

DRAFT GREEN SHEETS

MONTANA'S PUBLIC EMPLOYEE RETIREMENT SYSTEMS

SUMMARY OF BENEFIT, ACTUARIAL, AND INVESTMENT DATA AS OF JUNE 30, 2021

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SOURCES AND ACKNOWLEDGEMENT

- Montana Public Employee Retirement Administration
- Teachers' Retirement System
- Montana Board of Investments
- Office of the Commissioner of Higher Education
- Legislative Fiscal Division

SUMMARY OF VALUATION RESULTS AS OF JUNE 30, 2021

System	Funded Ratio (percentage)	Covered Payroll on June 30, 2021	ARC Shortfall (% of payroll)	ARC Shortfall (dollar amount)	Amortization Period
PERS-DB	76%	\$1,361,589,739	0%	\$0	28 years
TRS	71%	\$922,765,000	0%	\$0	24 years
SRS	83%	\$90,869,369	0%	\$0	18 years
MPORS	74%	\$59,216,593	0%	\$0	15 years
GWPORS	85%	\$60,022,906	0.29%	\$175,621	35 years
FURS	86%	\$56,281,681	0%	\$0	6 years
HPORS	67%	\$16,630,576	0%	\$0	26 years
JRS	177%	\$8,281,631	0%	\$0	0 years

NOTES:

- “Funded Ratio” means current assets compared to liabilities. When a plan is 100% funded, it means current assets are sufficient to pay 100% of the benefits due now as well as the benefits that active and inactive members have accrued to date. Percentages are rounded. The aspirational policy of the retirement boards is to be 100% funded or more to withstand stresses. However, funded ratios must be considered in context with the amortization period.
- “ARC” means the Annual Required Contribution rate necessary to amortize unfunded liabilities over 30 years as determined by the system's actuary. Unfunded liabilities are the liabilities that cannot be paid with current assets, but that are being paid for over time with available contributions and investment earnings. This time period is called the “amortization period”.
- The “ARC shortfall” as a percent of payroll is the contribution rate increase (i.e., contributions above current contributions) needed to amortize the system's unfunded liabilities in 30 years. Board policy and state statute governing PERS sets this 30-year amortization period as the maximum period to meet for actuarial soundness.
- The ARC shortfall as a dollar amount is the estimated amount of money required in the first year of the biennial budget, in addition to current contributions to amortize the system's unfunded liabilities in 30 years.
- Actuarial valuations are based on economic and demographic assumptions about future experience. The governing boards have the constitutional duty to adopt these assumptions based on experience studies conducted approximately every 5 years. The legislature may not alter these assumptions but may request information based on different assumptions. The main actuarial assumptions for the FY 2021 actuarial valuations were as follows:

	MPERA Systems	TRS
Investment Rate of Return	7.65%	7.50%
Wage Growth	3.50%	3.25%
Inflation	2.75%	2.50%

SENSITIVITY TO LOWER INVESTMENT RETURN ASSUMPTIONS

Each actuarial valuation includes a section on how sensitive the system's actuarial funding is to changes in the assumed rate of return on investments. The tables below show what the funded ratio and amortization period would be if the actuary were to assume a lower investment rate of return effective July 1, 2021, to maintain the current amortization schedule.

0.5% LOWER ASSUMPTION

- MPERA – 7.15% Investment Return Assumption
- TRS – 7.00% Investment Return Assumption

System	Funded Ratio	Amortization Period	Contribution Increase Needed to Maintain Current Amortization (Percentage)	Contribution Increase Needed to Maintain Current Amortization (Millions)
PERS-DB	72%	49 years	2.34%	\$32.1
TRS	68%	35 years	2.61%	\$24.1
SRS	78%	43 years	4.07%	\$3.7
MPORS	70%	23 years	9.25%	\$5.5
GWPORS	80%	does not amortize	3.05%	\$1.8
FURS	80%	10 years	15.29%	\$8.8
HPORS	63%	41 years	6.83%	\$1.2
JRS	169%	0 years	0%	\$0

1.0% LOWER ASSUMPTION

- MPERA – 6.65% Investment Return Assumption
- TRS – 6.50% Investment Return Assumption

System	Funded Ratio	Amortization Period	Contribution Increase Needed to Maintain Current Amortization (Percentage)	Contribution Increase Needed to Maintain Current Amortization (Millions)
PERS-DB	68%	does not amortize	5.07%	\$69.2
TRS	64%	57 years	5.74%	\$53.0
SRS	73%	does not amortize	8.70%	\$7.8
MPORS	65%	40 years	19.55%	\$11.7
GWPORS	74%	does not amortize	6.33%	\$3.8
FURS	74%	17 years	35.02%	\$20.0
HPORS	59%	does not amortize	14.67%	\$2.5
JRS	161%	0 years	0%	\$0

TABLE 1: BENEFIT FORMULA & ELIGIBILITY

System	Service & Age Eligibility Criteria for Full Retirement	Minimum Service for Vesting	Highest Average Compensation (HAC) Period used in Benefit Calculation	Service Retirement Benefit Multiplier	Social Security Coverage
PERS-DB	<p><u>Before 7/1/11</u> 5 yrs., age 60; or 30 yrs.; or age 65</p> <p><u>After 7/1/11</u> 5 yrs., age 65; or age 70</p>	5 yrs.	<p><u>Before 7/1/11</u> 3 yrs.</p> <p><u>After 7/1/11</u> 5 yrs.</p>	<p><u>Before 7/1/11</u> < 25 yrs.: 1.7857% 25 yrs. or more: 2%</p> <p><u>After 7/1/11</u> < 10 yrs.: 1.5% 10-29 yrs.: 1.78571% 30 yrs. or more: 2%</p> <p><u>Money Purchase Option</u> The greater of the above or actuarial equivalent of 2x member's accumulated contributions plus interest set by Board (0.22%)</p>	Yes <i>(most members)</i>
TRS	<p><u>Tier 1 (Before 7/1/13)</u> 5 yrs., age 60; or 25 years</p> <p><u>Tier 2 (After 7/1/13)</u> 30 yrs., age 55; or 5 yrs., age 60</p>	5 yrs.	<p><u>Tier 1 (Before 7/1/13)</u> 3 yrs.</p> <p><u>Tier 2 (After 7/1/13)</u> 5 yrs.</p>	<p><u>Tier 1 (Before 7/1/13)</u> 1.67% per year</p> <p><u>Tier 2 (After 7/1/13)</u> 1.67% per year, then 1.85% per year if attained 30 yrs. service and age 60</p>	Yes <i>(most members)</i>
SRS	20 yrs.	5 yrs.	<p><u>Before 7/1/11</u> 3 yrs.</p> <p><u>After 7/1/11</u> 5 yrs.</p>	2.5% per year	Yes
MPORS	20 yrs.; or 5 yrs., age 50	5 yrs.	3 yrs. (final average, not highest average)	2.5% per year	No
GWPORS	20 yrs., age 50; or 5 yrs., age 55	5 yrs.	<p><u>Before 7/1/11</u> 3 yrs.</p> <p><u>After 7/1/11</u> 5 yrs.</p>	2.5% per year	Yes
FURS	20 yrs.; or 5 yrs., age 50	5 yrs.	3 yrs.	2.5% per year	No
HPORS	20 yrs.	<p><u>Before 7/1/13</u> 5 yrs.</p> <p><u>After 7/1/11</u> 10 yrs.</p>	3 yrs.	2.6% per year	No
JRS	5 yrs., age 60	5 yrs.	3 yrs.	<p>Up to 15 yrs.: 3.33%</p> <p>15 yrs. or more: 1.785% for each year more than 15 yrs.</p>	Yes

TABLE 2: ACTIVE MEMBER DATA

System	Total Active Contributing Members*	Average Age	Average Hire Age	Average Years of Service	Average Annual Salary (full-time members)
PERS-DB	29,028	48	39	9 yrs.	\$49,906
TRS	19,161	44	34	10 yrs.	\$57,028
SRS	1,495	39	32	7yrs.	\$60,782
MPORS	823	39	30	9 yrs.	\$71,952
GWPORS	1,023	41	33	8 yrs.	\$58,673
FURS	734	40	29	11 yrs.	\$76,678
HPORS	244	39	29	10 yrs.	\$68,158
JRS	57	58	49	9 yrs.	\$145,292

NOTES:

- *Includes all full-time active members and part-time active members except those with annual compensation of less than \$1,000

TABLE 3: POST-RETIREMENT BENEFIT INCREASES – GABA

System	Minimum Benefit	GABA	Waiting Period for GABA
PERS-DB		<u>Before 7/1/07</u> 3.0% <u>7/1/07 – 6/30/13</u> 1.5% <u>After 7/1/13</u> 1.5%*	1 yr.
TRS		<u>Tier 1 (Before 7/1/13)</u> 1.5% <u>Tier 2 (After 7/1/13)</u> Equal to or greater than 0.5%, but no more than 1.5%, depending on the status of the plan**	3 yrs.
SRS		<u>Before 7/1/07</u> 3.0% <u>After 7/1/07</u> 1.5%	1 yr.
MPORS	<u>Before 7/1/97</u> 1/2 of monthly salary of new officer	<u>After 7/1/97 or elected GABA</u> 3.0%	1 yr.
GWPORS		<u>Before 7/1/07</u> 3.0% <u>After 7/1/07</u> 1.5%	1 yr.
FURS	<u>Before 7/1/97</u> 1/2 of monthly salary of new firefighter	<u>After 7/1/97 or elected GABA</u> 3.0%	1 yr.
HPORS	<u>Before 7/1/97</u> 2% of base salary of probationary officer	<u>After 7/1/97 or elected GABA</u> 3.0% <u>After 7/1/13</u> 1.5%	<u>Before 7/1/13</u> 1 yr. <u>After 7/1/13</u> 3 yrs.
JRS	<u>Before 7/1/97</u> Benefits increased same as salary of sitting judge	<u>After 7/1/97 or elected GABA</u> 3.0%	1 yr.

NOTES:

- *Reduced 0.1% for every two years the system is below 90% funded. If the amortization period is 40 years or greater, the applicable GABA increase must be reduced to 0%.
- **If system liabilities are at least 90% funded and the provision of the increase is not projected to cause the system's liabilities to be less than 85% funded, the GABA will be set by the board to an amount that is at least 0.5% but no more than 1.5%. The benefit increase will be effective on January 1.

TABLE 4: RETIREE AND BENEFIT RECIPIENT DATA

System	Number of Benefit Recipients	Average Age of Current Annuitants	Average Age at Retirement	Average Years of Service at Retirement	Average Annual Benefit (Service Retirement)	Percent of Income Replacement Provided Under the Benefit Formula if Member Attains <u>Full Service Retirement</u> *	Total Benefits Paid in FY 2021	Normal Cost of Benefits as they Accrue FY 2021
PER-DB	24,403	72	61	22	\$19,865	60%	\$484,770,107	9.71%
TRS	16,985	73	59	25	\$24,465	<u>Tier One</u> 41.67% <u>Tier Two</u> 55.5%	\$399,897,777	9.67%
SRS	805	65	54	19	\$29,620	50%	\$23,844,439	15.59%
MPORS	910	61	50	21	\$33,625	50%	\$30,598,624	16.78%
GWPORS	420	65	58	19	\$23,618	50%	\$9,919,682	15.53%
FURS	692	64	53	24	\$29,009	50%	\$29,008,979	24.73%
HPORS	356	64	51	22	\$37,325	52%	\$13,287,766	23.43%
JRS	73	72	66	19	\$57,998	49.95%	\$4,233,870	23.86%

NOTES:

- *Highest Average Salary x Retirement Factor x Years of Service = Percent of Income Replacement

TABLE 5: CONTRIBUTIONS

System	Employer Contributions FY 21	Employee Contributions FY 21	Additional Funding from State General Fund FY 21 (Millions)
PERS-DB	<p><u>State & MUS</u> 6.9% base + 1.97% add'l = 8.87%</p> <p><u>Local Government</u> 6.8% base + 1.97% add'l = 8.77%</p> <p><u>School Districts</u> 6.8% base + 1.7 add'l = 8.5%</p>	7.9%*	State General Fund: \$34.29M
TRS	<p><u>State & MUS</u> 9.85% base + 1.7% add'l = 11.55%**</p> <p><u>School Districts & Community Colleges & Local Government</u> 7.47% base + 1.7% add'l = 9.17%**</p>	<p><u>Tier One (Before 7/1/13)</u> 7.15% plus 1% additional contribution until system is 90% funded</p> <p><u>Tier Two (After 7/1/13)</u> 8.15%</p>	<p><u>State GF</u> \$25 million + 2.38% for schools/cc + 0.11% for all = \$47M</p> <p><u>MUS</u> 4.72% of MUS-RP Payroll = \$12.5M</p>
SRS	13.115%	10.495%	None
MPORS	14.41%	9.00%	State General Fund: \$17.34M
GWPORS	10.56%	9.00%	None
FURS	14.36%	10.69%	State General Fund: \$18.24M
HPORS	28.15%	13.05%	State General Fund: \$1.7M
JRS	0%***	7.00%	None

NOTES:

- *Decreases to 6.9% when amortization period drops below 25 years and remains below 25 years following the termination of the temporary 1% increase and the additional employer contribution rate
- **Increases 0.1% each FY to cap of 2% through FY 2024
- ***SB 175 (2021) changed the employer contribution rate to 0% from July 2021 to June 2023

TABLE 6: DETAIL ON EMPLOYERS AND CONTRIBUTIONS

System	Total Number of Participating Employers	Employer Types	Total of Employers' Covered Payroll (Annual Valuation Compensation)	Payroll by Type of Employer (As percentage of total covered payroll)
PERS-DB	539	<ul style="list-style-type: none"> ▪ State Agencies ▪ MUS ▪ Counties ▪ Cities ▪ Schools & Community Colleges ▪ Special districts ▪ Some Smaller Police and Rural Fire Depts 	\$1,361,589,739	State: 44.5% Local: 47.21% MUS: 8.28%
TRS	363	<ul style="list-style-type: none"> ▪ School Districts ▪ Community Colleges ▪ Education Co-ops ▪ Counties ▪ MUS ▪ State Agencies 	\$922,765,000	State: 1% Local: 97.6% MUS: 1.4%
SRS	57	<ul style="list-style-type: none"> ▪ Dept of Justice <ul style="list-style-type: none"> ○ Investigators ▪ Counties <ul style="list-style-type: none"> ○ Sheriffs ○ Deputies ○ Detention Officers 	\$90,869,369	State: 4.38% County: 95.62%
MPORS	32	<ul style="list-style-type: none"> ▪ City Police Officers* 	\$59,216,593	Cities: 100%
GWPORS	7	<ul style="list-style-type: none"> ▪ Dept. of FWP <ul style="list-style-type: none"> ○ Game Wardens ▪ Dept. of Corrections <ul style="list-style-type: none"> ○ Security Guards ○ Probation/Parole ▪ MUS <ul style="list-style-type: none"> ○ Campus Security 	\$60,022,906	State: 96.25% MUS: 3.75%
FURS	26	<ul style="list-style-type: none"> ▪ City Firefighters** 	\$56,281,681	Cities: 100%
HPORS	1	<ul style="list-style-type: none"> ▪ Dept. of Justice <ul style="list-style-type: none"> ○ Highway Patrol Officers ○ Supervisors ○ Assistants 	\$16,630,576	State: 100%
JRS	1	<ul style="list-style-type: none"> ▪ Judicial Branch <ul style="list-style-type: none"> ○ Justices/Judges ○ Supreme Court ○ District Courts ○ Water Court 	\$8,281,631	State: 100%

NOTES:

- *Some smaller police departments are still covered under PERS
- **Some smaller fire depts and rural districts are still covered under PERS

TABLE 7: ACTUARIAL FUNDING DATA

System	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Portion of Accrued Actuarial Liability (UAAL)	Funded Ratio (Rounded)	Total Contributions	Normal Cost	Amount of Contributions as % of Payroll Available to Fund UAAL FY 21	Years to Amortize Unfunded Liability	Projected ARC Shortfall as Rough Annual Dollar Amount
PERS-DB	\$6,514,976,330	\$8,534,628,711	\$2,019,652,381	76%	16.87%	9.71%	6.83%	28 yrs.	\$0
TRS	\$4,616,374	\$6,463,247	\$1,846,873	71%	19.81%	9.67%	9.78%	24 yrs.	\$0
SRS	\$438,035,779	\$525,238,823	\$87,203,044	83%	23.61%	15.59%	7.85%	18 yrs.	\$0
MPORS	\$516,143,647	\$694,610,661	\$178,467,014	74%	52.78%	25.78%	26.83%	15 yrs.	\$0
GWPORS	\$247,392,056	\$290,855,880	\$43,463,824	85%	19.56%	15.53%	3.86%	35 yrs.	\$175,621
FURS	\$555,517,311	\$646,173,296	\$90,655,985	86%	57.67%	24.73%	32.80%	6 yrs.	\$0
HPORS	\$168,056,413	\$252,081,574	\$84,025,161	67%	51.38%	23.43%	27.76%	26 yrs.	\$0
JRS	\$120,864,685	\$68,460,454	(\$52,404,231)	177%	7.00%	23.86%	(16.94%)	0 yrs.	\$0

TABLE 8: INVESTMENTS AND RETURNS

System	Amount Invested (fair value on 6/30/21)	Market Rate of Return: FY 21	Actuarial Rate of Return: FY 21 (4-year smoothing)	Average Market Rate of Return Last 10 Yrs.	Average Actuarial Rate of Return Last 10 Yrs.	Longest Measurable Return (27 Years)
PERS-DB	\$7.2 Billion	27.72%	10.76%	9.36%	7.71%	8.16%
TRS	\$5.1 Billion	27.71%	10.7%	9.36%	7.67%	8.17%
SRS	\$484.7 Million	27.72%	10.81%	9.35%	7.71%	8.06%
MPORS	\$550.4 Million	27.73%	10.50%	9.36%	7.71%	8.03%
GWPORS	\$272.7 Million	27.71%	10.80%	9.35%	7.71%	8.07%
FURS	\$592.3 Million	27.73%	10.52%	9.36%	7.71%	8.02%
HPORS	\$185.4 Million	27.72%	10.72%	9.36%	7.71%	8.05%
JRS	\$133.2 Million	27.73%	10.77%	9.36%	7.71%	8.06%

Asset Allocation All Pension Funds	*STIP = 1.05%	<u>CAPP Asset Allocation (6/30/21)</u>		<u>Actual</u>	<u>Range set in policy</u>
	**CAPP = 98.95%	Domestic Equity		30.9%	24 - 36%
	* Short Term Investment Pool	Core Fixed Income		14.5%	10 - 20%
	**Consolidated Asset Pension Pool	International Equity		17.3%	12 - 22%
		Private Investments		14.7%	11 - 19%
		Real Estate		9.3%	5 - 13%
		Non-Core Fixed Income		6.2%	4 - 8%
		Real assets		4.5%	2 - 8%
		Cash Equivalent		2.5%	0 - 6%

TABLE 9: CASH FLOW

System	Benefits & Expenses (includes withdrawals)	Total Contributions	Net Investment Income	Net Cash Need (Contributions Minus Benefits & Expenses)	Net Cash Needed as Percentage of Assets Invested	Net Increase (decrease) in Plan Assets	Increase (Decrease) in Actuarial Accrued Liability (AAL) (FY 21)	Ratio of Active Employees to Retirees and Beneficiaries
PERS-DB	\$493.2 Million	\$260.1 Million	\$1,593.1 Million	\$233.1 Million	3.24%	\$1,360.0 Million	\$300.6 Million	1.19
TRS	\$388.0 Million	\$205.4 Million	\$1,129.7 Million	\$182.6 Million	3.59%	\$947.1 Million	\$153.2 Million	1.16
SRS	\$24.7 Million	\$20.0 Million	\$106.0 Million	\$4.7 Million	0.97%	\$101.3 Million	\$32 Million	1.86
MPORS	\$35.1 Million	\$30.4 Million	\$121.6 Million	\$4.7 Million	0.86%	\$116.9 Million	\$28.5 Million	.9
GWPORS	\$11.0 Million	\$12.0 Million	\$59.1 Million	Surplus of \$1.0 Million	N/A – Surplus	\$60.2 Million	\$26.1 Million	2.44
FURS	\$29.8 Million	\$33.1 Million	\$129.6 Million	Surplus of \$3.3 Million	N/A – Surplus	\$133.0 Million	\$33.9 Million	1.06
HPORS	\$16.5 Million	\$9.4 Million	\$41.3 Million	\$7.1 Million	3.84%	\$34.2 Million	\$6.2 Million	.69
JRS	\$4.7 Million	\$3.1 Million	\$29.1 Million	\$1.7 Million	1.24%	\$27.5 Million	\$0.5 Million	.78

TABLE 10: INVESTMENT EXPENSE DATA

System	Total Assets under Management as of 6/30/2021	BOI Fixed/Internal Costs	BOR Fixed/Internal Costs as Percentage of Assets	BOI Variable/External Costs Total	BOI Variable/External Costs as Percentage of Assets
PERS-DB	\$7,196,468,897	\$2,601,428	0.036%	\$26,696,092	0.37%
TRS	\$5,084,768,150	\$1,843,661	0.036%	\$18,917,379	0.37%
SRS	\$484,723,172	\$173,350	0.036%	\$1,778,770	0.37%
MPORS	\$550,446,025	\$197,964	0.036%	\$2,031,886	0.37%
GWPORS	\$272,747,003	\$96,831	0.036%	\$993,583	0.37%
FURS	\$592,294,094	\$211,288	0.036%	\$2,168,411	0.37%
HPORS	\$185,418,427	\$67,390	0.036%	\$691,534	0.37%
JRS	\$133,189,265	\$47,665	0.036%	\$489,220	0.37%

NOTES:

- Each plan has assets allocated to STIP and to CAPP. See Table 8 for general information about asset allocation.
- Fixed costs are those associated with internal management by BOI staff.
- Variable costs are those associated with management of funds by external entities.
- According to CEM Benchmarking, which is an outside consultant to the BOI providing comparisons with other U.S. public funds and peer pension funds, the peer group median cost was 0.562% and the BOI's benchmark cost was 0.557%.

TABLE 11: VOLUNTEER FIREFIGHTERS' COMPENSATION ACT

Eligible Fire Companies (as defined in 19-17-109, MCA)	220
Members	<ul style="list-style-type: none"> • 2,031 Active Members • 1,531 Benefit Recipients
Minimum Age and Service Requirements	<ul style="list-style-type: none"> • For full benefit: Age 55 and 20 years of service • For reduced benefit: Age 60 and 10 years of service
Vesting	10 Years
Basic Benefit Formula	<ul style="list-style-type: none"> • Age 55 with 20 years of credit for service, or • Age 60 with 10 years of credit for service • \$8.75 per month x year of credit for service up to 20 years • \$7.50 per month x year of credit for service after 20 years • VFCA members retiring prior to July 1, 2011, maximum credited service is 30 years • VFCA members retiring on or after July 1, 2011, \$7.50 per month for each additional year of credited service after 30 years in each year that the trust is actuarially sound and the amortization period is 20 years or less; otherwise benefits for the year will only be paid on credited service up to 30 years
Disability Benefit	<p>The greater of:</p> <ul style="list-style-type: none"> • \$87.50 per month, or • (\$8.75 per month x year of credit for service up to 20 years) + (\$7.50 per month x year of credit for service after 20 years up to 30 years of credit for service)
Survivorship Benefit	\$7.50 per year of service (maximum of 40 months including any amounts retiree received)
Average Age of Active Members	43.4
Average Years of Services of Active Members	7.4
Average Annual Benefit for Full-Service Retiree	\$2,019
Contributions	State General Fund: amount equal to 5% of insurance premium taxes collected (See Sections 19-17-301 and 50-3-109, MCA)
Actuarial Value of Assets	\$45,130,521
Actuarial Liabilities	\$45,137,677
Unfunded Liability	\$7,156
Years to Amortize Unfunded Liability	1 Year
Funded Ratio	99.98%

TABLE 12: PERS DEFINED CONTRIBUTION (DC) RETIREMENT PLAN

Membership	New hires have 12 months to make a one-time, irrevocable election between DB and DC plans – default plan is DB plan.
Contributing Members	4,765
Employee/Member Contributions FY 21	7.9% of salary – all allocated to individual member accounts (reduced to 6.9% when PERS-DB plan amortization period is less than 25 years)
Employer and State GF Contributions FY 21	8.97% of salary (reduced to 6.9% when PERS-DB amortization period is less than 25 years) Contributions allocated as follows: <ul style="list-style-type: none"> • 8.53% to member accounts • 0.04% to educational fund • 0.30% to disability trust fund
Total Member Contributions to Member Accounts	16.43\$
Total Amount Invested	\$409 Million
Average Account Balance	\$76,128
Investment Choices	20 funds (3 main categories) evaluated quarterly. Options range from aggressive to conservative and include mutual funds, bond funds, and target date funds. Allocations: <ul style="list-style-type: none"> • 29.52% Target Date Funds • 38.06% Passive • 32.39% Active
Vesting	5 years for employer contributions and investment earnings
Benefits	Contributions plus investment earnings, minus administrative expenses; payable at any time after termination, with a possible federal tax penalty for withdrawal before age 59.5.
Disability Benefit	A defined disability benefit based on a 1/56 x HAC x years of service formula, same as provided in the PERS-DB plan.
Death/Survivorship Benefit	Member's account balance
Plan Administration	Public Employees' Retirement Board – Plan's Board of Trustees Empower Retirement Services – Plan's Record Keeper

TABLE 13: DEFERRED COMPENSATION (457) PLAN

Membership	Voluntary supplemental retirement savings plan available to all employees of the State, Montana University System, and contracting political subdivisions.
Contributing Members	9,886
Employee/Member Contributions	Voluntary, pre-tax deferral or designated ROTH deferral
Employer Contributions	None, unless specified in an employer contract
Total Amount Invested	\$655 Million
Number of Investment Choices	20 (3 main categories) evaluated quarterly. Options range from aggressive to conservative
Vesting	Participants are fully vested in their accounts immediately.
Benefit Eligibility	Not available to distribute until separation from service, retirement, death, or upon an unforeseeable emergency while still employed, provided IRS-specified criteria are met.
Benefit Amount	Lump sum or periodic benefit payment, at the option of the participant. Based on individual account balance and plan provisions. IRS permitted rollovers are also possible.
Death/Survivorship Benefit	Member's account balance
Plan Administration	Public Employees' Retirement Board – Plan's Board of Trustees Empower Retirement Services – Plan's Record Keeper

TABLE 14: MONTANA UNIVERSITY SYSTEM RETIREMENT PROGRAM (MUS-RP)

Membership	<p>All administrative, scientific, and instructional staff of the University System and classified staff that elected MUS-RP rather than a PERS plan.</p> <ul style="list-style-type: none"> Contributing (active): 4,583 Non-contributing (inactive, retired, etc.): 6,781 Avg. age: 52.98 yrs. Avg. yrs. of membership: 8.65 yrs. 								
Retirement Eligibility	<p>A plan member may “retire” (i.e., access the MUS-RP account) once the member has terminated from service and completed the break-in-service requirement. There may be federal tax penalties for withdrawal prior to age 59½.</p>								
Benefit	<p>An MUS-RP member’s benefit depends on total contributions to the member’s individual account, plus investment earnings, minus administrative expenses. The MUS-RP is administered by TIAA (Teachers’ Insurance and Annuity Association).</p> <ul style="list-style-type: none"> Avg. account balance: \$ 77,384.40 								
Death and Survivor Benefits	<p>The full account value in the member’s account is payable to the beneficiary. If the member has annuity investments, the benefit can be paid in a single sum, as an annuity to the beneficiary for life, or as an annuity for a fixed period of years. The annuity may also be deferred as federal law permits.</p>								
Total Amount Invested	\$ 1 billion								
Investment Choices	34 choices (12 target date bands) – 6 asset classes								
Number of Investment Choices	<p>34 funds (6 categories) evaluated quarterly. Options range from aggressive to conservative and include mutual funds, bond funds, annuity investments, and target date funds.</p> <p style="text-align: center;"><u>Allocations (totals)</u></p> <p style="text-align: center;">39.66% Equities 6.84% Fixed Income 17.31% Guaranteed 1.69% Money Market 31.75% Multi-Asset 2.76% Other (Real Estate)</p>								
Total MUS-RP Payroll Covered	\$279.3 million								
Contributions to Member Accounts as a Percentage of Payroll	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Contract and Professional Staff:</td> <td style="width: 50%;">Classified Staff:</td> </tr> <tr> <td>Employer: 5.956%</td> <td>Employer: 8.87%</td> </tr> <tr> <td>Employee: 7.044%</td> <td>Employee: 7.90%</td> </tr> <tr> <td>TOTAL: 13.0%</td> <td>TOTAL: 16.77%</td> </tr> </table>	Contract and Professional Staff:	Classified Staff:	Employer: 5.956%	Employer: 8.87%	Employee: 7.044%	Employee: 7.90%	TOTAL: 13.0%	TOTAL: 16.77%
Contract and Professional Staff:	Classified Staff:								
Employer: 5.956%	Employer: 8.87%								
Employee: 7.044%	Employee: 7.90%								
TOTAL: 13.0%	TOTAL: 16.77%								
State General Fund Contribution FY 21	\$1.9 Million								
Supplemental Employer Contributions to TRS or Unfunded Liability	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Contract and Professional Staff:</td> <td style="width: 50%;">Classified Staff:</td> </tr> <tr> <td>to TRS for unfunded liability: 4.72%</td> <td>to PERS for education: 0.04%</td> </tr> </table>	Contract and Professional Staff:	Classified Staff:	to TRS for unfunded liability: 4.72%	to PERS for education: 0.04%				
Contract and Professional Staff:	Classified Staff:								
to TRS for unfunded liability: 4.72%	to PERS for education: 0.04%								
Increase Required in Supplemental Contribution Rate to Amortize Unfunded Liability by 2033 as Required under 19-20-621, MCA	<p>9.18% increase needed to the current 4.72% to reach a total supplemental of 13.9%</p> <p><u>Note:</u> As of June 30, 2020, valuation. This increase is needed if the legislature wishes to continue to have the unfunded liability created in TRS when the MUS-RP was established paid by the MUS and not subsidized by the TRS pension fund.</p>								
Plan Administration	Board of Regents & Office of the Commissioner of Higher Education								

SOURCES & NOTES

SUMMARY OF VALUATION RESULTS AS OF JUNE 30, 2021 (PG. 2)

- MPERA Systems: First summary chart in each report (typically page 1) & Table B-1 in each report
- "ARC Shortfall (dollar amount)" Column
 - MPERA numbers calculated by actuary
- TRS: First summary chart in report (page 1) & Table A-1 (page 40)

SENSITIVITY TO LOWER INVESTMENT RETURN ASSUMPTIONS (PG. 3)

- All Systems: "Sensitivity to Future Experience" charts in valuation reports
- "Contribution Increase Needed to Maintain Current Amortization (percentage)" Columns
 - MPERA numbers calculated by actuary
 - TRS Equation used: Contribution Increase Needed (dollars) divided by covered payroll

TABLE 1: BENEFIT FORMULA AND ELIGIBILITY (PG. 4)

- All Systems: 2020 Green Sheets
- Verified by MPERA & TRS

TABLE 2: ACTIVE MEMBER DATA (PG. 5)

- MPERA Systems: Table E-1 of each report
- TRS: Table D-1 (page 63)
- Verified by MPERA & TRS

TABLE 3: POST-RETIREMENT INCREASES – GABA (PG. 6)

- All Systems: 2020 Green Sheets
- Verified by MPERA & TRS

TABLE 4: RETIREE AND BENEFIT RECIPIENT DATA (PG. 7)

- MPERA Systems: Summary Table (page 1), Table 2, and Table E-2 in each report
- TRS: Summary Table (page 1), Table 2 (page 14), and Table D-2 (page 64)
- Additional information provided by MPERA & TRS

TABLE 5: CONTRIBUTIONS (PG. 8)

- MPERA Systems: Table E-3 in each report
- TRS: Table D-3 (page 65)
- SB 175/JRS changes: <https://leg.mt.gov/bills/2021/billpdf/SB0175.pdf>
- State General Fund contribution amounts from LFD, MPERA, TRS
- Additional information provided by MPERA & TRS

TABLE 6: DETAIL ON EMPLOYERS AND CONTRIBUTIONS (PG. 9)

- All systems: Individual Plan Handbooks & 2020 Green Sheets
- All payroll information provided by MPERA & TRS

TABLE 7: ACTUARIAL FUNDING DATA (PG. 10)

- MPERA Systems: Summary Table (page 1) in each report
- TRS: Summary Table (page 1)
- Additional information provided by MPERA & TRS

TABLE 8: INVESTMENTS AND RETURNS (PG. 11)

- All information provided by the Board of Investments

TABLE 9: CASH FLOW (PG. 12)

- All information provided by the Board of Investments

TABLE 10: INVESTMENT EXPENSES (PG. 13)

- All information provided by the Board of Investments

TABLE 11: VOLUNTEER FIREFIGHTERS' COMPENSATION ACT (VFCA) (PG. 14)

- VFCA Plan Handbook
- 2020 Green Sheets
- Additional information provided by MPERA

TABLE 12: PERS DEFINED CONTRIBUTION (DC) PLAN (PG. 15)

- All information provided by MPERA

TABLE 13: DEFERRED COMP (457) PLAN (PG. 16)

- All information provided by MPERA

TABLE 14: MONTANA UNIVERSITY SYSTEM RETIREMENT PLAN (MUS-RP) (PG. 17)

- All information provided by the Office of the Commissioner of Higher Education
- State general fund contribution amount from LFD