ARIZONA CORRECTIONS OFFICER RETIREMENT PLAN

CONSOLIDATED REPORT

ACTUARIAL VALUATION
AS OF JUNE 30, 2021

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING JUNE 30, 2023

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

VIA E-MAIL

November 2021

Board of Trustees
Arizona Corrections Officer Retirement Plan
Phoenix, AZ

Re: Actuarial Valuation Report as of June 30, 2021 – Arizona Corrections Officer Retirement Plan

Dear Members of the Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the Arizona Corrections Officer Retirement Plan (CORP). The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year.

This report was prepared at the request of the Board and is intended for use by CORP and those designated or approved by the Board. It documents the valuation of the consolidated plan and provides summary information for CORP participating employers. This report may be provided to parties other than CORP only in its entirety and only with the permission of the Board. Foster & Foster is not responsible for the unauthorized use of this report.

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Title 38, Chapter 5, Article 6 of the Arizona Revised Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuation, we did not perform an analysis of the potential range of such future measurements.

The computed contribution rates shown in the "Contribution Results" section should be considered minimum contribution rates that comply with the Board's funding policy and Arizona Statutes. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions to the Plan in excess of those presented in this report be considered.

The funding percentages and unfunded accrued liability as measured based on the actuarial value of assets will differ from similar measures based on the market value of assets. These measures, as provided, are appropriate for determining the adequacy of future contributions, but may not be appropriate for the purpose of settling a portion or all of the Plan's liabilities.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by CORP through June 30, 2021 and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

This valuation assumes the continuing ability of the participating employers to make the contributions necessary to fund this plan. A determination regarding whether or not the participating employers are actually able to do so is outside our scope of expertise. Consequently, we did not perform such an analysis.

In performing the analysis, we used third-party software to model (calculate) the underlying liabilities and costs. These results are reviewed in the aggregate and for individual sample lives. The output from the software is either used directly or input into internally developed models to generate the costs. All internally developed models are reviewed as part of the process. As a result of this review, we believe that the models have produced reasonable results. We do not believe there are any material inconsistencies among assumptions or unreasonable output produced due to the aggregation of assumptions.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the Arizona Corrections Officer Retirement Plan, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Arizona Corrections Officer Retirement Plan. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully Submitted,

Foster & Foster, Inc.

By: ______________________
Bradley R. Heinrichs, FSA, EA, MAAA

By: ______________________
Paul M. Baugher, FSA, EA, MAAA

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I. Summary of Report

The regular annual actuarial valuation of the Arizona Corrections Officer Retirement Plan, performed as of June 30, 2021, has been completed and the results are presented in this Report. The purpose of this valuation is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members. This information is contained in the section entitled "Liability Support."
- Compare accumulated assets with the liabilities to assess the funded condition. This information is contained in the section entitled "Liability Support."
- Compute the employers' recommended contribution rates for the Fiscal Year beginning July 1, 2022. This information is contained in the section entitled "Contribution Results."

1. Key Valuation Results

The funded status as of June 30, 2021 and the employer contribution amounts applicable to the plan/fiscal year ending June 30, 2023 are as follows:

	Tier 1 & Tier 2 Members			Tier 3 Members *		
	Pension	**Health**	**Total**	**Pension**	**Health**	**Total**
Employer Contribution Rate	25.47%	0.00%	25.47%	4.05%	0.09%	4.14%
Funded Status	68.1%	157.3%	69.9%	116.7%	197.5%	118.4%

2. Comparison of Key Results to Prior Year

The chart below compares the results from this valuation with the results of the prior year's valuation (as of June 30, 2020):

Contribution Rate

	Tier 1 & Tier 2 Members			Tier 3 Members *		
Valuation Date	**Pension**	**Health**	**Total**	**Pension**	**Health**	**Total**
June 30, 2020	31.43%	0.10%	31.53%	3.84%	0.09%	3.93%
June 30, 2021	25.47%	0.00%	25.47%	4.05%	0.09%	4.14%

Funded Status

	Tier 1 & Tier 2 Members			Tier 3 Members		
Valuation Date	**Pension**	**Health**	**Total**	**Pension**	**Health**	**Total**
June 30, 2020	52.1%	141.0%	54.1%	117.8%	153.0%	118.6%
June 30, 2021	68.1%	157.3%	69.9%	116.7%	197.5%	118.4%

** The Tier 3 rates shown are the calculated rates as of the valuation date and do not reflect any Legacy costs that the employer must also contribute.*

3. Reasons for Change

Changes in the results from the prior year's valuation can be illustrated in the following tables along with high-level explanations for the entire Plan below:

Contribution Rate

	Tier 1 & Tier 2	
	Pension	**Health**
Contribution Rate Last Valuation	31.43%	0.10%
Asset Experience	(0.31%)	(0.01%)
Payroll Base	1.63%	(0.01%)
Liability Experience	(0.65%)	(0.09%)
Additional Contributions	(7.80%)	0.00%
Assumption/Method Change	0.52%	0.01%
Other	0.65%	0.00%
Contribution Rate This Valuation	25.47%	0.00%

Funded Status

	Tier 1 & Tier 2	
	Pension	**Health**
Funded Status Last Valuation	52.1%	141.0%
Asset Experience	0.5%	1.1%
Liability Experience	0.5%	14.9%
Additional Contributions	12.6%	0.0%
Assumption/Method Change	0.0%	0.0%
Other	2.4%	0.3%
Funded Status This Valuation	68.1%	157.3%

Assets Experience – Asset gains and losses (relative to the assumed earnings rate) are smoothed over seven years for Tiers 1 and 2 and over five years for Tier 3. The return on the market value of assets for the year ending June 30, 2021 was 24.4% for Tiers 1 and 2 and 20.0% for Tier 3. On a smoothed, actuarial value of assets basis, however, the average return was 7.7% for Tiers 1 and 2 and 9.1% for Tier 3. These returns both exceeded the 2020 assumed earnings rate of 7.3%.

Payroll Base – Under the current amortization policy for Tiers 1 and 2, the contribution rate is developed as a level percentage of payroll. Payroll for this purpose includes members of this plan and defined contribution plan's members that would have been in this plan. To the extent that actual payroll is lower/greater than last year's projected payroll, the contribution rate will increase/decrease as a result. The payroll decreased compared to expected, resulting in an increase in the contribution rate.

Liability Experience – Experience overall was favorable, driven by lower than expected salary increases.

Additional Contribution – Monies contributed in excess of the required contribution rate in order to pay down the unfunded liability.

Assumption / Method Change – The payroll growth assumption was decreased to 2.50%.

Other – This is the combination of all other factors that could impact liabilities year-over-year, with the primary sources being changes in member data. Note that Tier 3 experience will stabilize as the group matures.

4. Looking Ahead

The volatility in annual returns, which have produced both gains and losses in recent years, was dampened by the asset smoothing reflected in the actuarial value of assets. The significant gain realized this year will, in the absence of other losses, put downward pressure on the contribution rate next year.

If the June 30, 2021 pension valuation results were based on the market value of assets instead of the actuarial value of assets, the pension funded percentage for Tiers 1 and 2 would be 73.9% (instead of 68.1%) and the pension employer contribution requirement would be 20.91% of payroll (instead of 25.47%).

5. Conclusion

The funded status for Tiers 1 and 2 will continue to improve if assumptions are met and contributions at least equal to the rates determined for each employer are made to the fund. The recent adoption of a layered amortization approach along with a plan to systematically lower the payroll growth assumption was an excellent step to improve funding and ensure the Plan is on a viable path.

The funded status for Tier 3 will stabilize as the population continues to grow, as contributions appear sufficient to keep the liabilities fully funded.

II. CONTRIBUTION RESULTS

Contribution Requirements

Development of Employer Contributions - Tiers 1 & 2 Members				
Valuation Date	June 30, 2021		June 30, 2020	
Applicable to Fiscal Year Ending	2023		2022	
	Rate	**Dollar**	**Rate**	**Dollar**
Pension				
Normal Cost				
Total Normal Cost	13.26%	$67,327,659	13.42%	$74,722,736
Employee Cost	(8.38%)	(42,569,685)	(8.41%)	(46,808,166)
Employer (Net) Normal Cost	4.88%	24,757,974	5.01%	27,914,570
Amortization of Unfunded Liability	20.59%	104,600,219	26.42%	147,097,505
Total Employer Cost (Pension)	25.47%	129,358,193	31.43%	175,012,075
Health				
Normal Cost	0.29%	$1,470,882	0.29%	$1,597,750
Amortization of Unfunded Liability	(0.29%)	(1,470,882)	(0.19%)	(1,034,172)
Total Employer Cost (Health)	0.00%	0	0.10%	563,578
Total Employer Cost (Pension + Health)	**25.47%**	**129,358,193**	**31.53%**	**175,575,653**
Total Minimum Contribution Requirement (if applicable)	0.00%		0.00%	
Alternate Contribution Rate (ACR) *	20.59%		26.42%	
Underlying Payroll (as of valuation date)		507,923,077		556,832,884

** The Alternate Contribution Rate is the sum of the positive amortization rates for Tiers 1 & 2 Pension and Health (subject to a 6% minimum) and is charged when retirees return to active status.*

The results above are shown both prior to and after the application of the statutory minimum contribution requirement of 6% of payroll.

Development of Employer Contributions – Tier 3 Members

Valuation Date	June 30, 2021	June 30, 2020
Applicable to Fiscal Year Ending	2023	2022

Defined Benefit (DB) Retirement Plan [1]

	Rate	Dollar	Rate	Dollar
Pension				
Total Normal Cost	12.15%	$ 1,241,659	11.95%	$ 896,428
Amortization of Unfunded Liability	0.00%	0	(0.28%)	(21,004)
Total Pension Cost	12.15%	1,241,659	11.67%	875,424
Employee (EE) Pension Cost	8.10%	827,773	7.83%	587,117
Employer (ER) Pension Cost	4.05%	413,886	3.84%	288,307
Health				
Total Normal Cost	0.27%	27,592	0.28%	21,004
Amortization of Unfunded Liability	0.00%	0	0.00%	0
Total Health Cost	0.27%	27,592	0.28%	21,004
Employee (EE) Health Cost	0.18%	18,395	0.19%	14,003
Employer (ER) Health Cost	0.09%	9,197	0.09%	7,001
Total				
Total Calculated Tier 3 Required EE Individual Cost	8.28%	846,168	8.02%	601,120
Board Approved Tier 3 Required EE Individual Cost [2]	10.18%	1,040,337	10.18%	763,651
Total Calculated Tier 3 Required ER Individual Cost (before Legacy)	4.14%	423,083	3.93%	295,308
Board Approved Tier 3 Required ER Individual Cost (before Legacy) [2]	5.09%	520,168	5.09%	381,826
ER Legacy Cost of Tiers 1 & 2 Amort of Unfunded Liabilities [3]	32.88%	3,360,144	31.57%	2,368,219
Total Tier 3 Required ER Defined Benefit Cost	37.02%	3,783,227	35.50%	2,663,527
Total Board Approved Tier 3 Required ER Defined Benefit Cost	**37.97%**	**3,880,312**	**36.66%**	**2,750,045**
Underlying Payroll (as of valuation date)		10,219,416		7,501,487

[1] *Applicable to AOC Probation and Surveillance only.*

[2] *The Board decided to keep Tier 3 rates level (as calculated with the June 30, 2019 valuation) for the fiscal year ending June 30, 2023.*

[3] *Pursuant to ARS § 38-891(A), the amortization of positive unfunded liabilities for Tiers 1 & 2 shall be applied to all Tier 3 payroll on a level percent basis. However, while it is statutorily required to present the rates in this manner, these are the minimums where alternate methods for paying down that unfunded liability is at the discretion of each employer. Further, to understand the effects of reform in relation to Tier 3, compare the total rate of Tier 3 before application of those legacy costs.*

Development of Employer Contributions – Tier 3 Members		
Valuation Date	June 30, 2021	June 30, 2020
Applicable to Fiscal Year Ending	2023	2022

Defined Contribution (DC) Retirement Plan

	Rate	Dollar	Rate	Dollar
Tier 3 DC Only				
Employee Cost	7.00%	$ 9,668,546	7.00%	$ 7,924,390
Employee Health Subsidy Program Cost	0.17%	234,808		
Employee Disability Program Cost	0.44%	607,737	0.49%	554,707
Total Employee Cost	**7.61%**	**10,511,091**	**7.49%**	**8,479,097**
Employer Cost	5.00%	6,906,104	5.00%	5,660,278
Employer Health Subsidy Program Cost	0.17%	234,808		
Employer Disability Program Cost	0.44%	607,737	0.49%	554,707
Total Employer Cost (before Legacy)	**5.61%**	**7,748,649**	**5.49%**	**6,214,985**
ER Legacy Cost of Tiers 1 & 2 Amort of Unfunded Liabilities *	32.88%	45,414,540	26.42%	29,908,911
Total Employer Cost	**38.49%**	**53,163,189**	**31.91%**	**36,123,896**
Underlying Payroll (as of valuation date)		138,122,079		113,205,567

** Pursuant to ARS § 38-891(A), the amortization of positive unfunded liabilities for Tiers 1 & 2 shall be applied to all Tier 3 payroll on a level percent basis. However, while it is statutorily required to present the rates in this manner, these are the minimums where alternate methods for paying down that unfunded liability is at the discretion of each employer. Further, to understand the effects of reform in relation to Tier 3, compare the total rate of Tier 3 before application of those legacy costs.*

Historical Summary of Employer Rates

	Valuation Date June 30	Fiscal Year Ending June 30	Pension Normal Cost	Pension Unfunded Amortization	Pension Total	Health Normal Cost	Health Unfunded Amortization	Health Total
TIERS 1 & 2	2018	2020	7.67%	19.92%	27.59%	0.24%	(0.24%)	0.00%
	2019	2021	6.73%	24.19%	30.92%	0.35%	(0.23%)	0.12%
	2020	2022	5.01%	26.42%	31.43%	0.29%	(0.19%)	0.10%
	2021	2023	4.88%	20.59%	25.47%	0.29%	(0.29%)	0.00%
TIER 3 [1]	2018	2020	4.95%	0.00%	4.95%	0.14%	0.00%	0.14%
	2019	2021	4.95%	0.00%	4.95%	0.14%	0.00%	0.14%
	2020	2022	5.09%	(0.14%)	4.95%	0.14%	0.00%	0.14%
	2021 [2]	2023	4.05%	0.00%	4.05%	0.09%	0.00%	0.09%
	2021	2023	4.95%	0.00%	4.95%	0.14%	0.00%	0.14%

[1] *Rates shown are Board approved EE/ER rates, unless otherwise noted. Does not reflect Legacy costs that the employer must also contribute.*

[2] *Rates shown are calculated EE/ER rates.*

III. Liability Support

Liabilities and Funded Ratios by Benefit - Tiers 1 & 2

	June 30, 2021	June 30, 2020
Pension		
Actuarial Present Value of Benefits		
Retirees and Beneficiaries	$ 2,354,757,313	$ 2,194,900,043
Vested Members	45,268,405	40,878,094
Active Members	2,401,641,624	2,488,797,915
Total Actuarial Present Value of Benefits	4,801,667,342	4,724,576,052
Actuarial Accrued Liability (AAL)		
All Inactive Members	2,400,025,718	2,235,778,137
Active Members	1,951,480,470	1,989,288,769
Total Actuarial Accrued Liability	4,351,506,188	4,225,066,906
Actuarial Value of Assets (AVA)	2,964,749,664	2,202,747,086
Unfunded Actuarial Accrued Liability		
Gross Unfunded Actuarial Accrued Liability	1,386,756,524	2,022,319,820
Stabilization Reserve	3,415,073	43,966
Net Unfunded Actuarial Accrued Liability	1,390,171,597	2,022,363,786
Funded Ratio (AVA / AAL)	68.1%	52.1%
Health		
Present Value of Benefits		
Retirees and Beneficiaries	$ 42,413,715	$ 46,622,603
Active Members	55,882,687	58,439,810
Total Present Value of Benefits	98,296,402	105,062,413
Actuarial Accrued Liability (AAL)		
All Inactive Members	42,413,715	46,622,603
Active Members	46,910,617	48,556,705
Total Actuarial Accrued Liability	89,324,332	95,179,308
Actuarial Value of Assets (AVA)	140,497,165	134,233,358
Unfunded Actuarial Accrued Liability	(51,172,833)	(39,054,050)
Funded Ratio (AVA / AAL)	157.3%	141.0%

Liabilities and Funded Ratios by Benefit - Tier 3

	June 30, 2021	June 30, 2020
Pension		
Actuarial Present Value of Benefits		
Retirees and Beneficiaries	0	0
Vested Members	179,351	42,399
Active Members	12,634,386	8,398,018
Total Actuarial Present Value of Benefits	12,813,737	8,440,417
Actuarial Accrued Liability (AAL)		
All Inactive Members	179,351	42,399
Active Members	1,983,398	880,006
Total Actuarial Accrued Liability	2,162,749	922,405
Actuarial Value of Assets (AVA)	2,523,714	1,086,471
Unfunded Actuarial Accrued Liability	(360,965)	(164,066)
Funded Ratio (AVA / AAL)	116.7%	117.8%
Health		
Present Value of Benefits		
Retirees and Beneficiaries	0	0
Active Members	267,833	180,682
Total Present Value of Benefits	267,833	180,682
Actuarial Accrued Liability (AAL)		
All Inactive Members	0	0
Active Members	47,455	20,552
Total Actuarial Accrued Liability	47,455	20,552
Actuarial Value of Assets (AVA)	93,717	31,450
Unfunded Actuarial Accrued Liability	(46,262)	(10,898)
Funded Ratio (AVA / AAL)	197.5%	153.0%

Derivation of Experience (Gain)/Loss

Actual experience will never exactly match assumed experience, except by coincidence. Ideally, gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience (gain) / loss is shown below, along with sources of the gains and losses.

		Tiers 1 & 2		Tier 3	
		Pension	**Health**	**Pension**	**Health**
(1)	Unfunded Actuarial Accrued Liability as of June 30, 2020	2,022,319,820	(39,054,050)	(164,066)	(10,898)
(2)	Normal Cost Developed in Last Valuation	27,914,570	1,597,750	896,428	21,004
(3)	Actual Contributions	730,498,415	585,463	440,249	56,009
(4)	Expected Interest On (1), (2), and (3)	123,473,532	(2,755,303)	37,676	(1,271)
(5)	Expected Unfunded Actuarial Accrued Liability as of June 30, 2021 (1)+(2)-(3)+(4)	1,443,209,507	(40,797,066)	329,789	(47,174)
(6)	Changes to UAAL Due to Assumptions, Methods and Benefits	0	0	0	0
(7)	Change to UAAL Due to Actuarial (Gain)/Loss	(56,452,983)	(10,375,767)	(690,754)	912
(8)	Unfunded Actuarial Accrued Liability as of June 30, 2021	1,386,756,524	(51,172,833)	(360,965)	(46,262)

FY 2021 Gains and Losses by Source

	Tiers 1 & 2		Tier 3	
	Pension	**Health**	**Pension**	**Health**
Investment Return	(19,787,876)	(1,020,190)	(33,768)	(2,038)
Salary Increases	(44,952,340)	-	(4,931)	(71)
Retirement	1,245,553	(3,458,438)	-	-
Turnover	(10,403,059)	(319,042)	(43,763)	(1,392)
Disability	(778,480)	(41,211)	(20,602)	(1,199)
Death-In-Service	(4,021,258)	(21,118)	(38,946)	(766)
Retiree Mortality	2,907,733	(3,209,350)	3	-
Other *	19,336,744	(2,306,418)	(548,747)	6,378
Total	(56,452,983)	(10,375,767)	(690,754)	912

** The combination of all other factors that could impact liabilities year-over-year, with the primary sources being plan experience related to current and former inactive members.*

IV. Asset Support

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2021

Market Value Basis

	Tiers 1 & 2		Tier 3	
	Pension	**Health**	**Pension**	**Health**
Additions				
Contributions				
Member Contributions	$ 42,323,414	$ 0	$ 879,581	$ 0
Employer Contributions	730,498,415	0	440,249	0
Health Insurance Contributions	0	585,463	0	56,009
Total Contributions	772,821,829	585,463	1,319,830	56,009
Investment Income				
Net Increase in Fair Value	558,893,199	32,477,757	328,508	15,425
Interest and Dividends	18,245,145	1,060,241	10,724	504
Other Income	13,075,141	759,808	7,685	361
Less Investment Expenses	(12,776,627)	(742,460)	(7,509)	(353)
Net Investment Income	577,436,858	33,555,346	339,408	15,937
Transfers In	37,367	0	0	0
Total Additions	1,350,296,054	34,140,809	1,659,238	71,946
Deductions				
Distributions to Members				
Benefit Payments	183,202,439	0	0	0
Health Insurance Subsidy	0	4,401,179	0	0
Refund of Contributions	18,514,647	0	38,926	0
Total Distributions	201,717,086	4,401,179	38,926	0
Administrative Expenses	2,666,934	138,110	1,395	66
Transfers Out	538,460	0	0	0
Other	0	0	0	0
Total Deductions	204,922,480	4,539,289	40,321	66
Net Increase / (Decrease)	1,145,373,574	29,601,520	1,618,917	71,880
Net Position Held in Trust				
Prior Valuation	2,070,559,462	125,974,705	1,049,886	30,301
Beginning of the Year Adjustment	0	(1)	0	0
End of the Year	3,215,933,036	155,576,224	2,668,803	102,181

Development of Pension Actuarial Value of Assets - Tiers 1 & 2

A. Investment Income	
A1. Actual Investment Income	$ 574,769,924
A2. Expected Amount for Immediate Recognition	171,611,052
A3. Amount Subject to Amortization	403,158,872

	Year Ended June 30						
B. Amortization Schedule	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
2021 Experience (A3 / 7)	57,594,125	57,594,125	57,594,125	57,594,125	57,594,125	57,594,125	57,594,122
2020 Experience	(13,457,282)	(13,457,282)	(13,457,282)	(13,457,282)	(13,457,282)	(13,457,281)	
2019 Experience	(5,782,115)	(5,782,115)	(5,782,115)	(5,782,115)	(5,782,112)		
2018 Experience	(1,511,828)	(1,511,828)	(1,511,828)	(1,511,825)			
2017 Experience	8,429,734	8,429,734	8,429,733				
2016 Experience	(16,290,498)	(16,290,497)					
2015 Experience	(9,194,260)						
Total Amortization	19,787,876	28,982,137	45,272,633	36,842,903	38,354,731	44,136,844	57,594,122

C. Actuarial Value of Assets	
C1. Actuarial Value of Assets, 06/30/2020	2,202,747,086
C2. Noninvestment Net Cash Flow	570,603,650
C3. Preliminary Actuarial Value of Assets, 06/30/2021 (A2 + B + C1 + C2)	2,964,749,664
C4. Market Value of Assets, 06/30/2021	3,215,933,036
C5. Final Actuarial Value of Assets, 06/30/2021 (C3 Within 20% Corridor of C4)	2,964,749,664

D. Rates of Return	
D1. Market Value Rate of Return	24.4%
D2. Actuarial Value Rate of Return	7.7%

Development of Health Actuarial Value of Assets - Tiers 1 & 2

A. Investment Income	
A1. Actual Investment Income	$ 33,417,236
A2. Expected Amount for Immediate Recognition	9,059,333
A3. Amount Subject to Amortization	24,357,903

	Year Ended June 30						
B. Amortization Schedule	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
2021 Experience (A3 / 7)	3,479,700	3,479,700	3,479,700	3,479,700	3,479,700	3,479,700	3,479,703
2020 Experience	(806,920)	(806,920)	(806,920)	(806,920)	(806,920)	(806,919)	
2019 Experience	(382,214)	(382,214)	(382,214)	(382,214)	(382,213)		
2018 Experience	(81,544)	(81,544)	(81,544)	(81,541)			
2017 Experience	574,691	574,691	574,693				
2016 Experience	(1,140,445)	(1,140,442)					
2015 Experience	(623,078)						
Total Amortization	1,020,190	1,643,271	2,783,715	2,209,025	2,290,567	2,672,781	3,479,703

C. Actuarial Value of Assets	
C1. Actuarial Value of Assets, 06/30/2020	134,233,358
C2. Noninvestment Net Cash Flow	(3,815,716)
C3. Preliminary Actuarial Value of Assets, 06/30/2021 (A2 + B + C1 + C2)	140,497,165
C4. Market Value of Assets, 06/30/2021	155,576,224
C5. Final Actuarial Value of Assets, 06/30/2021 (C3 Within 20% Corridor of C4)	140,497,165

D. Rates of Return	
D1. Market Value Rate of Return	26.9%
D2. Actuarial Value Rate of Return	7.6%

Development of Pension Actuarial Value of Assets - Tiers 3

A. Investment Income	
A1. Actual Investment Income	$ 338,013
A2. Expected Amount for Immediate Recognition	122,571
A3. Amount Subject to Amortization	215,442

	Year Ended June 30				
B. Amortization Schedule	**2021**	**2022**	**2023**	**2024**	**2025**
2021 Experience (A3 / 5)	43,088	43,088	43,088	43,088	43,090
2020 Experience	(8,624)	(8,624)	(8,624)	(8,624)	
2019 Experience	(696)	(696)	(697)		
2018 Experience	0	0			
2017 Experience	0				
Total Amortization	33,768	33,768	33,767	34,464	43,090

C. Actuarial Value of Assets	
C1. Actuarial Value of Assets, 06/30/2020	1,086,471
C2. Noninvestment Net Cash Flow	1,280,904
C3. Preliminary Actuarial Value of Assets, 06/30/2021 (A2 + B + C1 + C2)	2,523,714
C4. Market Value of Assets, 06/30/2021	2,668,803
C5. Final Actuarial Value of Assets, 06/30/2021 (C3 Within 20% Corridor of C4)	2,523,714

D. Rates of Return	
D1. Market Value Rate of Return	20.0%
D2. Actuarial Value Rate of Return	9.1%

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Development of Health Actuarial Value of Assets - Tiers 3

A. Investment Income	
A1. Actual Investment Income	$ 15,871
A2. Expected Amount for Immediate Recognition	4,220
A3. Amount Subject to Amortization	11,651

	Year Ended June 30				
B. Amortization Schedule	**2021**	**2022**	**2023**	**2024**	**2025**
2021 Experience (A3 / 5)	2,330	2,330	2,330	2,330	2,331
2020 Experience	(273)	(273)	(273)	(272)	
2019 Experience	(19)	(19)	(20)		
2018 Experience	0	0			
2017 Experience	0				
Total Amortization	2,038	2,038	2,037	2,058	2,331

C. Actuarial Value of Assets	
C1. Actuarial Value of Assets, 06/30/2020	31,450
C2. Noninvestment Net Cash Flow	56,009
C3. Preliminary Actuarial Value of Assets, 06/30/2021 (A2 + B + C1 + C2)	93,717
C4. Market Value of Assets, 06/30/2021	102,181
C5. Final Actuarial Value of Assets, 06/30/2021 (C3 Within 20% Corridor of C4)	93,717

D. Rates of Return	
D1. Market Value Rate of Return	27.2%
D2. Actuarial Value Rate of Return	10.5%

V. Member Statistics

Valuation Data Summary

	June 30, 2021		June 30, 2020	
	Tiers 1 & 2	Tier 3	Tiers 1 & 2	Tier 3
Actives				
Number	9,374	216	10,498	162
Average Current Age	42.2	33.5	41.3	33.2
Average Age at Employment	30.7	32.0	30.7	32.3
Average Past Service	11.5	1.5	10.6	0.9
Average Annual Salary	$49,903	$44,577	$49,615	$43,794
Actives (transferred)				
Number	271	2	275	1
Average Current Age	35.9	34.2	34.5	37.6
Average Age at Employment	29.4	33.5	29.0	36.9
Average Past Service	6.5	0.7	5.5	0.7
Average Annual Salary	$47,738	$43,280	$46,584	$34,219
Retirees				
Number	5,457	0	5,176	0
Average Current Age	64.3	N/A	64.3	N/A
Average Annual Benefit	$30,625	N/A	$30,084	N/A
Beneficiaries				
Number	800	0	717	0
Average Current Age	68.5	N/A	68.1	N/A
Average Annual Benefit	$22,045	N/A	$21,276	N/A
Disability Retirees				
Number	160	0	156	0
Average Current Age	59.7	N/A	58.9	N/A
Average Annual Benefit	$22,202	N/A	$21,971	N/A
Inactive / Vested				
Number	3,689	37	3,590	14
Average Current Age	39.2	34.9	38.3	35.0
Average Accumulated Contributions	$8,161	$4,512	$7,120	$2,791
Total Number	19,751	255	20,412	177
Former Members (transferred)	N/A	N/A	N/A	N/A

Counts and Pay Summary by Service - Tiers 1 & 2

	Past Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total Count	Total Pay	Average Pay
< 25	174	13	0	0	0	0	0	187	7,686,891	41,106
25 - 29	731	509	7	0	0	0	0	1,247	54,123,693	43,403
30 - 34	432	916	280	20	0	0	0	1,648	76,769,857	46,584
35 - 39	224	462	526	292	0	0	0	1,504	74,735,462	49,691
40 - 44	120	283	379	469	91	1	0	1,343	70,086,360	52,186
45 - 49	105	236	306	397	213	26	0	1,283	68,353,071	53,276
50 - 54	58	170	275	300	149	79	15	1,046	56,135,882	53,667
55 - 59	46	116	150	232	102	49	36	731	38,560,350	52,750
60 - 64	34	75	102	155	73	25	32	496	25,824,131	52,065
65+	14	29	33	40	26	5	13	160	8,453,674	52,835
Total	1,938	2,809	2,058	1,905	654	185	96	9,645	480,729,371	49,842

Counts and Pay Summary by Service - Tier 3

	Past Service									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total Count	Total Pay	Average Pay
< 25	16	0	0	0	0	0	0	16	658,482	41,155
25 - 29	84	0	0	0	0	0	0	84	3,820,263	45,479
30 - 34	45	0	0	0	0	0	0	45	1,985,891	44,131
35 - 39	31	0	0	0	0	0	0	31	1,385,352	44,689
40 - 44	21	0	0	0	0	0	0	21	956,141	45,531
45 - 49	8	0	0	0	0	0	0	8	334,513	41,814
50 - 54	9	0	0	0	0	0	0	9	407,453	45,273
55 - 59	2	0	0	0	0	0	0	2	98,087	49,044
60 - 64	0	0	0	0	0	0	0	0	0	0
65+	2	0	0	0	0	0	0	2	68,956	34,478
Total	218	0	0	0	0	0	0	218	9,715,138	44,565

VI. ACTUARIAL ASSUMPTIONS AND METHODS

Interest Rate

7.30% per year. This is the assumed earnings rate on System assets, compounded annually, net of investment and administrative expenses.

Salary Increases

See table below. This is annual increase for individual member's salary. These rates, which are based on a 2017 experience study using actual plan experience, consist of 3.5% for wage inflation with the remaining portion for merit / seniority increases.

Age	Rate
20	6.5%
25	6.1%
30	5.4%
35	4.7%
40	4.2%
45	4.0%
50	3.9%
55	3.7%
60+	3.5%

Inflation

2.50%.

Tier 3 Compensation Limit

$70,000 for calendar 2020. Assumed increases of 2.00% per year thereafter.

Cost-of-Living Adjustment

1.75%.

Reverse DROP Interest

2.00%.

Mortality Rates

These rates are used to project future decrements from the population due to death.

Active Lives:
PubS-2010 Employee mortality, loaded 125% for males and 115% for females, projected with future mortality improvements reflected generationally using 75% of scale MP-2020. 100% of active deaths are assumed to be in the line of duty.

Inactive Lives
PubS-2010 Healthy Retiree mortality, loaded 125% for males and 115% for females, projected with future mortality improvements reflected generationally using 75% of scale MP-2020.

Beneficiaries:
PubS-2010 Survivor mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2020.

Disabled Lives:
PubS-2010 Disabled mortality, projected with future mortality improvements reflected generationally using 75% of scale MP-2020.

The mortality assumptions sufficiently accommodate anticipated future mortality improvements.

Retirement

These rates are used to project future decrements from the active population due to retirement. The rates below are based on a 2017 experience study using actual plan experience.

Tier 1 – reaching age 62 before attaining 20 (25 for dispatchers) years of service:
Age-related rates based on age at retirement: 45% per year from age 60 - 74 and 100% assumed at age 75.

Tier 1 – reaching age 62 after attaining 20 (25 for dispatchers) years of service:
Service-related rates based on service at retirement:

Service	Rate
20	30%
21	28%
22	19%
23	17%
24	13%
25-26	26%
27-29	19%
30-31	27%
32-33	40%
34-35	50%
36	60%
37+	100%

Tiers 2 & 3:
Age-related rates based on age at retirement:

Age	Rate
53-54	40%
55	30%
56-57	15%
58-59	30%
60-61	65%
62+	100%

Termination Rate

These rates are used to project future decrements from the active population due to termination. Service-related rates based on service at termination are shown below. The rates below apply to members prior to retirement eligibility and are based on a 2017 experience study using actual plan experience.

Service	Rate
0	23.00%
1	20.00%
2	16.50%
3	14.50%
4	13.00%
5	10.50%
6	9.50%
7	9.00%
8-10	8.50%
11	6.00%
12	5.00%
13	4.50%
14-16	3.00%
17+	2.00%

Disability Rate

These rates are used to project future decrements from the active population due to disability. Sample age-related rates based on age at disability are provided below. These rates are based on a 2017 experience study using actual plan experience. 100% of disablements are assumed to be duty-related.

Age	Rate
20	0.03%
25	0.03%
30	0.03%
35	0.04%
40	0.05%
45	0.06%
50	0.08%
55	0.08%

Marital Status	For active members, 75% of males and 50% of females are assumed to be married. Actual marital status is used, where applicable, for inactive members.
Spouse's Age	Males are assumed to be three years older than females.
Health Care Utilization	For active members, 60% of retirees are expected to utilize retiree health care. Actual utilization is used for inactive members.
Funding Method	Entry Age Normal Cost Method.
Actuarial Asset Method	Method described below. Note that during periods when investment performance exceeds (falls short) of the assumed rate, the actuarial value of assets will tend to be less (greater) than the market value of assets. ***Tiers 1 & 2:*** Each year the assumed investment income is recognized in full while the difference between actual and assumed investment income are smoothed over a 7-year period subject to a 20% corridor around the market value. ***Tier 3:*** Each year the assumed investment income is recognized in full while the difference between actual and assumed investment income are smoothed over a 5-year period subject to a 20% corridor around the market value.
Funding Policy Amortization Method	***Tiers 1 & 2:*** Any positive UAAL (assets less than liabilities) is amortized using a layered approach beginning with the June 30, 2020 valuation, with new amounts determined according to a Level Dollar method over a closed period of 15 years (phased into from current period of at most 30 years). Initial layer from June 30, 2019 valuation continues to be amortized according to a Level Percentage of Payroll method. Any negative UAAL (assets greater than liabilities) is amortized according to a Level Dollar method over an open period of 20 years. ***Tier 3:*** Any positive UAAL (assets less than liabilities) is amortized according to a Level Dollar method over a closed period of 10 years. No amortization is made of any negative UAAL (assets greater than liabilities).
Payroll Growth	2.50% per year. This is annual increase for total employer payroll.

Stabilization Reserve

Beginning with the June 30, 2007 valuation and with each subsequent valuation, if the actuarial value of assets exceeds the actuarial accrued liability, one half of this excess in each year is allocated to a Stabilization Reserve. This Reserve is excluded from the calculation of the employer contribution rates. The Reserve accumulates as long as the plan is overfunded. Once the plan becomes underfunded, the Stabilization Reserve will be used to dampen increases in the employer contribution rates.

Changes to Actuarial Assumptions and Methods Since the Prior Valuation

The payroll growth assumption was lowered from 3.00% to 2.50%.

VII. DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined under various assumption scenarios. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. Whenever possible, the recommended assumptions in this report reflect conservatism to allow for some margin of unfavorable future plan experience. However, it is still possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- Investment Return: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- Salary Increases: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- Payroll Growth: The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- Demographic Assumptions: Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment

produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

- <u>Contribution risk</u>: This risk results from the potential that actual employer contributions may deviate from actuarially determined contributions, which are determined in accordance with the Board's funding policy. The funding policy is intended to result in contribution requirements that if paid when due, will result in a reasonable expectation that assets will accumulate to be sufficient to pay plan benefits when due. Contribution deficits, particularly large deficits and those that occur repeatedly, increase future contribution requirements and put the plan at risk for not being able to pay plan benefits when due.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature plans with a substantial inactive liability. Similarly, mature plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled "Plan Maturity Measures and Other Risk Metrics". Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased for Tiers 1 and 2 from 170.7% on June 30, 2018 to 95.4% on June 30, 2021. This is expected since the plan is closed to new active members. For Tier 3, the Ratio decreased from 2,150.0% on June 30, 2019 to 589.2% on June 30, 2021, consistent with the growth of a new group.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 55.2% for Tiers 1 and 2. With a group of this maturity, losses due to lower than expected investment returns or demographic factors will need to be made up for over a shorter time horizon than would be needed for a less mature plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has decreased from 54.1% on June 30, 2018 to 68.1% on June 30, 2020, due mainly to contributions in excess of the required amount and favorable plan experience. For Tier 3, the Ratio increased from 68.9% on June 30, 2019 to 116.7% on June 30, 2020, consistent with a new group with appropriate contribution rates.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments) to the Market Value of Assets, decreased from 1.9% on June 30, 2019 to 17.7% on June 30,

2020, meaning that contributions are currently covering the group's benefit payments. For Tier 3, the Ratio was 48.0%, which is consistent with a new benefit that is beginning to accumulate assets.

It is important to note that the actuary has identified the risks above as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the reader.

Plan Maturity Measures and Other Risk Metrics – Tiers 1 & 2

	06/30/2018	06/30/2019	06/30/2020	06/30/2021
Support Ratio				
Total Actives	14,335	12,027	10,773	9,645
Total Inactives	8,396	9,356	9,639	10,106
Actives / Inactives	170.7%	128.5%	111.8%	95.4%
Asset Volatility Ratio				
Market Value of Assets (MVA)		1,996,273,344	2,070,559,462	3,215,933,036
Total Annual Payroll		547,363,066	533,673,543	480,729,371
MVA / Total Annual Payroll		364.7%	388.0%	669.0%
Accrued Liability (AL) Ratio				
Inactive Accrued Liability	1,854,851,192	2,098,736,826	2,235,778,137	2,400,025,718
Total Accrued Liability	3,506,082,771	3,884,070,116	4,225,066,906	4,351,506,188
Inactive AL / Total AL	52.9%	54.0%	52.9%	55.2%
Funded Ratio				
Actuarial Value of Assets (AVA)	1,896,970,783	2,063,352,240	2,202,747,086	2,964,749,664
Total Accrued Liability	3,506,082,771	3,884,070,116	4,225,066,906	4,351,506,188
AVA / Total Accrued Liability	54.1%	53.1%	52.1%	68.1%
Net Cash Flow Ratio				
Net Cash Flow *		38,292,853	22,370,431	570,412,534
Market Value of Assets (MVA)		1,996,273,344	2,070,559,462	3,215,933,036
Net Cash Flow / MVA		1.9%	1.1%	17.7%

* *Determined as total contributions minus benefit payments. Administrative expenses are typically included but are considered part of the net interest rate assumption for this plan.*

Plan Maturity Measures and Other Risk Metrics – Tier 3

	06/30/2018	06/30/2019	06/30/2020	06/30/2021
Support Ratio				
Total Actives	0	86	163	218
Total Inactives	0	4	14	37
Actives / Inactives	N/A	2,150.0%	1,164.3%	589.2%
Asset Volatility Ratio				
Market Value of Assets (MVA)		239,659	1,049,886	2,668,803
Total Annual Payroll		3,736,128	7,128,851	9,715,138
MVA / Total Annual Payroll		6.4%	14.7%	27.5%
Accrued Liability (AL) Ratio				
Inactive Accrued Liability		3,122	42,399	179,351
Total Accrued Liability		351,682	922,405	2,162,749
Inactive AL / Total AL		0.9%	4.6%	8.3%
Funded Ratio				
Actuarial Value of Assets (AVA)	0	242,444	1,086,471	2,523,714
Total Accrued Liability	0	351,682	922,405	2,162,749
AVA / Total Accrued Liability	N/A	68.9%	117.8%	116.7%
Net Cash Flow Ratio				
Net Cash Flow *		234,614	806,918	1,280,905
Market Value of Assets (MVA)		239,659	1,049,886	2,668,803
Net Cash Flow / MVA		97.9%	76.9%	48.0%

* *Determined as total contributions minus benefit payments. Administrative expenses are typically included but are considered part of the net interest rate assumption for this plan.*

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VIII. Summary of Current Plan

The following is a summary of the benefit provisions provided in Title 38, Chapter 5, Article 6 of the Arizona Revised Statutes.

<u>Membership</u>

Full-time employees of a participating employer in a designated position, whose customary employment is at least 40 hours each week. Includes employees hired after July 1, 2018 only if they are a judiciary probation or surveillance officer who makes the irrevocable election to participate in the plan.

<u>Benefit Tiers</u>

Benefits differ for members based on their hire date:

Tier	Hire Date
1	Hired before January 1, 2012
2	Hired on or after January 1, 2012 but before July 1, 2018
3	Hired on or after July 1, 2018

<u>Salary</u>

Salary is the amount including base salary, shift and military differential pay, and holiday pay, paid to an employee on a regular payroll basis. For Tier 3 members, salary is limited by statutory cap ($70,000 with adjustments by the Board).

<u>Average Monthly Benefit Salary</u>

Tier 1:
One-thirty-sixth of the highest total salary during a period of thirty-six consecutive months of service within the last one hundred twenty months of service.

Tier 2 & 3:
One-sixtieth of the highest total salary during a period of sixty consecutive months of service within the last one hundred twenty months of service.

<u>Credited Service</u>

Total periods of service, both from service other State plans and those compensated periods of service for which the member made contributions to the fund.

<u>Normal Retirement</u> Date

Tier 1:
First day of the month following attainment of 1) age 62 with 10 years of Credited Service, 2) 20 (25, if dispatcher) years of Credited Service, or 3) age and Credited Service points equal to 80.

Tier 2:
First day of month following the attainment of 1) age 52.5 with 25 years of Credited Service, or 2) age 62 with 10 years of Credited Service.

Tier 3:
First day of month following the attainment of age 55 with 10 years of Credited Service.

Benefit

Tier 1:
2.50% times Credited Service (up to 20 years) times Average Monthly Salary. If Credited Service exceeds 20 years, an additional 2.00% accrual is provided for up to five years. If Credited Service exceeds 25 years, the additional accrual for service in excess of 20 years is increased to 2.50%. Maximum benefit equals 80% of Average Monthly Salary.

Tier 2:
2.50% times Credited Service times Average Monthly Salary (maximum benefit equals 80% of Average Monthly Salary).

Tier 3:
Benefit multiplier (below) times Average Monthly Benefit Salary times Credited Service (maximum benefit of 80% of Average Monthly Benefit Salary):

Credited Service	Benefit Multiplier
10 years, but less than 15	1.25%
15 years, but less than 20	1.50%
20 years, but less than 22	1.75%
22 years, but less than 25	2.00%
25+ years	2.25%

Form of Benefit

For married retirees, an annuity payable for the life of the member with 80% continuing to the eligible spouse upon death. For unmarried retirees, the normal form is a single life annuity.

Early Retirement

Only applicable to Tier 3 members:

Date

Attainment of age 52.5 and 10 years of Credited Service.

Benefit

Actuarial equivalent of Normal Retirement benefit.

Disability Benefit – Duty-Related

Eligibility

Total and permanent disability incurred in performance of duty.

Benefit Amount	The greater of 1) 50% of Average Monthly Salary, and 2) the Normal Retirement pension that the member is entitled to receive.

<u>Disability Benefit – Ordinary</u>

Eligibility	Total and permanent disability not incurred in performance of duty.
Benefit Amount	
Dispatchers	Normal Retirement pension that the member is entitled to receive prorated on Credited Service (maximum 25 years) over 25.
All Others	Normal Retirement pension that the member is entitled to receive prorated on Credited Service (maximum 20 years) over 20.

<u>Pre-Retirement Death Benefit</u>

Payable to Eligible Survivor	Payable to eligible spouse for life; payable to eligible children until adopted, age 18, or age 23 if full-time student.
Service Incurred	100% of Average Monthly Salary
Non-Service Incurred	40% of Average Monthly Salary.
No survivors	Two times member's accumulated contributions.

<u>Vesting (Termination)</u>

Deferred Annuity

***Tier 1*:**
For those with 10 or more years of Credited Service, an annuity based on two times member's accumulated contributions, deferred to age 62. Member is not entitled to survivor benefits, benefit increases, or group health insurance subsidy.

Return of Contributions

***Tier 1*:**
Lump sum payment of accumulated contributions, plus additional amount based on years of credited service.

Service	Additional % of Contributions
Less than 5 years	0%
5 years	25%
6 years	40%
7 years	55%
8 years	70%
9 years	85%
10+ years	100%

Tiers 2 & 3:
Lump sum payment of accumulated contributions, with interest at rate determined by the Board.

Cost-of-Living Adjustment

Payable to retired member or survivor of retired member

Tiers 1 & 2
Compound cost-of-living adjustment on base benefit. First payment is made on July 1, 2018, with annual adjustments effective every July 1 thereafter.
Cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United states Department of Labor, Bureau of Statistics. Maximum increase of 2%.

Tier 3
Compound cost-of-living adjustment on base benefit beginning earlier of fist calendar year after the 7th anniversary of retirement or when the retired member reaches 60 years of age.
A cost-of-living adjustment shall be paid on July 1 each year that the funded ratio for members hired on or after July 1, 2018 is 70% or more.

The cost-of-living adjustment will be based on the average annual percentage change in the Metropolitan Phoenix-Mesa Consumer Price Index published by the United States Department of Labor, Bureau of Statistics. The cost-of-living adjustment will not exceed:

- 2%, if funded ratio for members who are hired on or after July 1, 2018 is 90% or more;
- 1.5%, if funded ratio for members who are hired on or after July 1, 2018 is 80-90%;
- 1%, if funded ratio for members who are hired on or after July 1, 2018 is 70-80%.

Reverse Deferred Retirement Option Plan (Reverse DROP):

Eligibility

Tier 1 and eligible for normal pension with at least 24 years of Credited Service (25 years for dispatchers). Must not have been awarded disability pension.

Reverse DROP Date

First day of month immediately following completion of required Credited Service or date not more than 60 consecutive months before the date the member elects to participate in the Reverse DROP, whichever is later.

Benefit Amount	Calculated based on Credited Service and Average Monthly Salary as of the Reverse DROP Date.
Reverse DROP Lump Sum	Accumulated benefit amounts (with interest) from Reverse DROP date to the date the member elected to participate in Reverse DROP. Interest is equal to the yield on five-year Treasury note as of the first day of the month, as published by the Federal Reserve Board.

Post-Retirement Health Insurance Subsidy

Eligibility: Retired member or survivor who elect health coverage provided by the state or participating employer.

Maximum Subsidy Amounts (monthly)

	Member Only	With Dependents
Medicare Eligible	$100	$170
One w/ Medicare	N/A	$215
Not Medicare Eligible	$150	$260

Employee Contributions

Tiers 1 and 2:

Non-dispatchers: 8.41% of salary, or 50/50 split of total employer and employee costs, whichever is lower, until the plan is 100% funded. Minimum contribution of 7.65% of salary.

Dispatchers: 0.45% less than non-dispatcher rate until plan is 100% funded; equal thereafter.

Tier 3:

66.7% of the Normal Cost plus 50% of a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

Employer Contributions

Tiers 1 & 2:

Normal Cost, plus amortization of unfunded actuarial accrued liability over a closed period not to exceed 20 years. Contribution will never be less than 6% of payroll.

Tier 3:

33.3% of the Normal Cost plus 50% of a level-dollar amortization of unfunded actuarial accrued liability over a closed period not to exceed 10 years.

Changes to Benefit Provisions Since the Prior Valuation

None.

IX. Actuarial Funding Policy

A pension plan funding policy describes how pension funding will improve for underfunded plans or maintain funded benefits for funded plans over time for those benefits defined in ARS. Those benefits defined in ARS are to be equitably managed and administered by PSPRS.

This Actuarial Funding Policy identifies the funding objectives and elements of the actuarial funding policy set by the Board for the Arizona Public Safety Personnel Retirement System (PSPRS). The Board adopted this Funding Policy to help ensure the systematic funding of future benefit payments for members of the Retirement System as established by the legislature.

To achieve the systematic funding of future benefits, metrics are identified to measure the progress, or the lack of progress, over time to identify trends. These trends inform the continuation of the current policies or identify areas of needed research for consideration.

This funding policy is reviewed annually and adopted by the Board in accordance with ARS 38-863.02. This policy was reviewed and adopted by the Board in October 2021.

PSPRS Statement of Purpose

The Purpose of the Public Safety Personnel Retirement System is to provide uniform, consistent, and equitable statewide retirement programs for those who have been entrusted to our care.

Funding Objectives

1. Maintain adequate assets so that current plan assets, plus future contributions and investment earnings, are sufficient to fund all benefits expected to be paid to members and their beneficiaries.
    a. Corollary 1a: Current and future contributions should be calculated based upon assumptions that reflect the Board's best estimate of future experience and methods that appropriately allocate costs to address generational equity.
    b. Corollary 1b: While the shorter-term objective is to fully fund the actuarial liability (AAL) that estimates benefits earned as of the valuation date, contributions should target the long-term present value of benefits (PVB) to fund all benefits and help offset risks.

2. Maintain public policy goals of accountability and transparency through stakeholder communication and education. Each policy element is clear in intent and effect, and each should be considered in a balanced approach to determine how and when the funding requirements of the plan will be met.
    a. Corollary 2a: Board shall provide stakeholders with separate reports and tools to help explain current results as well as to help model future funding requirements.

3. Promote intergenerational equity. Defined benefit pensions are designed with a long-term perspective and designed to minimize contribution volatility that cannot avoid some level of generational cost shift. However, the goal is that each generation of members and employers (taxpayers) should, to the extent possible, incur the cost of benefits for the employees who provide services to them, rather than shifting those costs to other generations of members and employers (taxpayers).

a. Corollary 3a: A systematic reduction of the Unfunded Actuarial Accrued Liability (UAAL) over a reasonable time period is paramount to achieving this objective.

Consideration can be given to reduce volatility, to the extent possible, of employer and employee contribution rates as long as the integrity of the objectives listed above is not compromised.

Elements of Actuarial Funding Policy

1. Actuarial Cost Method
   a. The Entry Age Normal level percent of pay actuarial cost method of valuation shall be used in determining the Actuarial Accrued Liability (AAL) and Normal Cost. Differences in the past between assumed experience and actual experience ("actuarial gains and losses") shall become part of the AAL. The Normal Cost shall be determined on an individual basis for each active member.

2. Asset Smoothing Method
   a. The investment gains or losses of each valuation period, resulting from the difference between the actual investment return and assumed investment return, shall be recognized annually in level amounts over seven years (Tiers 1 and 2) or five years (Tier 3) in calculating the Actuarial Value of Assets.
   b. The Actuarial Value of Assets so determined shall be subject to a 20% corridor relative to the Market Value of Assets.

3. Amortization Method (Unfunded Amounts)
   a. The Actuarial Value of Assets are subtracted from the computed AAL. Any unfunded amount is amortized as a level percent of payroll over a closed period.
   b. The unfunded liabilities, for EORP and Tiers 1 & 2 for both PSPRS and CORP, determined in the June 30, 2019 actuarial valuation will become the initial layer for each employer beginning with the June 30, 2020 actuarial valuation and amortized using the current closed year period for that employer and continue to decrease each year.
      i. The payroll growth rate assumption used to amortize the Public Safety Plan (PSPRS) June 30, 2019 Unfunded Liability will be decreased by 0.5% beginning with the 6/30/2021 actuarial valuation and again each year with the intention of ultimately achieving 0.0%. Once the payroll growth assumption reaches 2.0%, however, the Board will reevaluate the payroll growth assumption and decide whether to continue to let it track down to 0.0%.
      ii. The payroll growth rate used to amortize the Correction Officers Retirement Plan (CORP) June 30, 2019 Unfunded Liability will be 3.0% beginning with the 6/30/2020 actuarial valuation, and future years will be reduced by 0.5% until 0.0% is reached.
      iii. The payroll growth rate used to amortize the Elected Officials Retirement Plan (EORP) June 30, 2019 Unfunded Liability will be 2.5% beginning with the 6/30/2020 actuarial valuation, and future years will be reduced by 0.5% until 0.0% is reached.
   c. Gains and losses, for EORP and Tiers 1 & 2 for both PSPRS and CORP, for each employer beginning with the June 30, 2020 actuarial valuation will be amortized as a new layer over the same amortization period as the regular unfunded liability to a minimum of 15 years. Once the amortization period for each employer decreases to 15 years, each subsequent year's gains and losses will be amortized as a new 15-year closed layer.
      i. The payroll growth rate used to amortize unfunded liability for all Plans under this paragraph will be 0.0% (i.e. level-dollar amortization).

d. Tier 3 amortization methods are established in ARS 38-843.G and ARS 38-891.K.

4. Amortization Method (Overfunded Amounts)
   a. If the Actuarial Value of Assets exceeds the AAL for EORP and Tiers 1 & 2 for both PSPRS and CORP, the excess is amortized over an open period of 20 years and applied as a credit to reduce the Normal Cost otherwise payable.
   b. Tier 3 amortization methods are established in ARS 38-843.G and ARS 38-891.K.

Metrics to Monitor Funding Objectives

1. Appropriateness of Assumptions – Gain/Loss Experience (Corollary 1a)
   a. Metric: Do the cumulative gain/loss layers over the prior five years exceed 8% of plan assets?
   b. Measurement: History of annual gain/loss (split by asset and liability experience) and five-year cumulative results will be tracked.
   c. Action Plan: This metric assumes that a full experience study is performed at least every five years so objective of measurement is to monitor interim experience. If the metric answer is yes, a review of the sources or causes of gains and losses should be analyzed and presented to the Advisory Committee to provide a recommendation to the Board of Trustees. The analysis and presentation are intended to provide a basis for consideration if assumption changes are warranted between full experience studies.

2. Funding Targets (Corollary 1b)
   a. Metric: Has the funded status, on both an AAL and PVB basis when compared to the market value of assets, increased over a five-year period?
   b. Measurement: History of funded status measures will be tracked.
   c. Action Plan: If the answer is no and not readily explainable (e.g., significant assumption change), a review of the reason(s) for the decrease should be researched and presented to the Advisory Committee to provide a recommendation to the Board of Trustees. The analysis and presentation are intended to provide a basis for consideration if changes to assumptions and/or methods are warranted between full experience studies.

3. Communication with Stakeholders (Corollary 2a)
   a. Metric: Have reports and budgeting tools been provided to stakeholders in a timely fashion?
   b. Measurement: Yes/No answer based on input from PSPRS administrator. (An annual standard survey of stakeholders – 3 to 5 questions.)
   c. Action Plan: If the answer is no, and periodically regardless (e.g., every three years), PSPRS staff will revisit this metric to report to the Advisory Committee to provide a recommendation to the Board of Trustees if current reports / tools are sufficient and if the delivery timing is appropriate.

4. Timely Recognition of Costs (Corollary 3a)
   a. Metric: Has the percentage of unfunded liability subject to negative amortization decreased over a five-year lookback period?
   b. Measurement: History of unfunded liability subject to negative amortization as a percentage of total unfunded liability will be tracked.

      - Action Plan: If the answer is no, and not readily explainable (e.g., adopted assumption changes being phased in are anticipated to address negative amortization), a review of the reason(s) for negative amortization should be researched and presented to the Advisory Committee to provide a recommendation to the Board of Trustees. The analysis and presentation are intended to provide a basis for consideration if changes to assumptions and/or methods are warranted between full experience studies.

X. GLOSSARY

Actuarial Accrued Liability – Computed differently under different funding methods, the actuarial accrued liability generally represents the portion of the actuarial present value of benefits attributable to service credit earned (or accrued) as of the valuation date.

Actuarial Present Value of Benefits – Amount which, together with future interest, is expected to be sufficient to pay all benefits to be paid in the future, regardless of when earned, as determined by the application of a particular set of actuarial assumptions; equivalent to the actuarial accrued liability plus the present value of future normal costs attributable to the members.

Actuarial Assumptions – Assumptions as to the occurrence of future events affecting pension costs. These assumptions include rates of investment earnings, changes in salary, rates of mortality, withdrawal, disablement, and retirement as well as statistics related to marriage and family composition.

Actuarial Cost Method – A method of determining the portion of the cost of a pension plan to be allocated to each year; sometimes referred to as the "actuarial funding method." Each cost method allocates a certain portion of the actuarial present value of benefits between the actuarial accrued liability and future normal costs.

Actuarial Equivalence – Series of payments with equal actuarial present values on a given date when valued using the same set of actuarial assumptions.

Actuarial Present Value - The amount of funds required as of a specified date to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payments between the specified date and the expected date of payment.

Actuarial Value of Assets – The value of cash, investments, and other property belonging to the pension plan as used by the actuary for the purpose of the actuarial valuation. This may correspond to market value of assets, or some modification using an asset valuation method to reduce the volatility of asset values.

Asset Gain (Loss) – That portion of the actuarial gain attributable to investment performance above (below) the expected rate of return in the actuarial assumptions.

Amortization – Paying off an interest-discounted amount with periodic payments of interest and (generally) principal, as opposed to paying off with a lump sum payment.

Amortization Payment – That portion of the pension plan contribution designated to pay interest and reduce the outstanding principal balance of unfunded actuarial accrued liability. If the amortization payment is less than the accrued interest on the unfunded actuarial accrued liability the outstanding principal balance will increase.

Assumed Earnings Rate – The interest rate used in developing present values to reflect the time value of money.

Decrements – Events which result in the termination of membership in the system such as retirement, disability, withdrawal, or death.

Entry Age Normal (EAN) Funding Method – A standard actuarial funding method whereby each member's normal costs (service costs) are generally level as a percentage of pay from entry age until retirement. The annual cost of benefits is comprised of the normal cost plus an amortization payment to reduce the UAL.

Experience Gain (Loss) – The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities during the period between two valuation dates. It is a measurement of the difference between actual and expected experience, and may be related to investment earnings above (or below) those expected or changes in the liability due to fewer (or greater) than expected numbers of retirements, deaths, disabilities, or withdrawals, or variances in pay increases relative to assumed pay increases. The effect of such gains (or losses) is to decrease (or increase) future costs.

Funded Ratio – A measure of the ratio of the actuarial value of assets to liabilities of the system. Typically, the assets used in the measure are the actuarial value of assets as determined by the asset valuation method. The funded ratio depends not only on the financial strength of the plan but also on the asset valuation method used to determine the assets and on the funding method used to determine the liabilities.

Market Value of Assets (MVA) – The value of assets as they would trade on an open market.

Normal Cost – Computed differently under different funding methods, generally that portion of the actuarial present value of benefits allocated to the current plan year.

Unfunded Actuarial Accrued Liability (UAAL) – The excess of the actuarial accrued liability over the valuation assets; sometimes referred to as "unfunded past service liability". UAL increases each time an actuarial loss occurs and when new benefits are added without being fully funded initially and decreases when actuarial gains occur.

APPENDIX A: SUMMARY OF POPULATION DATA BY EMPLOYER - TIERS 1 & 2

Employer Number	Employer Name	Number of Actives	Active Payroll	Number of Retirees	Annual Retiree Benefits	Number of Inactive/ Vested	Inactive/Vested Accum. Member Contrib.	Number Transferred Out
500	Department of Corrections - Detention	5,350	248,593,220	3,883	102,768,529	1,422	11,151,324	187
501	Dept of Juvenile Corrections - Detention	227	10,445,446	309	8,647,119	256	1,589,504	12
502	Pinal County - Detention	113	6,165,688	55	1,641,202	34	339,592	3
503	Gila County - Detention	36	1,597,335	16	286,537	34	152,388	0
504	Graham County - Detention	12	518,584	5	119,035	28	94,864	7
505	Maricopa County - Detention	1,511	83,060,868	726	24,227,028	517	5,605,314	45
506	City of Avondale - Detention	8	483,094	3	96,634	5	45,025	1
507	La Paz County - Detention	13	590,219	1	13,710	8	76,984	4
510	Yuma County - Detention	84	4,017,175	35	1,002,127	84	609,756	11
515	Pima County - Detention	326	16,409,693	249	7,610,443	188	1,564,724	8
520	Apache County - Detention	9	340,389	6	115,644	25	102,625	1
525	Cochise County - Detention	36	1,562,476	39	708,120	32	175,008	6
530	Coconino County - Detention	51	2,643,855	20	585,792	86	471,452	4
535	Mohave County - Detention	53	2,317,622	20	377,562	93	405,945	4
540	Santa Cruz County - Detention	12	431,095	6	145,980	28	208,572	3
545	Navajo County - Detention	21	926,406	12	246,618	44	173,888	6
550	Yavapai County - Detention	95	4,901,596	53	1,232,612	151	988,748	6
555	Pinal County - Dispatchers	4	214,387	5	171,073	8	60,944	0
556	Town of Oro Valley - Dispatchers	2	132,031	6	195,827	4	65,048	0
557	Town of Marana - Dispatchers	6	358,783	1	27,366	2	3,662	0
558	Gila County - Dispatchers	2	100,658	3	89,472	5	73,560	0
559	Town of Wickenburg - Dispatchers	0	0	3	49,743	2	42,928	0
560	Graham County - Dispatchers	2	92,082	0	0	3	20,982	0
561	Yavapai County - Dispatchers	1	70,000	3	66,813	1	39,398	0
562	City of Somerton - Dispatchers	2	83,771	2	70,904	2	38,408	0
563	Department of Public Safety - Dispatchers	13	741,743	21	813,099	6	148,002	0
564	Department of Public Safety - Detention	5	291,760	0	0	1	4,266	0
575	Administrative Office of the Courts	1,651	93,639,395	935	37,000,376	620	5,852,180	72
	TOTAL	9,645	480,729,371	6,417	188,309,365	3,689	30,105,091	380

APPENDIX B: SUMMARY OF PENSION FUNDED STATUS BY EMPLOYER - TIERS 1 & 2

Employer Number	Employer Name	Liability (PVB)	Liability (AAL)	Assets (AVA)	Assets (MV)	Unfunded (AAL - AVA)	Unfunded (AAL - MV)	Funded Percent (AVA/AAL)	Funded Percent (MV/AAL)
500	Department of Corrections - Detention	2,418,181,076	2,180,470,429	1,673,254,875	1,815,018,548	507,215,554	365,451,881	76.7%	83.2%
501	Dept of Juvenile Corrections - Detention	154,765,979	146,277,831	68,469,482	74,270,443	77,808,349	72,007,388	46.8%	50.8%
502	Pinal County - Detention	57,325,390	52,053,432	55,709,235	60,429,105	(3,655,803)	(8,375,673)	107.0%	116.1%
503	Gila County - Detention	10,400,292	8,922,729	9,164,721	9,941,187	(241,992)	(1,018,458)	102.7%	111.4%
504	Graham County - Detention	3,458,101	2,915,549	2,819,303	3,058,164	96,246	(142,615)	96.7%	104.9%
505	Maricopa County - Detention	739,202,348	655,541,347	371,673,979	403,163,425	283,867,368	252,377,922	56.7%	61.5%
506	City of Avondale - Detention	3,543,785	2,992,211	2,447,569	2,654,935	544,642	337,276	81.8%	88.7%
507	La Paz County - Detention	3,493,511	2,915,055	1,773,843	1,924,129	1,141,212	990,926	60.9%	66.0%
510	Yuma County - Detention	31,625,013	27,242,899	28,882,722	31,329,762	(1,639,823)	(4,086,863)	106.0%	115.0%
515	Pima County - Detention	175,206,175	157,803,352	87,708,693	95,139,663	70,094,659	62,663,689	55.6%	60.3%
520	Apache County - Detention	3,150,607	2,857,137	3,227,002	3,500,404	(369,865)	(643,267)	112.9%	122.5%
525	Cochise County - Detention	16,124,343	14,483,538	7,923,183	8,594,461	6,560,355	5,889,077	54.7%	59.3%
530	Coconino County - Detention	22,376,005	19,410,654	18,940,491	20,545,192	470,163	(1,134,538)	97.6%	105.8%
535	Mohave County - Detention	13,152,172	10,822,033	10,013,621	10,862,008	808,412	(39,975)	92.5%	100.4%
540	Santa Cruz County - Detention	3,495,788	2,897,918	2,844,897	3,085,926	53,021	(188,008)	98.2%	106.5%
545	Navajo County - Detention	7,006,641	6,083,985	4,564,593	4,951,321	1,519,392	1,132,664	75.0%	81.4%
550	Yavapai County - Detention	39,427,727	34,858,622	22,136,660	24,012,151	12,721,962	10,846,471	63.5%	68.9%
555	Pinal County - Dispatchers	3,757,768	3,545,763	3,876,173	4,204,575	(330,410)	(658,812)	109.3%	118.6%
556	Town of Oro Valley - Dispatchers	3,657,529	3,551,295	1,649,829	1,789,608	1,901,466	1,761,687	46.5%	50.4%
557	Town of Marana - Dispatchers	3,278,645	3,097,993	2,082,039	2,258,436	1,015,954	839,557	67.2%	72.9%
558	Gila County - Dispatchers	2,209,768	2,179,972	2,506,312	2,718,655	(326,340)	(538,683)	115.0%	124.7%
559	Town of Wickenburg - Dispatchers	590,672	590,672	680,369	738,012	(89,697)	(147,340)	115.2%	124.9%
560	Graham County - Dispatchers	681,392	607,908	696,014	754,982	(88,106)	(147,074)	114.5%	124.2%
561	Yavapai County - Dispatchers	1,432,960	1,343,643	846,791	918,533	496,852	425,110	63.0%	68.4%
562	City of Somerton - Dispatchers	1,684,732	1,597,826	778,239	844,174	819,587	753,652	48.7%	52.8%
563	Department of Public Safety - Dispatchers	17,720,577	17,266,868	11,101,191	12,041,721	6,165,677	5,225,147	64.3%	69.7%
564	Department of Public Safety - Detention	1,033,096	750,006	446,084	483,878	303,922	266,128	59.5%	64.5%
575	Administrative Office of the Courts	1,063,685,250	988,425,521	568,531,752	616,699,638	419,893,769	371,725,883	57.5%	62.4%
	Unallocated	0	0	2	0	(2)	0		
	TOTAL	4,801,667,342	4,351,506,188	2,964,749,664	3,215,933,036	1,386,756,524	1,135,573,152	68.1%	73.9%

APPENDIX C: SUMMARY OF PENSION CONTRIBUTION BY EMPLOYER - TIERS 1 & 2

Employer Number	Employer Name	ER NC%	UAAL Pmt %	Calculated ER Cont.	Required ER Cont.
500	Department of Corrections - Detention	4.97%	13.82%	18.79%	18.79%
501	Dept of Juvenile Corrections - Detention	4.63%	48.06%	52.69%	52.69%
502	Pinal County - Detention	5.08%	0.00%	5.08%	5.08%
503	Gila County - Detention	6.16%	0.00%	6.16%	6.16%
504	Graham County - Detention	6.20%	0.26%	6.46%	6.53%
505	Maricopa County - Detention	5.47%	25.59%	31.06%	31.06%
506	City of Avondale - Detention	7.00%	6.38%	13.38%	13.56%
507	La Paz County - Detention	4.38%	12.34%	16.72%	17.31%
510	Yuma County - Detention	6.30%	0.00%	6.30%	6.30%
515	Pima County - Detention	5.23%	29.77%	35.00%	35.00%
520	Apache County - Detention	5.35%	0.00%	5.35%	5.35%
525	Cochise County - Detention	5.86%	25.69%	31.55%	31.55%
530	Coconino County - Detention	6.05%	1.19%	7.24%	7.24%
535	Mohave County - Detention	5.82%	2.15%	7.97%	7.97%
540	Santa Cruz County - Detention	6.72%	0.46%	7.18%	7.18%
545	Navajo County - Detention	5.27%	7.66%	12.93%	12.93%
550	Yavapai County - Detention	4.77%	15.80%	20.57%	20.57%
555	Pinal County - Dispatchers	3.81%	0.00%	3.81%	3.81%
556	Town of Oro Valley - Dispatchers	2.83%	115.62%	118.45%	118.45%
557	Town of Marana - Dispatchers	2.66%	25.22%	27.88%	28.18%
558	Gila County - Dispatchers	2.53%	0.00%	2.53%	2.53%
559	Town of Wickenburg - Dispatchers	0.00%	0.00%	0.00%	0.00%
560	Graham County - Dispatchers	3.86%	0.00%	3.86%	3.86%
561	Yavapai County - Dispatchers	3.77%	60.83%	64.60%	67.20%
562	City of Somerton - Dispatchers	4.85%	87.57%	92.42%	92.42%
563	Department of Public Safety - Dispatchers	2.99%	74.11%	77.10%	79.64%
564	Department of Public Safety - Detention	5.23%	7.07%	12.30%	12.54%
575	Administrative Office of the Courts	3.91%	32.79%	36.70%	37.06%
	TOTAL	4.88%	20.59%	25.47%	25.47%

APPENDIX D: SUMMARY OF HEALTH FUNDED STATUS BY EMPLOYER - TIERS 1 & 2

Employer Number	Employer Name	Liability (PVB)	Liability (AAL)	Assets (AVA)	Assets (MV)	Unfunded (AAL - AVA)	Unfunded (AAL - MV)	Funded Percent (AVA/AAL)	Funded Percent (MV/AAL)
500	Department of Corrections - Detention	58,459,973	53,400,567	85,980,869	95,208,888	(32,580,302)	(41,808,321)	161.0%	178.3%
501	Dept of Juvenile Corrections - Detention	3,422,086	3,228,014	7,095,640	7,857,190	(3,867,626)	(4,629,176)	219.8%	243.4%
502	Pinal County - Detention	1,260,637	1,134,793	1,782,155	1,973,427	(647,362)	(838,634)	157.0%	173.9%
503	Gila County - Detention	212,391	184,612	437,955	484,959	(253,343)	(300,347)	237.2%	262.7%
504	Graham County - Detention	76,107	66,517	100,782	111,599	(34,265)	(45,082)	151.5%	167.8%
505	Maricopa County - Detention	12,626,383	11,203,449	20,230,268	22,401,511	(9,026,819)	(11,198,062)	180.6%	200.0%
506	City of Avondale - Detention	66,184	62,497	59,395	65,770	3,102	(3,273)	95.0%	105.2%
507	La Paz County - Detention	64,121	55,746	18,675	20,680	37,071	35,066	33.5%	37.1%
510	Yuma County - Detention	572,383	490,477	1,370,529	1,517,623	(880,052)	(1,027,146)	279.4%	309.4%
515	Pima County - Detention	2,443,203	2,146,996	4,504,793	4,988,276	(2,357,797)	(2,841,280)	209.8%	232.3%
520	Apache County - Detention	71,213	65,522	223,967	248,004	(158,445)	(182,482)	341.8%	378.5%
525	Cochise County - Detention	340,098	308,823	817,626	905,379	(508,803)	(596,556)	264.8%	293.2%
530	Coconino County - Detention	465,080	415,525	567,893	628,843	(152,368)	(213,318)	136.7%	151.3%
535	Mohave County - Detention	262,854	215,017	829,637	918,679	(614,620)	(703,662)	385.8%	427.3%
540	Santa Cruz County - Detention	140,622	133,199	213,149	236,025	(79,950)	(102,826)	160.0%	177.2%
545	Navajo County - Detention	100,380	85,112	466,618	516,698	(381,506)	(431,586)	548.2%	607.1%
550	Yavapai County - Detention	708,186	624,292	1,497,254	1,657,949	(872,962)	(1,033,657)	239.8%	265.6%
555	Pinal County - Dispatchers	49,352	44,232	205,108	227,122	(160,876)	(182,890)	463.7%	513.5%
556	Town of Oro Valley - Dispatchers	25,200	23,201	76,639	84,865	(53,438)	(61,664)	330.3%	365.8%
557	Town of Marana - Dispatchers	63,879	58,411	60,922	67,460	(2,511)	(9,049)	104.3%	115.5%
558	Gila County - Dispatchers	30,245	29,533	115,807	128,236	(86,274)	(98,703)	392.1%	434.2%
559	Town of Wickenburg - Dispatchers	0	0	52,239	57,846	(52,239)	(57,846)	N/A	N/A
560	Graham County - Dispatchers	19,662	17,462	27,154	30,068	(9,692)	(12,606)	155.5%	172.2%
561	Yavapai County - Dispatchers	52,085	50,762	30,837	34,146	19,925	16,616	60.7%	67.3%
562	City of Somerton - Dispatchers	21,695	18,799	31,165	34,510	(12,366)	(15,711)	165.8%	183.6%
563	Department of Public Safety - Dispatchers	396,943	384,691	198,425	219,721	186,266	164,970	51.6%	57.1%
564	Department of Public Safety - Detention	15,206	12,812	7,569	8,381	5,243	4,431	59.1%	65.4%
575	Administrative Office of the Courts	16,330,234	14,863,271	13,494,094	14,942,367	1,369,177	(79,096)	90.8%	100.5%
	Unallocated	0	0	1	2	(1)	(2)		
	TOTAL	98,296,402	89,324,332	140,497,165	155,576,224	(51,172,833)	(66,251,892)	157.3%	174.2%

APPENDIX E: SUMMARY OF HEALTH CONTRIBUTION BY EMPLOYER - TIERS 1 & 2

Employer Number	Employer Name	ER NC%	UAAL Pmt %	Calculated ER Cont.
500	Department of Corrections - Detention	0.31%	(0.31%)	0.00%
501	Dept of Juvenile Corrections - Detention	0.34%	(0.34%)	0.00%
502	Pinal County - Detention	0.31%	(0.31%)	0.00%
503	Gila County - Detention	0.30%	(0.30%)	0.00%
504	Graham County - Detention	0.28%	(0.21%)	0.07%
505	Maricopa County - Detention	0.25%	(0.25%)	0.00%
506	City of Avondale - Detention	0.14%	0.04%	0.18%
507	La Paz County - Detention	0.20%	0.39%	0.59%
510	Yuma County - Detention	0.28%	(0.28%)	0.00%
515	Pima County - Detention	0.25%	(0.25%)	0.00%
520	Apache County - Detention	0.30%	(0.30%)	0.00%
525	Cochise County - Detention	0.29%	(0.29%)	0.00%
530	Coconino County - Detention	0.23%	(0.23%)	0.00%
535	Mohave County - Detention	0.32%	(0.32%)	0.00%
540	Santa Cruz County - Detention	0.17%	(0.17%)	0.00%
545	Navajo County - Detention	0.24%	(0.24%)	0.00%
550	Yavapai County - Detention	0.28%	(0.28%)	0.00%
555	Pinal County - Dispatchers	0.40%	(0.40%)	0.00%
556	Town of Oro Valley - Dispatchers	0.24%	(0.24%)	0.00%
557	Town of Marana - Dispatchers	0.36%	(0.06%)	0.30%
558	Gila County - Dispatchers	0.27%	(0.27%)	0.00%
559	Town of Wickenburg - Dispatchers	0.00%	0.00%	0.00%
560	Graham County - Dispatchers	0.43%	(0.43%)	0.00%
561	Yavapai County - Dispatchers	0.24%	2.36%	2.60%
562	City of Somerton - Dispatchers	0.59%	(0.59%)	0.00%
563	Department of Public Safety - Dispatchers	0.40%	2.14%	2.54%
564	Department of Public Safety - Detention	0.12%	0.12%	0.24%
575	Administrative Office of the Courts	0.27%	0.09%	0.36%
	TOTAL	0.29%	(0.29%)	0.00%