

ORS Funding Policy Proposal

Michigan State Police Retirement System

August 2023



**MICHIGAN OFFICE OF
RETIREMENT SERVICES**
Big Plans. Small Steps.

Introduction

- Significant progress has been made in improving the financial stability of the Michigan State Police Retirement System (SPRS).
- More conservative actuarial assumptions have been adopted.
- Statutory reforms:
 - Contribution floors
 - Gradual reduction of the payroll growth assumption to 0%.
- The Unfunded Actuarial Accrued Liability (UAAL) for the pension plan and other postemployment benefit (OPEB) plan is currently scheduled to be fully funded by 2038.



Funding Policy Elements

- Funding Security
- Layered Amortization



Funding Policy Elements

- **Funding Security**
 - Under the proposed policy, employer contribution rates cannot be less than the employer normal cost until the pension plan is at or above 120% funded or the Other Post-Employment Benefits (OPEB) plan is over 140% funded [hereafter funding target].



Funding Security – Concept

- Each year, the actuary looks at the plan's actuarial accrued liability (AAL) compared to the plan's actuarial value of assets (AVA).

$$AAL - AVA = UAAL (+ \text{ or } -)$$

- When a plan's actuarial value of assets is greater than its actuarial accrued liability, it has a funded ratio greater than 100%



Funding Security – Concept

SPRS funded status as of September 30, 2022 (\$ millions)

	Legacy DB	Pension Plus	Total Pension	OPEB
AVA	\$1,693	\$87	\$1,780	\$405
AAL	\$2,599	\$76	\$2,676	\$727
UAAL	\$906	\$(11)	\$895	\$322
Funded Ratio	65.1%	114.5%	66.5%	55.7%



Funding Security– Concept

- Contribution Rate Development

	Year 1	Year 2	Year 3
Funded Ratio	90%	100%	102%
Normal Cost	10%	10%	10%
UAAL	10%	0%	0%
Total Contribution	20%	10%	10%

Percentages above are for illustration purposes only.



Funding Security– Concept

- Contribution Rate Development (*continued*)

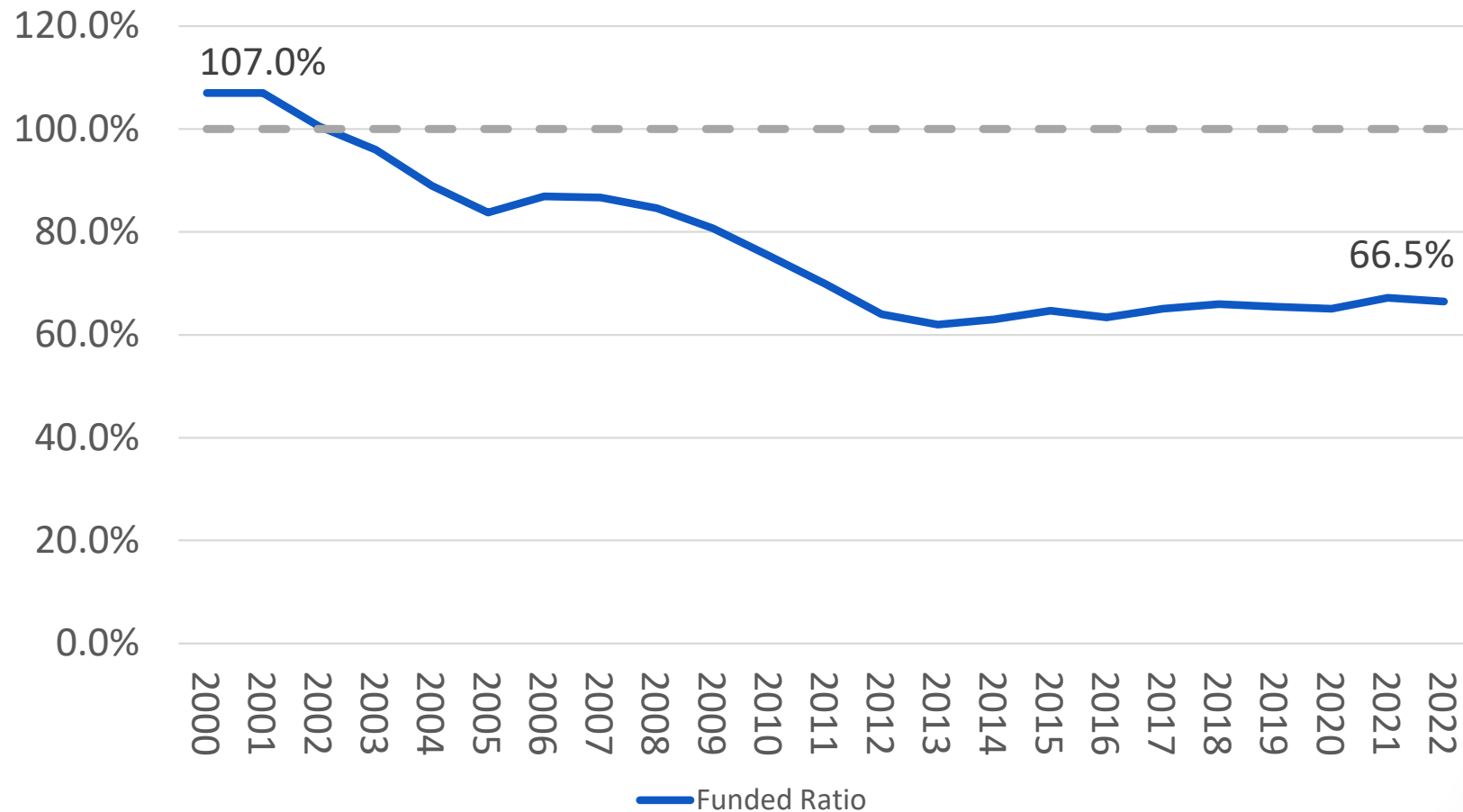
	Year 1	Year 2	Year 3	Year 4
Funded Ratio	90%	100%	102%	125%
Normal Cost	10%	10%	10%	10%
UAAL	10%	0%	0%	-5%
Total Contribution	20%	10%	10%	5%

Percentages above are for illustration purposes only.



Funding Security – Concept

SPRS Pension Funded Ratio 2000-2022



Funding Security – Policy

- Under the proposed funding policy, employer contributions would not be reduced until the pension plan reaches the funding target of 120% (140% for OPEB).
- Once the pension plan reaches the funding target, only the portion in excess of the funding target would be used to reduce employer contributions.
 - e.g. If the pension plan were 125% funded, the plan would only receive a reduction in employer contributions for the 5% in excess of 120%.
- This policy would apply separately to the pension and OPEB plans.



Funding Security – Policy

- Under this policy, the employer contribution rate would not be reduced by negative UAAL until each individual SPRS subplan (Legacy DB and Pension Plus) are at or above the 120% funding target.
 - Legacy DB – 65.1%
 - Pension Plus – 114.5%
- Under this policy, the employer contribution rate would not be reduced by negative UAAL until the OPEB plan is at or above the 140% funding target.
 - OPEB – 55.7%



Funding Policy Elements

- **Layered Amortization**
 - Implements a “layered bases” UAAL amortization method once the amortization period is less than 15 years for open plans, 10 years for closed plans.
 - The actuary recommends a layered amortization method to responsibly mitigate the risk of contribution volatility near the end of the amortization period.



Layered Amortization – Concept

- Currently, the UAAL in the SPRS pension and OPEB plans is being amortized as a single, closed period amortization layer.
 - There are 14 years remaining in the amortization period, ending in 2038.
- Under this method, as the amortization period gets shorter, there are fewer years to fund increases in the UAAL, which could lead to unstable contributions in the latter part of the amortization schedule.



Layered Amortization – Policy

- Once the amortization period for the existing UAAL is less than 15 years for open plans (10 for closed plans), the existing UAAL would be frozen and continue to be amortized over the remaining period ending in 2038.
- Changes in subsequent years' UAAL due to actuarial gains or losses, or due to changes in actuarial assumptions, or due to changes in benefit provisions would be amortized on their own fixed schedule.
- This layered amortization element would become effective with the actuarial valuations for the year ending September 30, 2023 for pension (September 30, 2027 for OPEB)



Conclusion

Implementation

This policy can be implemented through approval from the SPRS board and the DTMB Director.

Questions?



Appendix IA

Layered Amortization - Open Plan Example*

Type of UAAL	Valuation Established	Amounts for Fiscal Year Beginning October 1, 2029			
		Outstanding UAAL Balance as of October 1, 2029	Remaining Amortization Period (years)	Amortization Factor	Annual Amortization Payment
Initial	9/30/2022	\$ 24,099,247,465	10	7.57874546	\$ 3,179,846,530
Experience	9/30/2023	(1,512,792,512)	11	8.12118315	(186,277,355)
Assumption Change	9/30/2023	4,474,733,401	11	8.12118315	550,995,258
Experience	9/30/2024	950,710,427	12	8.63291681	110,126,212
Experience	9/30/2025	(101,354,312)	13	9.11568442	(11,118,673)
Experience	9/30/2026	381,953,561	14	9.57112556	39,906,859
Experience	9/30/2027	385,472,076	15	10.00078701	38,544,174
Benefit Change - Active Members	9/30/2027	715,876,714	15	10.00078701	71,582,038
Subtotal		\$ 29,393,846,820			\$ 3,793,605,043
Subtotal (Not less than \$0)					\$ 3,793,605,043

**The figures used above are fictitious and not intended to portray actual results*



Appendix IB

Layered Amortization - Open Plan Example*

Valuation Year	Type of UAAL	Contribution FY					
		2025	2026	2027	2028	2029	2030
2022	Initial	\$ 3,179,846,530	\$ 3,179,846,530	\$ 3,179,846,530	\$ 3,179,846,530	\$ 3,179,846,530	\$ 3,179,846,530
2023	Experience		\$ (186,277,355)	\$ (186,277,355)	\$ (186,277,355)	\$ (186,277,355)	\$ (186,277,355)
2023	Assumption Change		\$ 550,995,258	\$ 550,995,258	\$ 550,995,258	\$ 550,995,258	\$ 550,995,258
2024	Experience			\$ 110,126,212	\$ 110,126,212	\$ 110,126,212	\$ 110,126,212
2025	Experience				\$ (11,118,673)	\$ (11,118,673)	\$ (11,118,673)
2026	Experience					\$ 39,906,859	\$ 39,906,859
2027	Experience						\$ 38,544,174
2027	Benefit Change - Active Members						\$ 71,582,038
Total Amortization Payment		\$ 3,179,846,530	\$ 3,544,564,433	\$ 3,654,690,645	\$ 3,643,571,972	\$ 3,683,478,831	\$ 3,793,605,043

**The figures used above are fictitious and not intended to portray actual results*



Appendix IIA

Layered Amortization - Closed Plan Example*

Type of UAAL	Valuation Established	Amounts for Fiscal Year Beginning October 1, 2029			
		Outstanding UAAL Balance as of October 1, 2029	Remaining Amortization Period (years)	Amortization Factor	Annual Amortization Payment
Initial	9/30/2022	\$ 3,072,297,089	5	4.33750752	\$ 708,309,340
Experience	9/30/2023	(299,488,903)	6	5.06341150	(59,147,652)
Assumption Change	9/30/2023	774,186,451	6	5.06341150	152,898,190
Experience	9/30/2024	141,893,572	7	5.74822658	24,684,756
Benefit Change	9/30/2024	(34,177,747)	17	10.78852516	(3,167,972)
Experience	9/30/2025	(120,459,424)	8	6.39427854	(18,838,626)
Experience	9/30/2026	51,503,351	9	7.00376152	7,353,670
Benefit Change - Inactive Members	9/30/2026	4,584,501	4	3.56804930	1,284,876
Experience	9/30/2027	(96,787,000)	10	7.57874546	(12,770,847)
Subtotal		\$ 3,493,551,890			\$ 800,605,735
Subtotal (Not less than \$0)					\$ 800,605,735

**The figures used above are fictitious and not intended to portray actual results*

Appendix IIB

Layered Amortization - Closed Plan Example*

Valuation Year	Type of UAAL	Contribution FY					
		2025	2026	2027	2028	2029	2030
2022	Initial	\$ 708,309,340	\$ 708,309,340	\$ 708,309,340	\$ 708,309,340	\$ 708,309,340	\$ 708,309,340
2023	Experience		\$ (59,147,652)	\$ (59,147,652)	\$ (59,147,652)	\$ (59,147,652)	\$ (59,147,652)
2023	Assumption Change		\$ 152,898,190	\$ 152,898,190	\$ 152,898,190	\$ 152,898,190	\$ 152,898,190
2024	Experience			\$ 24,684,756	\$ 24,684,756	\$ 24,684,756	\$ 24,684,756
2024	Benefit Change - Active (Decrease)			\$ (3,167,972)	\$ (3,167,972)	\$ (3,167,972)	\$ (3,167,972)
2025	Experience				\$ (18,838,626)	\$ (18,838,626)	\$ (18,838,626)
2026	Experience					\$ 7,353,670	\$ 7,353,670
2026	Benefit Change - Inactive Members					\$ 1,284,876	\$ 1,284,876
2027	Experience						\$ (12,770,847)
Total Amortization Payment		\$ 708,309,340	\$ 802,059,878	\$ 823,576,662	\$ 804,738,036	\$ 813,376,582	\$ 800,605,735

**The figures used above are fictitious and not intended to portray actual results*

