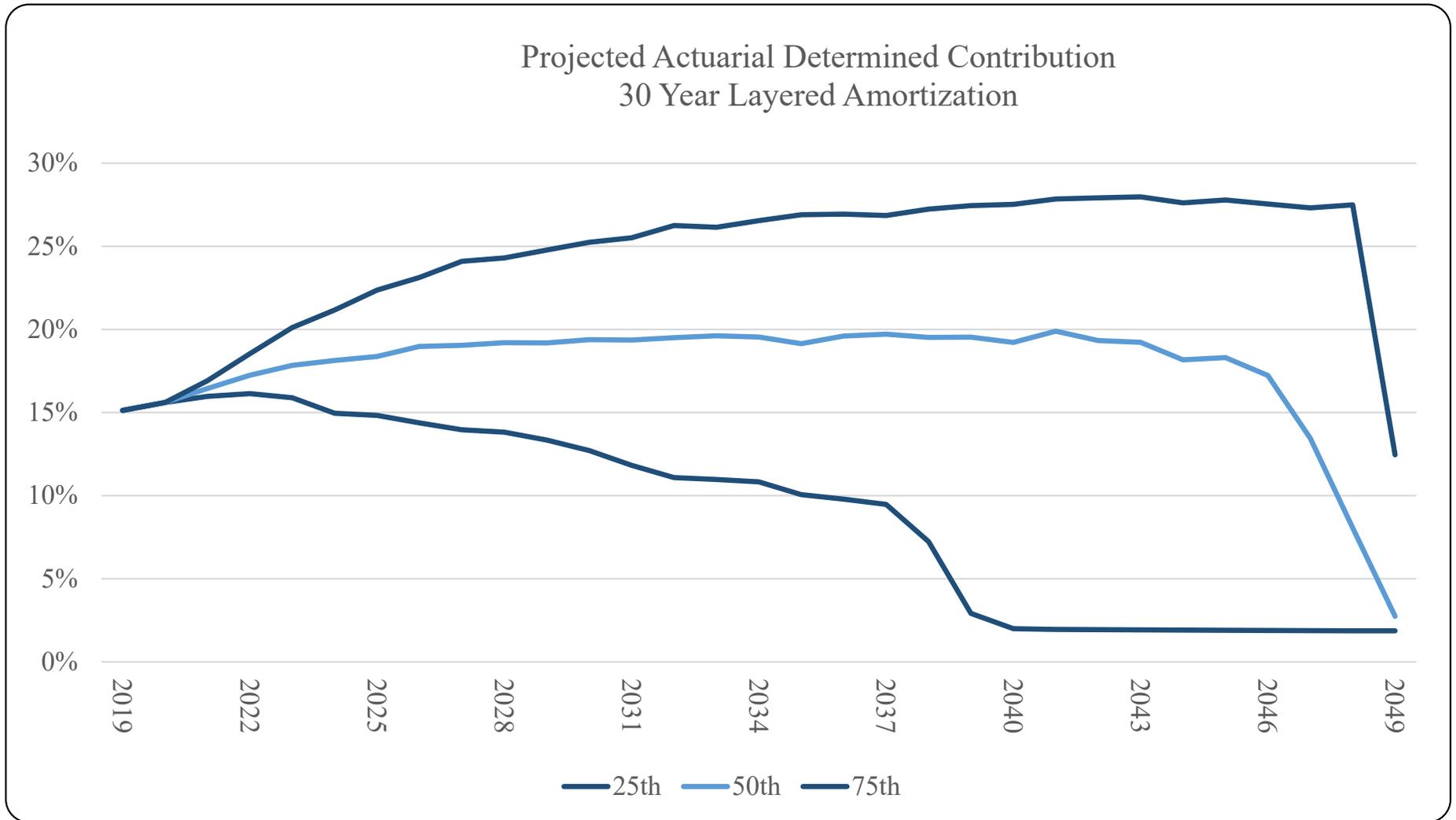
Public Employees' Retirement System

Alternative Amortization Policy Actuarial Determined Contributions



* Assumes all assumptions are met.

Layered Amortization Contribution Volatility





Layered Amortization Policy

➤ Positives

- Contribution rates adjust incrementally with actual experience which can lead to higher funded status
- An approach that has become more widely used by the public sector
- Pieces of unfunded actuarial accrued liability are transparent

➤ Negatives

- Contribution volatility



Funding Guidelines

➤ References

- October 2014, Conference of Consulting Actuaries Public Plans Community issued the “Actuarial Funding Policies and Practices for Public Pension Plans”
- https://www.ccactuaries.org/Portals/0/pdf/CCA_PPC_White_Paper_on_Public_Pension_Funding_Policy.pdf