

FY21 GREEN SHEETS
MONTANA'S PUBLIC EMPLOYEE RETIREMENT SYSTEMS
SUMMARY OF BENEFIT, ACTUARIAL, AND INVESTMENT DATA AS OF JUNE 30, 2021

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Teachers' Retirement System, Montana Board of Investments,
Office of the Commissioner of Higher Education, and Legislative Fiscal Division

SUMMARY OF VALUATION RESULTS AS OF JUNE 30, 2021

SYSTEM	FUNDED RATIO (ROUNDED)	COVERED PAYROLL	ARC SHORTFALL (% OF PAYROLL)	ARC SHORTFALL (\$ 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. 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 is known as the amortization period. The amortization period for all of Montana's public pension systems is 30 years (19-2-409, MCA).
- 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 Pension 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 assumptions for the FY 2021 actuarial valuations are in the table below. The actual investment and actuarial rate of return information can be found in Table 8 on page 11.

	MPERA ASSUMPTION	TRS ASSUMPTION
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 – Lowered from 7.65% to 7.15% Investment Return Assumption
- TRS – Lowered from 7.50% to 7.00% Investment Return Assumption

SYSTEM	FUNDED RATIO (ROUNDED)	AMORTIZATION PERIOD	CONTRIBUTION INCREASE NEEDED TO MAINTAIN CURRENT AMORTIZATION (PERCENTAGE)	CONTRIBUTION INCREASE NEEDED TO MAINTAIN CURRENT AMORTIZATION (DOLLAR AMOUNT)
PERS-DB	72%	49 years	2.34%	\$32.1M
TRS	68%	35 years	2.61%	\$24.1M
SRS	78%	43 years	4.07%	\$3.7M
MPORS	70%	23 years	9.25%	\$5.5M
GWPORS	80%	does not amortize	3.05%	\$1.8M
FURS	80%	10 years	15.29%	\$8.8M
HPORS	63%	41 years	6.83%	\$1.2M
JRS	169%	0 years	0%	\$0

1.0% LOWER ASSUMPTION

- MPERA – Lowered from 7.65% to 6.65% Investment Return Assumption
- TRS – Lowered from 7.50% to 6.50% Investment Return Assumption

SYSTEM	FUNDED RATIO (ROUNDED)	AMORTIZATION PERIOD	CONTRIBUTION INCREASE NEEDED TO MAINTAIN CURRENT AMORTIZATION (PERCENTAGE)	CONTRIBUTION INCREASE NEEDED TO MAINTAIN CURRENT AMORTIZATION (DOLLAR AMOUNT)
PERS-DB	68%	does not amortize	5.07%	\$69.2M
TRS	64%	57 years	5.74%	\$53.0M
SRS	73%	does not amortize	8.70%	\$7.8M
MPORS	65%	40 years	19.55%	\$11.7M
GWPORS	74%	does not amortize	6.33%	\$3.8M
FURS	74%	17 years	35.02%	\$20.0M
HPORS	59%	does not amortize	14.67%	\$2.5M
JRS	161%	0 years	0%	\$0

TABLE 1: BENEFIT FORMULA AND ELIGIBILITY

SYSTEM	SERVICE AND 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 (most members)
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 (most members)
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 (ROUNDED)	AVERAGE HIRE AGE (ROUNDED)	AVERAGE YEARS OF SERVICE (ROUNDED)	AVERAGE ANNUAL SALARY (ONLY 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	7 yrs.	\$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 and part-time active members, except those with annual compensation of less than \$1,000

TABLE 3: POST-RETIREMENT BENEFIT INCREASES

SYSTEM	MINIMUM BENEFIT	GABA	WAITING PERIOD FOR GABA
PERS-DB	N/A	<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	N/A	<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	N/A	<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	N/A	<u>Before 7/1/07</u> 3.0% <u>After 7/1/07</u> 1.5%	1 yr.
FURS	<u>10+ yrs. service & didn't elect GABA</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 & didn't elect GABA</u> 2% of base salary of probationary officer	<u>Before 7/1/13</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 (ROUNDED)	AVERAGE AGE AT RETIREMENT (ROUNDED)	AVERAGE YEARS OF SERVICE AT RETIREMENT (ROUNDED)	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 yrs.	\$19,865	60%	\$476,443,132	9.71%
TRS	16,985	73	59	25 yrs.	\$24,465	Tier One 41.67% Tier Two 55.5%	\$399,897,777	9.67%
SRS	805	65	54	19 yrs.	\$29,620	50%	\$24,708,608	15.59%
MPORS	910	61	50	21 yrs.	\$33,625	50%**	\$29,790,973	25.78%
GWPORS	420	65	58	19 yrs.	\$23,618	50%	\$9,282,705	15.53%
FURS	692	64	53	24 yrs.	\$41,920	50%	\$28,529,988	24.73%
HPORS	356	64	51	22 yrs.	\$37,325	52%	\$13,710,171	23.43%
JRS	73	72	66	19 yrs.	\$57,998	49.95%	\$4,204,547	23.86%

NOTES:

- *Highest Average Salary x Retirement Factor x Years of Service = Percent of Income Replacement
- **MPORS formula: Final Average Salary x Retirement Factor x Years of Service = Percent of Income Replacement

TABLE 5: CONTRIBUTIONS

SYSTEM	EMPLOYER CONTRIBUTIONS FY 21	MEMBER CONTRIBUTIONS FY 21	ADDITIONAL FUNDING FROM STATE GENERAL FUND FY 21
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: \$34.3M
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 General Fund</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: \$17.3M
GWPORS	9.00%	10.56%	None
FURS	14.36%	10.69%	State General Fund: \$18.2M
HPORS	28.15%	13.05%	State General Fund: \$1.7M
JRS	0%****	7.00%	None

NOTES:

- *Increases 0.1% each FY to cap of 2.27% through FY 2024
- **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	ACTUARIALLY ACCRUED LIABILITY (AAL)	UNFUNDED ACTUARIALLY ACCRUED 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 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	\$4,616,374,000	\$6,463,247,000	\$1,846,873,000	71%	19.91%	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%	57.66%	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 JUNE 30, 2021)	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 YRS.)
PERS-DB	\$7.2B	27.72%	10.76%	9.36%	7.71%	8.16%
TRS	\$5.1B	27.71%	10.7%	9.36%	7.67%	8.17%
SRS	\$484.7M	27.72%	10.81%	9.35%	7.71%	8.06%
MPORS	\$550.4M	27.73%	10.50%	9.36%	7.71%	8.03%
GWPORS	\$272.7M	27.71%	10.80%	9.35%	7.71%	8.07%
FURS	\$592.3M	27.73%	10.52%	9.36%	7.71%	8.02%
HPORS	\$185.4M	27.72%	10.72%	9.36%	7.71%	8.05%
JRS	\$133.2M	27.73%	10.77%	9.36%	7.71%	8.06%

Asset Allocation All Pension Funds	Short Term Investment Pool (STIP) = 1.05%	<u>CAPP Asset Allocation (6/30/21)</u>		
			<u>Actual</u>	<u>Range Set in Policy</u>
	Consolidated Asset Pension Pool (CAPP) = 98.95%	Domestic Equity	30.9%	24 - 36%
		Core Fixed Income	14.5%	10 - 20%
		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 NEEDED (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	\$493.2M	\$260.1M	\$1,593.1M	\$233.1M	3.24%	\$1,360.0M	\$300.6M	1.19
TRS	\$413.0M	\$231.4M	\$1,129.7M	\$181.6M	3.59%	\$949.0M	\$153.2M	1.16
SRS	\$24.7M	\$20.0M	\$106.0M	\$4.7M	0.97%	\$101.3M	\$32M	1.86
MPORS	\$35.1M	\$30.4M	\$121.6M	\$4.7M	0.86%	\$116.9M	\$28.5M	.9
GWPORS	\$11.0M	\$12.0M	\$59.1M	Surplus of \$1.0M	N/A – Surplus	\$60.2M	\$26.1M	2.44
FURS	\$29.8M	\$33.1M	\$129.6M	Surplus of \$3.3M	N/A – Surplus	\$133.0M	\$33.9M	1.06
HPORS	\$16.5M	\$9.4M	\$41.3M	\$7.1M	3.84%	\$34.2M	\$6.2M	.69
JRS	\$4.7M	\$3.1M	\$29.1M	\$1.7M	1.24%	\$27.5M	\$0.5M	.78

TABLE 10: INVESTMENT EXPENSE DATA

SYSTEM	TOTAL ASSETS UNDER MANAGEMENT AS OF JUNE 30, 2021	BOI FIXED/ INTERNAL COSTS	BOI 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.

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 yrs.
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
ACTUARIALLY ACCRUED LIABILITY (AAL)	\$45,137,677
UNFUNDED ACTUARIALLY ACCRUED LIABILITY (UAAL)	\$7,156
YEARS TO AMORTIZE UNFUNDED LIABILITY	1 Year
FUNDED RATIO	99.98%

TABLE 12: PERS DEFINED CONTRIBUTION (DC) 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	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 $1/56 \times \text{HAC} \times \text{years of service}$ formula, same as provided in the PERS-DB plan.
DEATH/SURVIVORSHIP BENEFIT	Member's account balance
PLAN ADMINISTRATION	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none">• Public Employees' Retirement Board – Plan's Board of Trustees• Empower Retirement Services – Plan's Record Keeper

TABLE 14: MONTANA UNIVERSITY SYSTEM RETIREMENT PLAN (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> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>39.66%</td> <td>Equities</td> </tr> <tr> <td>6.84%</td> <td>Fixed Income</td> </tr> <tr> <td>17.31%</td> <td>Guaranteed</td> </tr> <tr> <td>1.69%</td> <td>Money Market</td> </tr> <tr> <td>31.75%</td> <td>Multi-Asset</td> </tr> <tr> <td>2.76%</td> <td>Other (Real Estate)</td> </tr> </table>	39.66%	Equities	6.84%	Fixed Income	17.31%	Guaranteed	1.69%	Money Market	31.75%	Multi-Asset	2.76%	Other (Real Estate)
39.66%	Equities												
6.84%	Fixed Income												
17.31%	Guaranteed												
1.69%	Money Market												
31.75%	Multi-Asset												
2.76%	Other (Real Estate)												
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: 13.000%</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: 13.000%	TOTAL: 16.77%				
Contract and Professional Staff:	Classified Staff:												
Employer: 5.956%	Employer: 8.87%												
Employee: 7.044%	Employee: 7.90%												
TOTAL: 13.000%	TOTAL: 16.77%												
STATE GENERAL FUND CONTRIBUTION FY 21	\$1.9 Million												
SUPPLEMENTAL EMPLOYER CONTRIBUTIONS TO TRS FOR 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

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

- MPERA Systems – First summary chart in each actuarial valuation report and Table B-1 in each report:
 - PERS-DB – pg. 1 and pg. 36
 - SRS – pg. 1 and pg. 34
 - MPORS – pg. 1 and pg. 34
 - GWPORS – pg. 1 and pg. 34
 - FURS – pg. 1 and pg. 34
 - HPORS – pg. 1 and pg. 33
 - JRS – pg. 1 and pg. 32
- TRS – First summary chart in actuarial valuation report (pg. 1) & Table A-1 (pg. 40)
- "ARC Shortfall (Dollar Amount)" calculated by actuary

SENSITIVITY TO LOWER INVESTMENT RETURN ASSUMPTIONS (PG. 3)

- All Systems – "Sensitivity to Future Experience" charts in each actuarial valuation report:
 - PERS-DB – pg. 6
 - TRS – pg. 7
 - SRS – pg. 4
 - MPORS – pg. 4
 - GWPORS – pg. 4
 - FURS – pg. 4
 - HPORS – pg. 5
 - JRS – pg. 4
- "Contribution Increase Needed to Maintain Current Amortization (Percentage)" for TRS provided by TRS
- "Contribution Increase Needed to Maintain Current Amortization (Percentage)" for GWPORS calculated by actuary

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

- All Systems – 2020 Green Sheets: Table 1
- All Systems – MCA references and handbook pages:

SYSTEM	SERVICE AND AGE ELIGIBILITY CRITERIA	VESTING	HIGHEST AVERAGE COMPENSATION	SERVICE RETIREMENT MULTIPLIER
PERS-DB	19-3-901, MCA Handbook pg. 19	19-3-401, MCA Handbook pg. 13	19-3-108, MCA Handbook pg. 19	19-3-904, MCA Handbook pg. 19-20
TRS	19-20-801, MCA Handbook pg. 34	19-20-101, MCA Handbook pg. 27	19-20-101, MCA Handbook pg. 39	19-20-804, MCA Handbook pg. 34
SRS	19-7-501, MCA Handbook pg. 14	19-7-301, MCA Handbook pg. 10	19-7-101, MCA Handbook pg. 15	19-7-503, MCA Handbook pg. 15
MPORS	19-9-801, MCA Handbook pg. 16	19-9-301, MCA Handbook pg. 10	19-9-104, MCA Handbook pg. 16	19-9-804, MCA Handbook pg. 16
GWPORS	19-8-601, MCA Handbook pg. 16	19-8-301, MCA Handbook pg. 10	19-8-101, MCA Handbook pg. 16	19-8-603, MCA Handbook pg. 16
FURS	19-13-701, MCA Handbook pg. 15	19-13-301, MCA Handbook pg. 10	19-13-104, MCA Handbook pg. 15	19-13-704, MCA Handbook pg. 15
HPORS	19-6-501, MCA Handbook pg. 15	19-6-301, MCA Handbook pg. 8	19-6-101, MCA Handbook pg. 15	19-6-502, MCA Handbook pg. 15
JRS	19-5-501, MCA Handbook pg. 15	19-5-301, MCA Handbook pg. 9	19-5-101, MCA Handbook pg. 15	19-5-502, MCA Handbook pg. 15

TABLE 2: ACTIVE MEMBER DATA (PG. 5)

- MPERA Systems – Table E-1 of each actuarial valuation report:
 - PERS-DB – pg. 62
 - SRS – pg. 59
 - MPORS – pg. 60
 - GWPORS – pg. 58
 - FURS – pg. 58
 - HPORS – pg. 60
 - JRS – pg. 51
- TRS – Table D-1 (pg. 63) in actuarial valuation report

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

- All Systems – 2020 Green Sheets: Table 3
- All Systems – MCA and Individual Plan Handbooks:
 - PERS-DB – 19-3-1605, MCA and Handbook pg. 32
 - TRS – 19-20-719, MCA and Handbook pg. 41
 - SRS – 19-7-711, MCA and Handbook pg. 24
 - MPORS – 19-9-1007 and 19-9-1009, MCA and Handbook pg. 22
 - GWPORS – 19-8-1105, MCA and Handbook pg. 24
 - FURS – 19-13-1007 and 19-13-1010, MCA and Handbook pg. 18
 - HPORS – 19-6-710 and 19-6-712, MCA and Handbook pg. 22-23
 - JRS – 19-5-901, MCA and Handbook pg. 23

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

- MPERA Systems – Summary Table, Table 2, and Table E-2 in each actuarial valuation report:
 - PERS-DB – pg. 1, pg. 13, pg. 63
 - SRS – pg. 1, pg. 11, pg. 60
 - MPORS – pg. 1, pg. 11, pg. 61
 - GWPORS – pg. 1, pg. 11, pg. 59
 - FURS – pg. 1, pg. 11, pg. 59
 - HPORS – pg. 1, pg. 11, pg. 61
 - JRS – pg. 1, pg. 9, pg. 52
- TRS – Summary Table (pg. 1), Table 2 (pg. 14), and Table D-2 (pg. 64) in actuarial valuation report
- "Percent of Income Replacement Provided under the Benefit Formula if Member Attains Full Service Retirement" provided by MPERA & TRS

TABLE 5: CONTRIBUTIONS (PG. 8)

- MPERA Systems – Table E-3 in each actuarial valuation report:
 - PERS-DB –pg. 64
 - SRS –pg. 61
 - MPORS –pg. 62
 - GWPORS –pg. 60
 - FURS –pg. 60
 - HPORS – pg. 62
 - JRS – pg. 53
- TRS – Table D-3 (pg. 65) in actuarial valuation report
- SB 175/JRS changes: <https://leg.mt.gov/bills/2021/billpdf/SB0175.pdf>
- State General Fund contribution amounts provided by LFD, MPERA, TRS
- MCA references for employer and member contribution rates on next page

SYSTEM	EMPLOYER CONTRIBUTION	MEMBER CONTRIBUTION
PERS-DB	19-3-316	19-3-315
TRS	19-20-605	19-20-602
SRS	19-7-404	19-7-403
MPORS	19-9-703	19-9-710
GWPORS	19-8-504	19-8-502
FURS	19-13-605	19-13-601
HPORS	19-6-404	19-6-402
JRS	19-5-404	19-5-402

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

- All Systems – Summary Table (pg. 1) in each actuarial valuation report & 2020 Green Sheets: Table 6
- Number of participating employers and payroll by type of employer information provided by MPERA & TRS

TABLE 7: ACTUARIAL FUNDING DATA (PG. 10)

- All Systems – Summary Table (pg. 1) in each actuarial valuation report
- MPERA Systems – Table E-3 in each actuarial valuation report:
 - PERS-DB –pg. 64
 - SRS –pg. 61
 - MPORS –pg. 62
 - GWPORS –pg. 60
 - FURS –pg. 60
 - HPORS – pg. 62
 - JRS – pg. 53
- TRS – Table D-3 (pg. 65) in actuarial valuation report
- "Projected ARC Shortfall as Dollar Amount" calculated by actuary

TABLE 8: INVESTMENTS AND RETURNS (PG. 11)

- All information provided by the Board of Investments

TABLE 9: CASH FLOW (PG. 12)

- MPERA information provided by the Board of Investments
- TRS information provided by TRS

TABLE 10: INVESTMENT EXPENSES (PG. 13)

- All information provided by the Board of Investments

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

- Information provided by MPERA
- Additional information from the Summary Table (pg. 1), Table E-1 (pg. 46), and Table E-2 (pg. 47) of the actuarial valuation report

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 provided by LFD

ADDITIONAL RESOURCES

2021 PENSION SYSTEM ACTUARIAL VALUATION REPORTS

- PERS-DB: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_PERS.pdf
- TRS: https://trs.mt.gov/miscellaneous/PdfFiles/Information/ActuarialValuations/2021_TRSvaluation.pdf
- SRS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_SRS.pdf
- MPORS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_MPORS.pdf
- GWPORS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_GWPORS.pdf
- FURS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_FURS.pdf
- HPORS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_HPORS.pdf
- JRS: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/09.30.21_FYE_2021_MT_JRS.pdf
- VFCA: https://mpera.mt.gov/docs/actuarial_info/2021/Valuations-2021/10.05.21_FYE_2021_MT_VFCA.pdf

INDIVIDUAL PLAN HANDBOOKS

- PERS-DB: <https://mpera.mt.gov/docs/Handbooks/PERS.pdf>
- TRS: https://trs.mt.gov/miscellaneous/PdfFiles/Members/2016_TRS_Active_Member_Handbook.pdf
- SRS: <https://mpera.mt.gov/docs/Handbooks/SRS.pdf>
- MPORS: <https://mpera.mt.gov/docs/Handbooks/MPORS.pdf>
- GWPORS: <https://mpera.mt.gov/docs/Handbooks/GWPORS.pdf>
- FURS: <https://mpera.mt.gov/docs/Handbooks/FURS.pdf>
- HPORS: <https://mpera.mt.gov/docs/Handbooks/HPORS.pdf>
- JRS: <https://mpera.mt.gov/docs/Handbooks/JRS.pdf>
- VFCA: <https://mpera.mt.gov/docs/Handbooks/VFCA.pdf>
- PERS-DC: <https://mpera.mt.gov/docs/PlanDocuments/DCPlanDocument2020.pdf>
- Deferred Compensation (457): <https://mpera.mt.gov/docs/PlanDocuments/457PlanDocument2020.pdf>
- MUS-RP: https://choices.mus.edu/MUSRP_Plan.html

MCA CHAPTERS

- PERS-DB – Chapter 3: https://leg.mt.gov/bills/mca/title_0190/chapter_0030/parts_index.html
- TRS – Chapter 20: https://leg.mt.gov/bills/mca/title_0190/chapter_0200/parts_index.html
- SRS – Chapter 7: https://leg.mt.gov/bills/mca/title_0190/chapter_0070/parts_index.html
- MPORS – Chapter 9: https://leg.mt.gov/bills/mca/title_0190/chapter_0090/parts_index.html
- GWPORS – Chapter 8: https://leg.mt.gov/bills/mca/title_0190/chapter_0080/parts_index.html
- FURS – Chapter 13: https://leg.mt.gov/bills/mca/title_0190/chapter_0130/parts_index.html
- HPORS – Chapter 6: https://leg.mt.gov/bills/mca/title_0190/chapter_0060/parts_index.html
- JRS – Chapter 5: https://leg.mt.gov/bills/mca/title_0190/chapter_0050/parts_index.html
- VFCA – Chapter 17: https://leg.mt.gov/bills/mca/title_0190/chapter_0170/parts_index.html
- PERS-DC – Chapter 3, Part 21: https://leg.mt.gov/bills/mca/title_0190/chapter_0030/part_0210/sections_index.html
- Deferred Compensation – Chapter 50: https://leg.mt.gov/bills/mca/title_0190/chapter_0500/parts_index.html
- MUS-RP – Chapter 21: https://leg.mt.gov/bills/mca/title_0190/chapter_0210/parts_index.html